



MS9 State-of-the-art analysis for optimal prototype location

R1.2 Raport sintetic: Analiza spațiilor publice din zona demo pentru implementarea mobilierului urban smart

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(WP 5 – MS9)

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Statement of originality

This milestone contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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Executive Summary – MS9

State-of-the-Art Analysis for Optimal Prototype Location

This report presents the results of Milestone 9 (MS9) in the SET-PED project, which focuses on identifying the optimal prototype locations in the three pilot cities: Mascalucia (Italy), Eskilstuna (Sweden) and Bucharest–Sector 6 (Romania). Selecting a suitable location is a critical foundation for developing and testing regenerative, solar-integrated and circular urban furniture that can contribute to Positive Energy Districts (PEDs).

The analysis integrates multiple layers of evidence, including city-wide and site-specific assessments, early engagement with residents and community groups, detailed on-site evaluations, coordination with local institutional actors and co-creation workshops grounded in the Her City Toolbox. Together, these elements support a transparent, methodologically coherent and participatory process for understanding spatial needs, user perceptions, environmental conditions and operational constraints.

Across the three pilots, the assessments highlight common challenges such as insufficient inclusive seating, fragmented pedestrian connections, uneven accessibility and safety concerns, particularly affecting vulnerable groups such as girls, young women and older adults. At the same time, the pilots differ in urban form, social dynamics and ecological sensitivity, which requires tailored approaches to site selection.

In Bucharest-Sector 6, the recommended location is an area within Crângași Park, a well-used green space connected to key pedestrian routes linking the neighborhood, Lake Morii promenade and local services. The park offers favorable solar exposure, visibility, accessibility and opportunities for comfort and safety improvements, while avoiding potential noise conflicts.

In Eskilstuna, the optimal location is the central field walkway in Fröslunda, an informal yet heavily used route across the large open field. The site emerged as a priority due to its centrality in daily movements, its strong potential for improving perceived safety and its suitability for solar-powered lighting, seating and inclusive social functions identified by young women during the co-creation process.

In Mascalucia, the analysis concentrates on Monte Ceraulo Park, a semi-natural landscape that combines ecological value with recreational and

educational functions. Within this wider area, the assessment has highlighted the gazebo zone near the park entrance as the most suitable location for the prototype. This area benefits from an existing structure that can be adapted with limited additional impact, is close to the small parking area, playground and park building, and lies outside the most sensitive ecological core. It offers excellent solar exposure, good pedestrian accessibility and strong potential to act as a focal point for school visits, family outings and environmental education activities, while respecting the landscape character and conservation objectives of the park.

The outcomes of MS9 provide a robust foundation for the upcoming phases of the project. These selected locations will guide the detailed design, prototyping and testing of SET-PED's solar-integrated, circular urban furniture, ensuring that future interventions are technically feasible, environmentally sustainable and socially grounded. Through this evidence-based approach, MS9 strengthens the project's capacity to deliver public-space solutions that contribute meaningfully to local well-being and the broader transition toward regenerative and climate-neutral urban districts.

Introduction

Milestone 9 (MS9) establishes the analytical foundation for selecting the optimal prototype location in each SET-PED pilot city: Mascalucia (Italy), Eskilstuna (Sweden) and Bucharest–Sector 6 (Romania). As SET-PED develops modular, climate-adapted and solar-integrated urban furniture based on circular materials, the choice of location is crucial for ensuring technical feasibility, environmental impact, user relevance, long-term acceptance and potential for replication. The analysis presented in this report builds on a combination of city-wide and site-specific assessments, stakeholder engagement and co-creation activities, and technical and socio-spatial evaluations carried out over the first project phases.

Methodologically, the work is grounded in the Her City Toolbox, in particular Block 1, which focuses on stakeholder engagement, Block 3, which addresses site-specific assessment, and Block 4, which guides co-design and prototyping. These blocks are complemented by the SET-PED co-creation roadmap, with contributions from the initial mapping of opportunities and constraints, early engagement with residents and local actors, detailed site assessments and comparative analysis, activation of Local Actor Networks, and the co-creation workshops implemented in all three pilots. Together, these

elements frame a multi-criteria and multi-stakeholder process that combines objective criteria such as safety, accessibility, visibility, connectivity, microclimate, energy potential, ecological sensitivity and maintenance feasibility with community perceptions, municipal priorities, circular economy opportunities and implementation constraints.

The objective of MS9 is to synthesize all available evidence on potential locations in each pilot city and arrive at a grounded, transparent recommendation for the prototype site, ensuring that subsequent design and implementation steps are both context-sensitive and well justified.

City-Level Context Overview

In Bucharest, the SET-PED pilot is located in Sector 6, with a focus on the wider Lake Morii and Crângași area. Sector 6 combines dense residential neighborhoods with significant green and blue infrastructure and is currently undergoing rapid transformation. Around Lake Morii, new promenades, recreational spaces and mobility infrastructure are being developed, supported by local regeneration initiatives. The area is characterized by a strong recreational potential but uneven spatial quality, with some parts well used and appreciated and others underused, poorly lit or perceived as unsafe. Crângași Park and the promenade around the lake are already popular destinations for walking and relaxation, while adjacent residential streets and peripheral green pockets sometimes suffer from weak maintenance, car dominance and poor lighting. This context makes the area highly relevant for testing how circular, solar-integrated urban furniture can enhance comfort, safety and usability in an evolving public space.

In Eskilstuna, the pilot is situated in Fröslunda, a district that is prioritized within the municipality's "urban healing" strategy. The area is marked by socio-economic challenges, safety concerns and a lack of attractive, inclusive public spaces, particularly for girls and young women. Large open fields, fragmented pedestrian and cycling routes and a limited number of inviting meeting places shape everyday experiences. At the same time, Fröslunda hosts important services such as schools, a library, a health centre and a recreation centre and is well connected in terms of public transport, yet the image of the area is affected by reports of crime, drug activity and general feeling of lack of security. Against this background, the SET-PED pilot seeks to support the municipality's ambition to create a safer, more vibrant and more

inclusive environment by introducing solar-integrated, co-created installations that respond to the needs of young people and other vulnerable groups.

In Mascalucia, the pilot area is centered on Monte Ceraulo Park, a semi-natural landscape that combines ecological value with recreational and educational potential. The park is used for walking and outdoor activities but remains relatively under-equipped in terms of infrastructure and urban furniture. Accessibility, connectivity with surrounding areas and the integration of low-impact amenities are key issues. The municipality aims to strengthen the park's role as a local and regional asset, emphasizing environmental education, nature-based recreation and landscape protection. Within this framework, the SET-PED prototype is envisaged as a discreet but meaningful intervention that provides comfort and functionality while respecting the landscape.

Pre-Identification of Potential Sites

For Bucharest Sector 6 DEMO, the first step towards identifying optimal prototype locations consisted of a pre-identification of promising sites within each pilot area. In Sector 6, Bucharest, this process focused on the broader Crângași–Lake Morii area. Based on a review of local plans, on-site reconnaissance and discussions with municipal staff, several potential zones were identified, including green pockets near residential blocks, access points to the lake promenade, areas around local schools and specific segments of Crângași Park. These candidate sites were selected according to their visibility, existing use patterns, proximity to flows of people and potential to host new urban furniture without conflicting with other planned interventions.

In Eskilstuna, the pre-identification phase converged early on Fröslunda as a whole and, within it, on the corridor from the school and residential areas across the large open field towards the local center. The field, the path used informally by residents, the area around the dance floor and the football pitches were all considered as possible locations. Their prominence in daily routes and the concentration of safety concerns reported by girls and young women made them central to the later analysis.

In Mascalucia, initial attention focused on different zones within Monte Ceraulo Park, including forest-edge clearings, trail intersections and panoramic points. The aim was to identify places where a prototype could provide shelter, seating, educational value or a focal point for visitors without negatively affecting sensitive habitats. On this basis, the pre-identification phase

converged on a small set of candidate areas around the entrance zone: the gazebo area near the park building, the paved space by the parking and the beginning of the main trail. These locations were retained because they combine relative ease of access for diverse user groups with a lower risk of disturbing sensitive habitats deeper in the park, and because they already function as informal gathering and transition points that could host a discreet but meaningful SET-PED intervention.

Engagement-Based Evidence

Engagement with residents and local communities played a central role in refining the understanding of these initial sites.

In Bucharest, early engagement took place during the West Side Flower Fest, where the project team installed an interactive stand in Crângași Park. Residents were invited to mark on a large, printed map where they live, how they move through the area, where they feel comfortable or unsafe and where they would like to see smart urban furniture. Complementary questionnaires captured perceptions about safety, comfort, accessibility and everyday uses. The results confirmed the importance of Crângași Park and the lake promenade as key recreational spaces and highlighted specific problem areas characterized by poor lighting, traffic noise, lack of maintenance or unclear spatial organization. Residents expressed a need for comfortable seating, shaded areas, better lighting and solar-power functionalities such as charging points, and emphasized the importance of durable and easy-to-maintain solutions. These findings informed the first narrowing down of candidate sites and helped shape the criteria for a more formal site assessment.



Figure 1 - Community engagement West Side Flower Fest

In Eskilstuna, early engagement with schools, youth groups and municipal staff indicated that the open field and the path between the school and the center were perceived as insecure, especially by girls. Informal feedback suggested that young women rarely stayed in the area, using it mainly as a transit route, and that they lacked places to sit, meet and feel at ease. These concerns, combined with the municipality's strategic focus on Fröslunda as an urban healing area, reinforced the decision to concentrate the analysis on the field and its surroundings.

In Mascalucia, preliminary discussions with schools, local associations and park users pointed to the need for resting points and educational nodes within the park, as well as for small-scale amenities that could support family visits, school trips and community events. Attention to ecological sensitivity and landscape character emerged as important constraints. These preliminary inputs reinforced the decision to focus on Monte Ceraulo Park and, within it, on locations where modest, low-impact infrastructure could provide shade, seating and educational functions while preserving views, vegetation and the sense of being in a natural setting. They also underlined the importance of involving schools, environmental associations and families in the next stage of assessment and co-creation, to ensure that any prototype supports both everyday recreation and environmental education.

Detailed Location Assessment per Pilot

For Bucharest, the most detailed analysis took place after the pre-identification and engagement phases, when a first coordination meeting with the core local actor group was organized. Based on the long list of candidate spaces and the community feedback collected in Crângași, three main sites were selected for in-depth assessment: the green square near Secondary School No. 167, an area within Crângași Park, and a small playground area located next to the school. These sites were examined using criteria inspired by Her City Block 3, including accessibility and connectivity, comfort and microclimate, visibility and lighting, perceived safety, multifunctionality, potential for integrating energy components and feasibility of maintenance. The assessment combined photographic documentation, field observations, mapping of pedestrian flows and observations of existing uses throughout the day.



Figure 2 - Location options in Bucharest's District 6

The analysis revealed distinct profiles and potential for each of the three locations. The green square near School No. 167 functions as a transitional and waiting space, heavily used by pupils and parents at the beginning and end of the school day and by elderly residents and other passers-by at different times. It benefits from good solar exposure and broad visibility, but is strongly car-dominated, with obstructed pavements, limited shading and virtually no comfortable seating. Crângași Park, by contrast, is already a well-established recreational space, with trees, paths and play areas that support a variety of activities. The selected area in the park offers pleasant microclimatic conditions, greenery and a calmer atmosphere, but is slightly more distant from everyday school-related flows and already better equipped than the streets around the school. The third site, the playground area adjacent to the school is more intimate in scale, used by younger children and families and partly shielded from traffic, but it is constrained by its small size, existing play equipment and the need to maintain clear safety zones around the structures.

In Bucharest, the detailed assessment of the Crângași–Lake Morii area was carried out during the co-creation workshop facilitated by Urbasofia, Sector 6 Municipality and ÎntreVecini, with contributions from Ion Mincu University students who applied Her City tools to evaluate spatial quality, safety, comfort and the potential of each proposed location. The analysis confirmed that the school-side square and its immediate surroundings present urgent needs in

terms of comfort, shading and spatial definition, and that, functionally, this space could strongly benefit from a new, multifunctional urban furniture prototype. However, the square is directly overlooked by a residential building whose windows face the space, raising well-founded concerns that, especially during summer evenings, groups of young people gathering there could generate noise and conflict with residents. The small playground adjacent to the school was also recognized as a valuable location, but its limited size, the presence of existing play equipment and strict safety requirements significantly reduce the flexibility for installing a more complex prototype. By contrast, the area in Crângași Park offers favorable conditions for both users and testing: it is already well frequented by diverse groups, benefits from better lighting and surveillance, has suitable solar exposure and provides sufficient space to host a modular, solar-integrated installation without creating direct nuisance for adjacent dwellings. For these reasons, and in line with the conclusions of the workshop, the analysis converged on the park area as the most appropriate location for implementing the SET-PED prototype in Bucharest.



Figure 3 - Co-creation Workshop Bucharest District 6

In Eskilstuna, the location assessment of Fröslunda was carried out in a Her City workshop led by Shared City Foundation and Eskilstuna Municipality, with support from Imottesjo and Dalarna University. Around twenty-five girls aged seventeen to eighteen used Her City tools to examine the area in terms of footpaths and accessibility, places to sit and socialize, lighting and visibility, perceived safety, and the overall comfort and identity of the public space. Their observations drew a clear contrast between the main road, which benefits from relatively good pedestrian and cycling infrastructure, and the large open field that stretches between the residential blocks, the school and the local centre. While the main street is legible and connected, the field is crossed only by an informal trodden path that becomes muddy and difficult to use in bad weather and does not accommodate strollers, wheelchairs or bicycles. Seating is almost completely absent, the football pitches are underused and in poor condition, and lighting is uneven: acceptable along the dedicated path, but weak or missing across much of the field, where dense shrubs and groves create hidden corners and dark pockets that reinforce feelings of insecurity.



Figure 4 - Location for Eskilstuna

The participants described the field as an empty, exposed and in-between space that they cross quickly rather than use as a place to stay. They emphasized that there are almost no locations where girls and young women can sit together comfortably, watch others pass by and feel that the space belongs to them. At the same time, they valued the presence of trees, views and wildlife and expressed a desire to see Fröslunda transformed through light, color, creative expressions and inclusive activities for different ages. In the discussions and group work, the central field, and in particular the informal walkway across it, was identified as the most strategic location for intervention. It is where everyday movement is concentrated between housing, the school, services and public transport; it offers excellent solar exposure for photovoltaics; and it has the greatest potential to change how the area is perceived and used if equipped with lighting, seating and a visible, co-created installation. On this basis, and in line with municipal priorities for “urban healing” in Fröslunda, the assessment converged on the central field walkway as the preferred prototype location in Eskilstuna.



Figure 5 - Co-creation Workshop Eskilstuna

In Mascalucia, the detailed location assessment has so far focused on the entrance area of Monte Ceraulo Park, carried out jointly by municipal technical offices, university partners and park managers. Within the wider park, several candidate spots were examined, including the gazebo area close to the park building and small parking area, the paved forecourt and the beginning of the main trail. These locations were compared in terms of pedestrian accessibility for families and school groups, proximity to existing activities, visibility and perceived safety, integration with the landscape and distance from the most

ecologically sensitive zones. The gazebo area emerged as the most promising option, as it allows the reuse of an existing structure with limited additional land take, is directly linked to the playground and to spaces used for events and environmental education, and benefits from unobstructed solar exposure while remaining outside the core conservation area. A more fine-grained, Her City-based assessment with children and adolescent girls has not yet taken place at the time of MS9, but is planned for early 2026 and will follow the same methodological approach used in Bucharest and Eskilstuna, complementing the current expert-led analysis with user-based insights before finalizing the exact configuration of the prototype in the gazebo zone.



Figure 6 - Location options in Mascalucia

Cross-Pilot Synthesis

Looking across the three pilots, several common patterns emerge from the state-of-the-art analysis. All three areas suffer, to varying degrees, from a lack of comfortable, inclusive seating and resting places, fragmented walking and cycling routes, uneven accessibility for vulnerable users and, particularly in Eskilstuna and parts of Bucharest, significant concerns around safety, lighting and visibility. There is a strong demand in all pilots for public spaces that support longer stays, social interaction and a feeling of belonging. In addition, all three provide good opportunities for integrating solar technology and circular materials, whether in dense urban settings, socio-economically challenged districts or semi-natural landscapes.

At the same time, the pilots differ in important ways. In Bucharest Sector 6, the context is highly urbanized and already includes a mix of recreational and residential functions, with a focus on balancing car dominance, noise and comfort in a dense environment. In Eskilstuna, the emphasis is on social inclusion and safety in an open and somewhat under-programmed field, where interventions need to respond sensitively to the needs and perceptions of girls and other groups. In Mascalucia, the key issues relate more to ecological sensitivity, landscape character and the balance between accessibility and conservation.

Final Recommended Prototype Locations

Based on the combined evidence from pre-identification, community engagement, detailed site assessment, local actor coordination and co-creation workshops, MS9 proposes the following prototype locations.

In Bucharest Sector 6, the recommended location for the prototype is the selected area in Crângași Park. This site is already well used by a diverse mix of residents, including children, young people, families and elderly users, and is directly connected to key pedestrian flows between the neighborhood, the lake promenade and local services. It offers good sunlight exposure for the integration of solar components, sufficient space to accommodate modular urban furniture and favorable visibility and lighting conditions that support both safety and informal surveillance. It therefore combines high functional potential with lower disturbance for nearby residents and was jointly identified with local partners as the most appropriate and balanced setting for testing the SET-PED prototype in Bucharest.

In Eskilstuna, the recommended location is the central field walkway in Fröslunda, that is, the informal path across the large field connecting the school and residential area with the local center. This location concentrates everyday movement, has strong solar exposure and was identified by girls and young women as both central and problematic. Intervening here with solar-integrated, co-created furniture and lighting can significantly improve safety, perceived ownership and the quality of daily routes for a wide range of users, while supporting the municipality's urban healing agenda.

In Mascalucia, the recommended location is the gazebo area near the entrance of Monte Ceraulo Park. This site combines an existing structure that can be adapted with limited additional construction, good pedestrian accessibility from the parking and main paths, proximity to the playground and

park building used for events, and excellent solar exposure. It is sufficiently close to key access points to be convenient for families, school groups and organized activities, while remaining outside the most sensitive ecological core of the park. Positioning the prototype here allows SET-PED to test circular, solar-integrated furniture in a semi-natural setting, supporting rest, small gatherings and educational uses in a way that respects the landscape and strengthens the park's role as a local and regional green asset.

Conclusion

The state-of-the-art analysis carried out for MS9 provides a coherent, evidence-based foundation for selecting prototype locations in the three SET-PED pilot cities. By combining city-wide and site-specific analysis, early engagement, detailed assessments, local actor coordination and co-creation workshops guided by the Her City Toolbox, the project has moved from intuitive site choices to a transparent, methodologically robust and participatory decision-making process.

In each city, the recommended location reflects a balance between technical feasibility and social relevance. In Bucharest, the focus is on consolidating a well-used area in Crângași Park into a more comfortable, energy-aware and multifunctional public space that can host a modular, solar-integrated prototype without generating nuisance for nearby residents. In Eskilstuna, the emphasis is on reimagining a large, underused field in Fröslunda as a safe, inclusive and vibrant space for all ages, particularly for girls and young women, by enhancing the central walkway with light, seating and co-created functions. In Mascalucia, the focus is on integrating a discreet but functional prototype into the gazebo area of Monte Ceraulo Park, enhancing comfort, educational use and small-scale social interaction while preserving ecological values and the character of the landscape.

These location decisions now inform subsequent work packages, where the detailed design, prototyping and testing of solar-integrated, circular urban furniture will be developed in close connection with local stakeholders. In this way, MS9 helps ensure that SET-PED's physical interventions are not only technically sound and environmentally sustainable, but also socially grounded, context-appropriate and capable of supporting wider transitions towards positive energy districts and regenerative public spaces.

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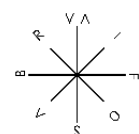
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IntreVecini



**PRIMĂRIA
SECTORULUI 6**

Municipality Bucharest Sector 6

Mascalucia Municipality (cooperation partner)

Midsummer (cooperation partner)

Annex 1 - Co-creation workshop

Bucharest

Background

Bucharest faces strong environmental and mobility pressure, including high levels of traffic-related air pollution, congestion and a relatively low share of green and pedestrian-friendly spaces compared to other European capitals. These challenges increase the need for climate-resilient urban design, better management of public space and a faster transition towards low-carbon, energy-efficient solutions.

Sector 6, in the western part of the city, combines dense residential neighbourhoods with significant green and blue areas such as the Drumul Taberei Park and the Morii Lake, which are now the focus of urban regeneration and landscape competitions hosted by the local administration. The Morii Lake itself is Bucharest's largest static water body and serves both as flood protection infrastructure and as a growing recreational area connected to surrounding districts like Crângași and Giulești.

In this context, the SET-PED pilot in Sector 6 looks at how public spaces and urban furniture can contribute to the energy transition and to better environmental quality, while remaining accessible, safe and inclusive for everyday users, especially young people.

About the project

SET-PED aims to integrate building envelope renovation and urban furniture design to co-create a new PED ecosystem across different climates zones. This project offers low-carbon, circular economy-based solutions for public space transformation and energy resilience, utilizing local resources for co-designing and co-implementing smart urban furniture, integrated within the

social landscape (as a valued place by the residents) within sustainable development initiatives (PED and LEC).

SET-PED includes pilots in Mascalucia (Italy), Eskilstuna (Sweden), and Bucharest Sector 6 (Romania) with the aim of enabling the development, testing, and communication of circular co-design at the EU level. The smartness of prototypes in the pilots will be co-developed with stakeholders depending on local context, which will be further tested focusing on the aspects of energy generation, storage, distribution, and local demand through predictive modelling and advanced coordinated control strategies for optimized energy flows.

The national funding agency of Romania is UEFISCDI. The workshop was organized by Urbasofia, ÎntreVecini, and Primăria Sector 6 with external support from:

- University of Catania (UNICT)
- University of Palermo (UNIPA)
- Imottesjo
- Eskilstuna Municipality
- Shared City Foundation
- Dalarna University
- Mascalucia Municipality
- Midsommar

About Her City tool kit

The Her City Toolkit is a participatory methodology designed to make urban planning more inclusive and responsive to the needs of women, young people and underrepresented groups. It offers clear, practical tools for assessing public spaces, understanding everyday experiences and co-creating ideas for improvement. We used this toolkit in SET-PED because it aligns directly with the project's goals: creating safer, more accessible and more climate-responsive public spaces through community-centred design. By applying Her City methods, the project ensures that future smart and energy-efficient urban furniture developed in Sector 6 is grounded in real user needs, daily behaviours and perceptions of safety and comfort.

Co-creation workshop Bucharest

On 24 October 2025, a co-creation workshop was organised in Sector 6 as part of the SET-PED project. Seventeen students from the 3rd and 4th year of the bachelor's programme and the 1st year of the master's programme at the Ion Mincu University of Architecture and Urban Planning (aged 20–25) took part in the experience. They live in different areas of Bucharest, and many were already familiar with the Crângași–Morii Lake area. From an initial list of six possible locations in Crângași near the lake, three sites were selected for detailed analysis during the workshop.

Participants first carried out a qualitative assessment of the two sites using a digital questionnaire designed to capture both personal impressions and systematic observations. The questions covered eight categories of information:

1. general information and overall impressions
2. sidewalks and public mobility
3. target groups and comfort
4. lighting and visibility
5. “eyes on the street” and perceived safety
6. human-scale design
7. mixed uses
8. green spaces.

For each category, students noted positive and negative aspects, which helped identify recurring patterns, key problems along with existing strengths and provided a solid basis for further investigation.

The second part of the workshop focused on collective reflection and idea generation. Students worked in groups with a visual card-based tool to discuss the main themes that emerged from the site visit, define the core issues and outline a shared vision for the future of the three locations. Building on this analysis, they then generated a wide range of ideas from more experimental concepts to realistic short and medium-term interventions. Each group described its proposal using a simple template specifying the challenge addressed, the target users and the proposed solution, and produced a sketch and a basic physical model. In the final step, the teams presented their ideas to the wider group, explaining how their proposals could improve everyday use, safety, comfort and accessibility in the area.

Results – Site Visit

The results from the questionnaire are organised by category, with specific findings for each subsection. In addition to the graphs, the analysis also takes into account participants' written comments and answers to open questions.

Sidewalks and public mobility: The site visit revealed a strong contrast between the three locations in terms of mobility and public space quality. At the first site, near the school, students observed that although sidewalks exist, they are often obstructed by parked cars, in poor condition or defined by high curbs that make them difficult to use for people with reduced mobility, parents with strollers or cyclists. Bicycle infrastructure is practically non-existent, and access to public transport is perceived as limited, reinforcing the feeling of isolation and car dependency. Several comments also highlighted the generally poor state of maintenance. By contrast, the park area is experienced as a large, fully pedestrian recreational space, with generous walking paths, no car dominance and good access to several public transport options. Around 80% of participants described this second site as bike-friendly and well connected to the wider city.

Target group and comfortability: Students characterised the first site mainly as a transit space used by schoolchildren, older people and local residents passing through. Damaged pavements, high curbs and cars parked on sidewalks restrict movement and reduce comfort, particularly for vulnerable users, and there are very few places to sit and rest. As a result, the area is perceived as non-inclusive and not suitable for longer stays. At the second site, the situation is reversed: participants noted that many activity areas are available for different age groups and that the space is inclusive and welcoming. As such, routine users include women, children and elderly people. As one participant put it, "There are both relaxation and interactive spaces, therefore making the place very accessible for various groups of people."

Lighting and visibility: Lighting and visibility emerged as key differentiators between the three areas. At the first site, all participants agreed that public lighting is not adequate, with dark corners where people could remain unseen and large distances between lighting poles. This contributes to a strong sense of insecurity, especially outside school hours. Wayfinding elements are also weak: only 40% of respondents noticed road signs, and none reported seeing navigation indicators. One student summarised the situation by noting that "The lighting is not efficient, there are few lighting poles at a very

great distance.” In contrast, the park is described as open, well-lit and easy to read spatially. Students reported no dark or hidden corners and considered the area particularly suitable and safe for children. Around 60% of participants also observed navigation indicators and road signs, which contribute to a clearer and more legible environment.

Safety: Perceptions of safety largely mirror these differences in lighting, maintenance and use. At the first site, 80% of students noticed the presence of security guards, and several observed surveillance cameras, especially around the school. However, just over half said they actually felt safe there. The combination of poor lighting, car dominance and weak street life leads to mixed and sometimes negative perceptions of security. As one comment put it, “There are a few surveillance cameras to ensure the safety of people in the area, but there could also be a few guards to make the area safer.” At the second site, all students reported seeing security guards, police officers and cameras, and they consistently associated this with an increased feeling of safety. The constant presence of other people in the park, who could help if needed, further reinforces this positive perception.

Human-scale design: From the perspective of human-scale design, the first site is not perceived as people-friendly. Only a small minority of students said they would choose to spend time there, and several described the area as noisy, visually unappealing and “lifeless”, pointing to a lack of entertainment, greenery and maintenance. The environment does not feel particularly stressful, but it also does not convey comfort or a strong sense of belonging. The park area, by contrast, is generally seen as well maintained, liveable and well organised. The space is clearly separated from the road, which reduces conflicts with traffic, and includes a two-way circulation system that supports efficient movement. Although about 40% of respondents mentioned noise from traffic, tree cutting and children’s activities, all groups stated that they would spend time there and felt that the design supports a variety of uses in a relatively calm setting.

Connection with other services: In terms of services, the context around the first site is relatively limited. Beyond the school and a few commercial functions along the main boulevard, there are few services directly nearby, particularly when considering daily amenities. Participants noted that shops and services can be found on the main roads within a 10-minute walk, but that the immediate area around the site does not benefit from a diverse mix of functions. Around the park, the situation is different: students observed several cafés, small shops and other services in and around the green space. All

participants felt that the services and activities offered there meet users' needs. As one comment notes, "There are convenience stores in the park and there are also many services on the main street, including commerce."

Mixed-use: The first site is characterised by a limited mix of uses and a strongly time-dependent pattern of activity. Aside from children and parents using the space during school start and end times, the area remains largely inactive. Eighty percent of respondents said the area is not crowded, and activity is concentrated only around the school timetable, reinforcing its role as a passageway rather than a destination. At the second site, students reported a much richer mix of uses and users. The park is described as very family-oriented, with numerous playgrounds used by children accompanied by their parents and sports facilities used by older people. One participant remarked: "I was pleasantly impressed by the facilities present in the park, with all the recreation areas for children and the elderly." Wide walking paths ensure that there is enough space for everyone, and 80% of students felt that, despite its popularity, the park does not feel overcrowded.

Green spaces: Green space quality and use differ markedly between the three locations. At the first site, most participants felt that there are no real green areas or that the existing greenery is poorly maintained and not actively used. Some vegetation exists along building facades, but due to its appearance and limited extent, it is not perceived as a proper green space. The park, by contrast, is consistently described as a large, well-maintained green area that acts as a major attraction and is actively used by people of all ages. Students highlighted its dual role as both a recreational resource and an important environmental asset for the wider neighbourhood.

Conclusion of the questionnaire: Overall, the questionnaire results and on-site observations point to major service, mobility and design challenges at the first site, largely associated with car dominance, the lack of mixed use, poor accessibility and low maintenance levels. Many students also emphasised reduced visibility and a weak feeling of safety in this area, particularly after dark. At the same time, they recognised that it has potential to become more liveable and attractive should these issues be addressed. The second site, the park, is already perceived as a functional, intensively used and socially dynamic space, thanks to its recreational offer, good connectivity and overall quality of public space. Nevertheless, students see scope to further enhance comfort, accessibility and integration with surrounding neighbourhoods. Together, these findings show that, although the three locations represent very different contexts, they share similar needs related to improved accessibility, safety,

comfort and public space quality, which subsequently informed the visioning and prototyping work carried out in the workshop.

Results – Exercises

The exercises confirmed the contrasts observed during the site visit between the car-dominated school area and the more functional Crângași–Morii Lake park, while also revealing a series of shared needs. Students described the first site as visually “lifeless” and poorly maintained, with an urban landscape dominated by parked and moving cars, narrow or obstructed sidewalks, high curbs and no dedicated cycle lanes. Street furniture is almost absent or damaged and confined to a few specific spots, which discourages people from staying and limits opportunities for informal social interaction. These conditions restrict safety for pedestrians, cyclists, people with reduced mobility and parents with strollers, and mean that the area is used mainly as a transit corridor linked to the school timetable. Services are scarce in the immediate vicinity, especially community-oriented and health-related functions, so residents often have to travel to Crângași Square or other parts of Sector 6 to meet everyday needs.

By contrast, the park is perceived as a large, well-maintained green space with good access to metro, tram and bus lines, generous pedestrian areas and a generally positive atmosphere. It offers varied activities for different age groups and benefits from adequate lighting, visible security presence and a constant flow of users, which together create a strong feeling of safety. However, students also noted that connections between the park and surrounding neighbourhoods are not fully exploited, that some edges remain poorly integrated with adjacent residential and school areas, and that there is still room to improve comfort through additional shaded zones, clearer organisation of play and recreation by age groups along with better connections to existing local services.

Based on these findings, students developed a shared vision of the broader Crângași–Morii Lake area as more connected, inclusive and climate-responsive. Their proposals focus on reducing car dominance and strengthening active mobility, for example by creating continuous bicycle and scooter lanes, widening sidewalks, introducing traffic-calming measures and better organising parking, including removing cars from pavements. Improved public transport links and more legible walking routes between the school, residential areas and the park are seen as crucial to making everyday mobility safer and more attractive. Participants also emphasised the need for a coherent strategy for street furniture, centred on modular and multifunctional elements that provide seating, shading, lighting and spaces for social interaction, and that can

integrate greenery and renewable energy components such as photovoltaic panels for charging bicycles, scooters or mobile devices.

In parallel, workshop attendees argued for diversifying activities and services as well as for reinforcing the community feeling. Suggestions included age-differentiated play and recreation areas, new “third spaces” and community centres near schools and housing blocks, and small-scale commercial and health services tailored to residents’ needs, so that people no longer have to travel long distances to access basic amenities. To support communication and participation, they also proposed a neighbourhood application that would map meeting points, local events and community initiatives, complementing existing navigation and reporting tools. Overall, the exercises show that, despite the current fragmentation and inequalities between the school surroundings and the park, the area has a strong potential to evolve into a coherent, accessible and attractive network of public spaces that better supports everyday life, social inclusion and the energy transition.

Team 1 - VERT

Team 1 imagined **VERT** as a flexible system of **modular urban furniture** that can adapt to different contexts and user needs in the Crângași–Lacul Morii area. The students wanted to respond both to the lack of **comfortable meeting places** and to the need for **renewable energy in public space**. Their proposal combines several modules – seating, small gardens and charging points for bicycles – which can be configured differently depending on whether the setting is near a school, frequented by older people or used mainly by commuters. A defining element is the integration of **solar panels** on the roof and vertical surfaces, providing shade while generating energy for everyday uses such as charging devices or e-bikes. VERT is conceived as a scalable tool for activating underused areas, making them more welcoming, productive and socially active.

In essence, VERT is conceived as a scalable tool for activating residual or underused areas, making them more welcoming, productive and socially active, with a clear emphasis on flexibility, sustainability and adaptation to local needs.

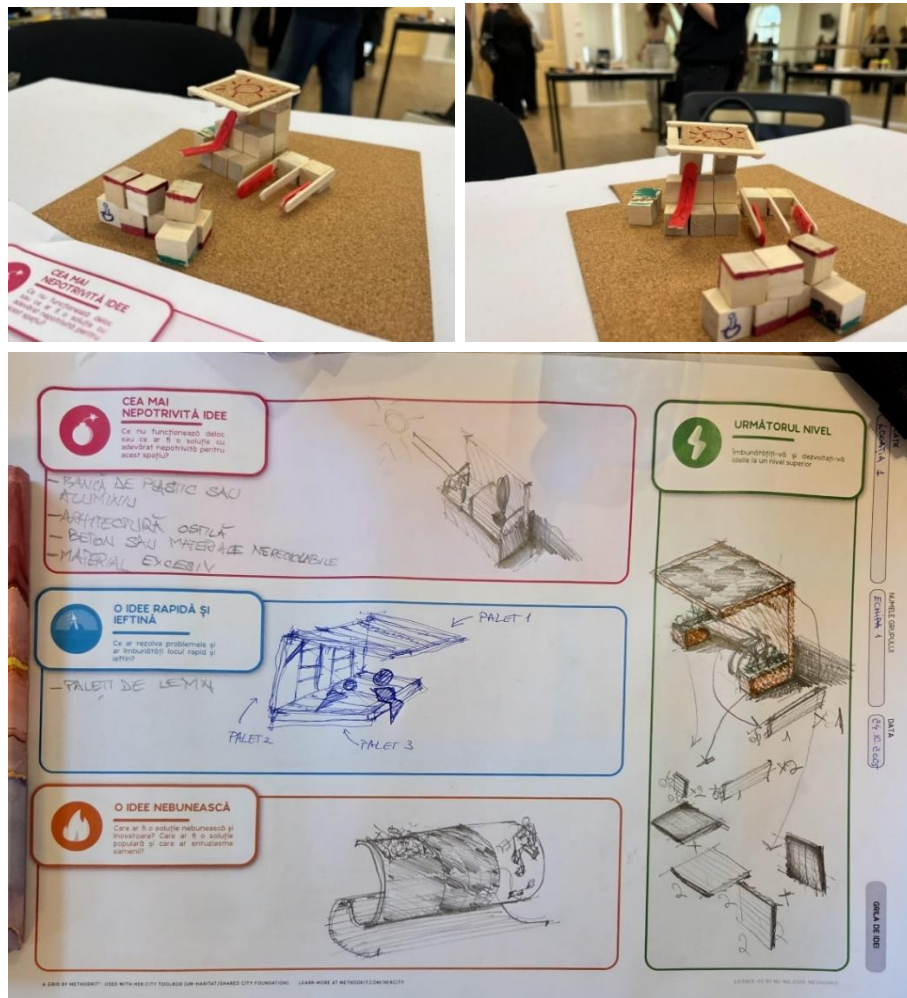


Figure 7 - Urban furniture concept - Team 1

Team 2 - ECOSCUAR

Team 2 focused on reimagining the space around the school as a **welcoming and sustainable square**, developing the concept **ECOSCUAR**. Starting from the idea that the route between the school and the nearby park is functional but unattractive, they proposed a **colourful path** that links the two spaces and turns them into destinations. Along this path, they placed benches made from pallets and planters from reused rubber tires, highlighting the use of **recycled materials**. One of the benches integrates a **solar panel** that allows people to charge their phones. Overall, ECOSCUAR aims to create an attractive and durable arrangement around the school that encourages outdoor use and interaction between pupils and the wider community.

Overall, ECOSCUAR is imagined as an attractive and durable arrangement around the school, which encourages the use of outdoor spaces, supports interaction between pupils and the wider community and showcases a tangible, small-scale approach to sustainability.

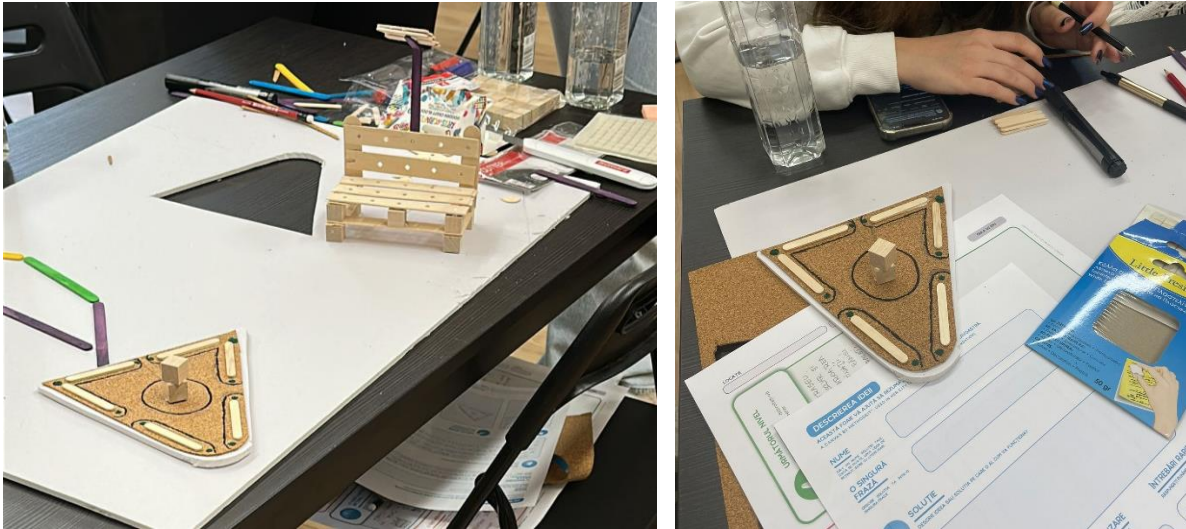


Figure 8 - Urban furniture concept - Team 2

Team 3 - Urban Wave

Team 3 addressed the need for **shelter and comfortable resting areas in the park**, especially for people who stay longer or wait for others. Their concept, **VAL URBAN**, is a **multifunctional pavilion** that combines protection from the weather, spaces for relaxation and facilities for cyclists. The structure integrates benches and tables under a continuous roof, creating a generous shaded area. On top, **photovoltaic panels** generate energy for lighting or charging points, making the space both comfortable and sustainable. A dedicated **bicycle parking** area supports everyday cycling. Urban Wave is envisaged as a social and functional anchor in the park that extends the ways and times people can use the space.

The design also includes a dedicated bicycle parking area, recognising the importance of cycling as everyday mobility and the lack of quality places to leave bikes safely. Through Urban Wave, the team envisions a social and functional anchor in the park – a multifunctional, energy-positive shelter that extends the time and ways people can use the space.

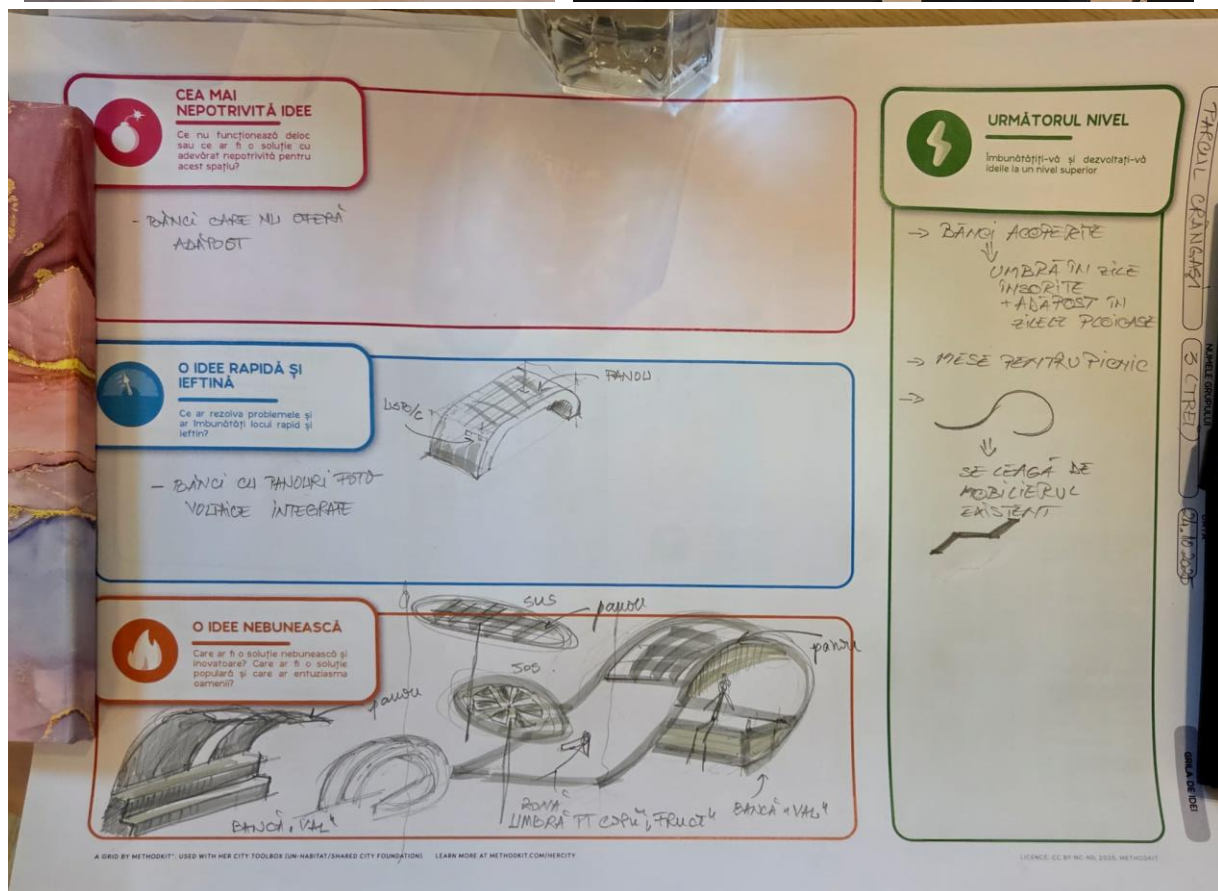
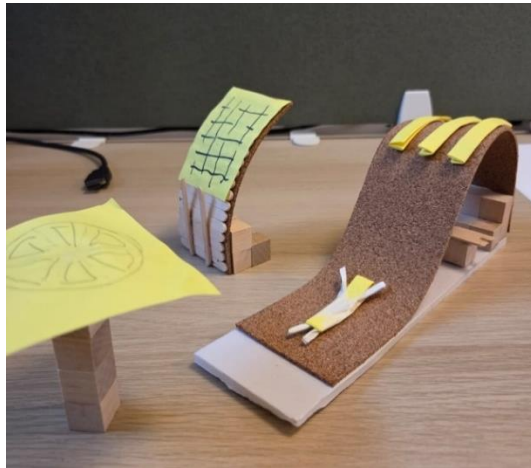


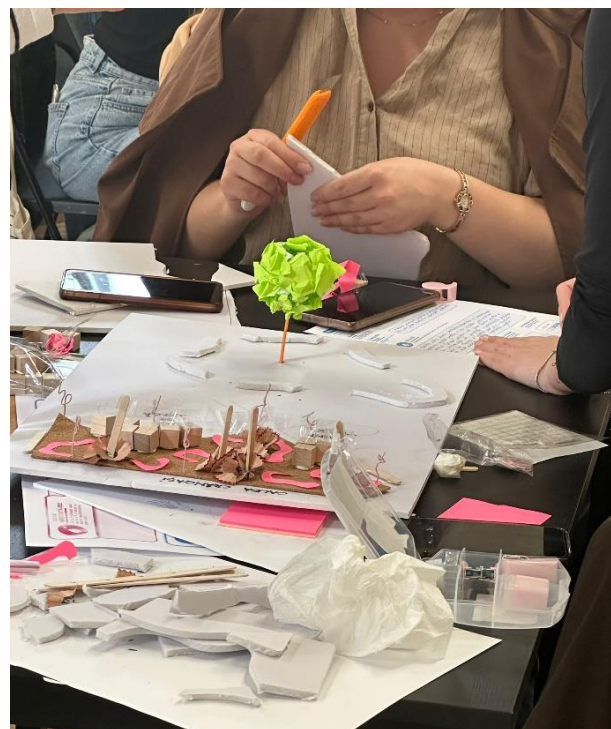
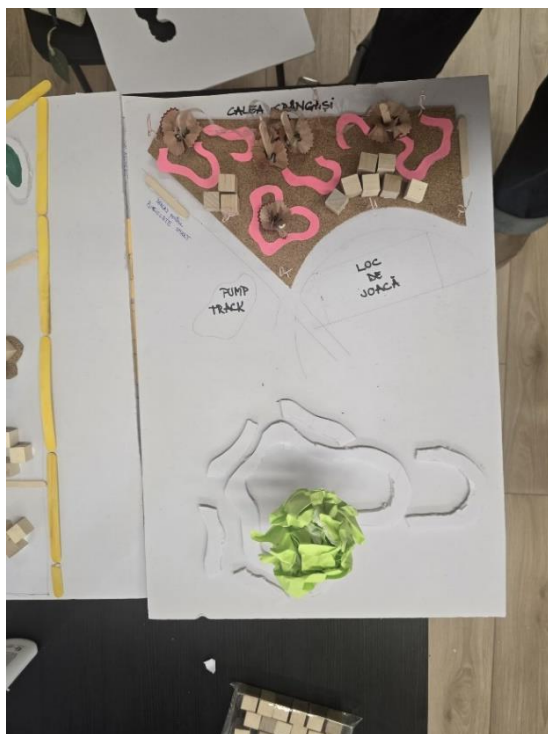
Figure 9 - Urban furniture concept - Team 3

Team 4 - Reflexia Morii

Team 4 developed **Reflexia Morii** starting from the **outline of Lacul Morii**, which they translated into modular elements and gentle hills that structure the public space. These lake-shaped modules act as flexible platforms for sitting, picnicking, playing or meeting, accommodating different age groups and activities. By echoing the lake's form in the design of furniture and landforms, the concept strengthens the **identity of the place** and reduces the separation

between city and nature. The proposal also uses **recyclable materials** and integrates **solar panels**, aligning with principles of sustainability. Reflexia Morii is imagined as a green, playful and adaptable landscape that offers a network of informal social spaces for residents and passers-by.

The proposal also explicitly incorporates recyclable materials and solar panels, aligning the concept with principles of sustainability and energy efficiency. In this sense, Reflexia Morii is imagined as a green, playful and adaptable landscape, which people can shape over time, offering a network of informal social spaces that responds both to environmental objectives and to the everyday need for accessible, high-quality public spaces for all ages.



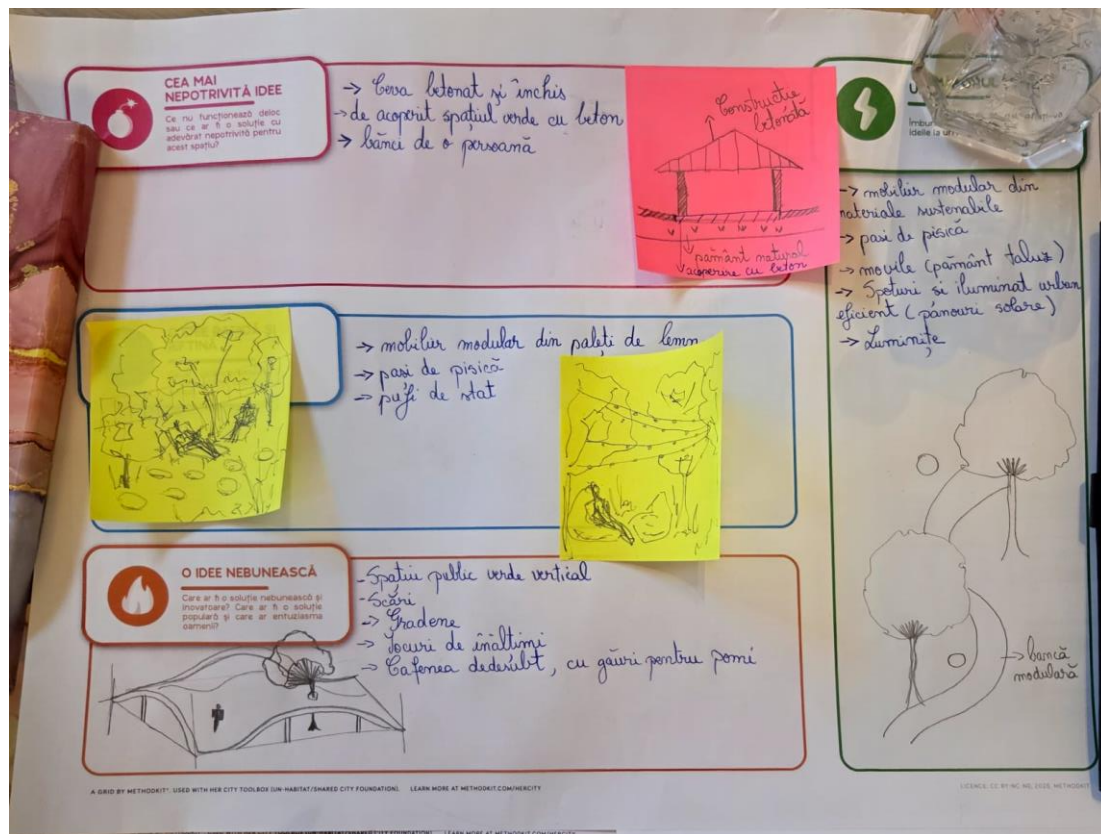


Figure 10 - Urban furniture concept - Team 4

Team 5 - The Loop

Team 5 focused on **students and young people**, who need accessible spaces outside home and university to work, collaborate and socialise. Their concept, **The Loop**, imagines part of the park as a **working and meeting space in nature**, distinct from both home and faculty. The proposal includes benches, tables and **power outlets**, allowing group work, individual study and informal meetings outdoors. **Solar panels** provide clean energy for these functions, showing that learning and collaboration spaces can be both digitally equipped and environmentally responsible. The Loop is intended as a daily resource for students and young professionals, supporting co-working and social interaction while increasing the attractiveness of the park for this target group.

Inspired by similar projects in other cities, the team sees The Loop as a daily resource for students and young professionals, not only for leisure but also for study and co-working. The concept aims to promote new forms of social and professional interaction, while enhancing the attractiveness and perceived usefulness of the park for this key target group.



Figure 11 - Urban furniture concept - Team 5

Conclusions from the Workshop

The co-creation workshop offered a detailed and multi-layered understanding of the Crângași–Morii Lake area, revealing not only the challenges that shape everyday life but also the opportunities for creating a more inclusive, comfortable and environmentally responsive public space. Through the site visit and group exercises, students identified a clear contrast between the car-dominated surroundings of the school and the more functional, well-used park area, while also recognizing shared needs related to accessibility, safety, user comfort and quality of public space.

Across all teams, several recurring themes emerged. Participants consistently emphasized the importance of **providing shade, shelter and comfortable places to sit**, addressing both climatic conditions and the desire for longer and more meaningful use of outdoor spaces. All groups incorporated **renewable energy solutions**, especially through photovoltaic panels integrated into urban furniture, demonstrating a strong interest in linking public space improvements with sustainable energy production. The concepts also reflected a wider concern for **social interaction and community building**, whether by creating shaded rest areas, third places for young people, or flexible green structures that can host a variety of informal activities. Modularity, adaptability and circular material use were also shared priorities, indicating a preference for

interventions that can evolve with community needs and minimize environmental impact.

Despite differences in form and target users, the five concepts proposed during the workshop converge around a common vision: a public space network that is **more accessible, more inclusive and more oriented towards everyday life**, while simultaneously supporting climate resilience and the energy transition. The students' proposals demonstrate the potential for locally grounded, creative and sustainable design to transform fragmented areas into lively, welcoming and functional environments.

Based on the findings of the site visit, the results of the exercises and the prototypes developed during the workshop, the project team proposes that the **SET-PED prototype be implemented in the park area**.

This decision is supported by several arguments:

- **High existing use and social activity:** The park already attracts a wide range of users—children, families, elderly people, cyclists—making it a promising location for testing new urban furniture that can benefit diverse groups.
- **Favorable conditions for energy generation:** The park's open structure and good sun exposure make it suitable for **solar-powered furniture** and other renewable energy interventions envisioned by the teams.
- **Potential to strengthen a well-functioning space:** Although the park is appreciated, participants identified clear areas for improvement—more shade, more seating, better microclimate—which align directly with the proposed prototypes.
- **Better integration and visibility:** Introducing the prototype in a space that is already well connected to public transport and widely frequented increases the chances of **community adoption, continuous use and meaningful feedback**.
- **Increased impact and scalability:** A prototype placed in the park can serve as a **model for wider implementation** in other parks and public spaces in Sector 6, demonstrating how modular, sustainable furniture can improve urban comfort and reinforce community life.
- **Safety and maintenance conditions:** The park benefits from good lighting, regular presence of people, and more active monitoring, making it a safer environment for installing and testing an innovative prototype that requires ongoing observation.



For these reasons, the park area offers the most suitable context for effectively evaluating how the prototype functions, how users interact with it and how it contributes to a safer, more inclusive and energy-responsive public space.