

RE-VALUE İZMİR PROJECT

INNOVATION CAMP | 3

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re-value

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RE-VALUE

Re-Value Project Content

Re-Value is an international project supported by the European Commission and jointly implemented by nine European coastal cities. **It focuses on urban transformation, climate adaptation, and data-driven decision-support processes.** The project aims to make cities more resilient, liveable, and sustainable in the face of the climate crisis.

Within the scope of Re-Value, which started in 2022 and is planned for completion in 2026, **integrated solutions are being developed to address key urban challenges faced by coastal cities, including the urban heat island effect, flooding, accessibility, mobility, and carbon emissions.** In this process, digital twin technologies, data-driven analyses, and scenario-development tools are used to generate participatory, implementable design and policy proposals that address not only technical but also social and spatial dimensions.

Re-Value İzmir Project Approach

- Digital twin and data-driven scenarios
- Urban heat island, flooding, accessibility, and mobility
- Reduction of carbon emissions and climate risks
- Participatory and multi-stakeholder production model

İzmir Project Partners

- İzmir Metropolitan Municipality, Urban Design Branch Office
- İzmir Institute of Technology, Department of City and Regional Planning
- İzmir Planning Agency (facilitating institution)

The Role of Innovation Camps in Re-Value

Innovation Camps are one of **the core implementation tools of Re-Value's co-creation, design, and problem-solving approach.** These camps bring together academia, municipalities, communities, and experts to develop innovative, feasible, and site-based solutions for the pilot area.

Through these camps, project outputs are shaped not only by technical considerations but also by real social, spatial, and climate-related needs. The camps carried out in İzmir to date have produced significant outcomes by transforming insights gathered from the field into design proposals and micro-scale interventions.

SCOPE



Figure 1. Re-Value Co-Creation Event at Izmir Coal Gas Factory – 18 November 2025

The Re-Value Innovation Camp 3, titled **“Add Value to Your City”**, was organised under the coordination of Izmir Metropolitan Municipality, Department of Urban History, Promotion and Tourism, and Izmir Institute of Technology, with the contributions of the Izmir Planning Agency and the Junior Achievement Foundation. The camp consisted of a co-creation programme held in Alsancak on 13 and 18 November 2025.

Within the scope of the event, design students from various universities in Izmir came together to form interdisciplinary teams. These teams explored the core components of the Re-Value project within the pilot area, including **nature-based solutions (NBS), local needs analysis, the urban heat island effect, rainwater management, inclusive design, public value, transformation across ground-façade-roof surfaces, and sustainable business models.**

In addition, analyses were conducted on the economic value, feasibility, and sustainability of the projects using the Junior Achievement Foundation’s Business Development Model. Throughout the camp, teams developed data-driven, innovative, and implementable design proposals centred on the multi-layered urban structure of Alsancak, with a strong emphasis on public value. The proposals were aligned with broader urban transformation objectives, including the **creation of green corridors connecting open spaces, climate-resilient street solutions, and integrated approaches that enhance user experience.**

Re-Value Innovation Camp 3 contributed to the emergence of innovative ideas for the future of Alsancak through a collective production process shaped by the creative energy of young people.

CONTENT

Re-Value Innovation Camp 3 provided participants with the opportunity to approach Alsancak not only as a pilot area, but as a dynamic urban context shaped through collective thinking and discussion. **Throughout the camp, students developed their ideas progressively, starting from field observations and advancing through team evaluations, feedback sessions, and joint decision-making processes.**

The collaboration of students from different universities and disciplines transformed the camp into a productive environment centred on exchange and interaction. **In this setting, the urban space was addressed not only through its physical characteristics but also through social relations, everyday practices, and its future potential. While translating their analyses of Alsancak's existing structure into design ideas, students adopted public benefit and sustainability as core principles.**

The outcomes of the camp were shaped not as singular solutions, but as adaptable design approaches and alternative scenarios open to further development for Alsancak.

This process strengthened participants' abilities to critically reflect on urban challenges, engage in collaborative production, and evaluate design decisions from multiple perspectives, while incorporating the perspectives and creative contributions of young people into the Re-Value project.

The workshop was carried out with the participation of 71 students studying urban planning, architecture, landscape architecture, and interior architecture at Izmir University of Economics, Ege University, Dokuz Eylul University, Izmir Institute of Technology, Yasar University, and Izmir Democracy University.



Figure 2. Re-Value Co-Creation Event at the Portuguese Synagogue – 13 November 2025

ANALYSIS

At the first meeting held on 13 November 2025 at the Portuguese Synagogue in Konak, participants were introduced to the scope of the Re-Value project and the focus areas within the pilot site. In this context, a report based on surveys and citizen interviews conducted on Şevket Özçelik Street, carried out in collaboration with the Izmir Planning Agency within the framework of the Re-Value Izmir project, was presented.

Following the presentations, students began to evaluate their initial impressions, existing challenges, and potential opportunities in four designated focus areas: Şevket Özçelik Street, Kıbrıs Şehitleri Street, Mustafa Enver Bey Street, and Ali Çetinkaya Boulevard. During this process, initial project ideas started to take shape, and teams were asked to conduct site visits and complete their observations and preliminary design studies prior to the workshop day.



Figures 3&4. 13 November 2025 - Presentations and Teamwork

At the second co-creation day held on 18 November 2025 at the Izmir Coal Gas Factory, a report based on surveys and citizen interviews conducted for Kıbrıs Şehitleri Street, carried out in collaboration with the Izmir Planning Agency, was shared with the participants. Following this, a training session focusing on the project development process was delivered by the Junior Achievement Foundation, one of the project partners. The presentation emphasised the importance of considering economic factors alongside climate resilience and user needs within the design process. After the evaluation criteria were presented and each group representative shared the results of their analyses and initial design ideas, the co-creation workshop officially commenced.



Figures 5&6. 18 November 2025, Team Presentations

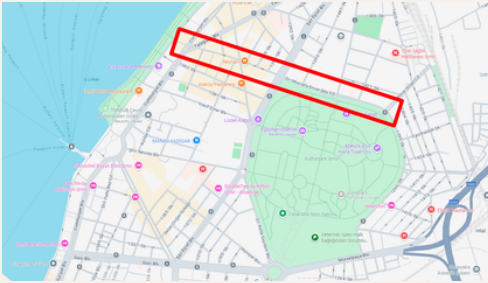
FOCUS AREAS



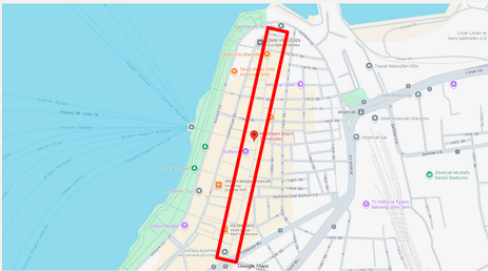
Figure 7. Re-Value İzmir Pilot Area



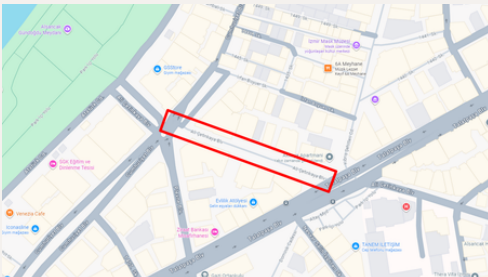
Figures 8&9. Focus Pilot Area: Şevket Özçelik Street



Figures 10&11. Focus Pilot Area: Mustafa Enver Bey Avenue



Figures 12&13. Focus Pilot Area: Kıbrıs Şehitleri Street



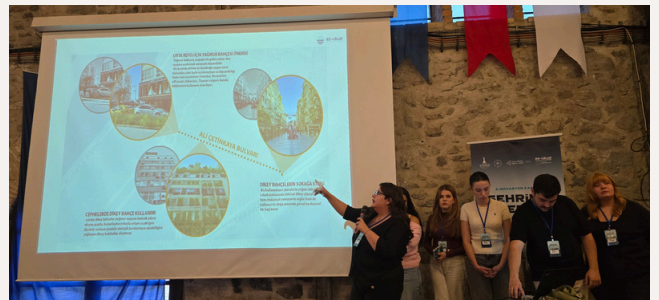
Figures 14&15. Focus Pilot Area: Ali Çetinkaya Boulevard

DESIGN

Design Evaluation

Criteria

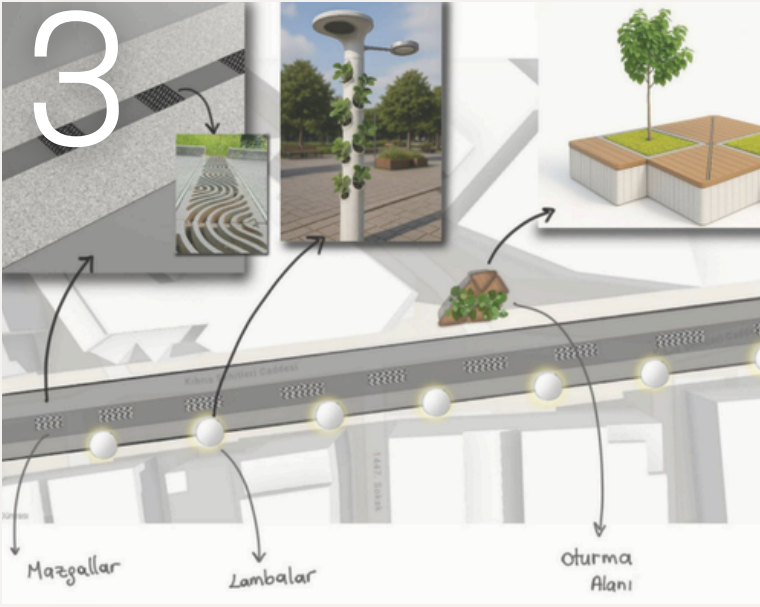
- Thematic relevance and accurate problem definition
- Nature-based solution-oriented design approach and innovation
- Feasibility, technical coherence, and sustainability
- Contribution to user experience, public value, and inclusiveness
- Preliminary cost estimation and assessment
- Presentation and communication skills



Figures 16&17. 18 November 2025 – Design Studies

Figures 18-21. 18 November 2025 – Project Presentations

PROJECTS



1. ŞEVKET ÖZÇELİK STREET
2. ŞEVKET ÖZÇELİK STREET
3. KIBRIS ŞEHİTLERİ STREET

4. KIBRIS ŞEHİTLERİ STREET
5. MUSTAFA ENVER BEY AVENUE
6. ALİ ÇETİNKAYA BOULEVARD

PROJECT | 1 Şevket Özçelik Street

Problems

- Urban heat island effect
- Hard and impermeable surfaces
- Insufficient shading
- Lack of urban furniture
- Absence of feeding and watering areas for street animals

Target Users

- University students
- School students and parents
- Residents
- Passers-by using the area for transit purposes

Objectives

- To enhance microclimatic comfort on the street and reduce the urban heat island effect
- To manage rainwater and reduce impermeable surfaces
- To create shaded seating and resting areas for users
- To provide clean, regular, and integrated feeding points for street animals
- To design an interactive route that increases ecological awareness among children and young people
- To implement a nature-based and sustainable design approach that strengthens the street's identity
- To support the ecosystem and increase community engagement and ecological awareness through a seed bank, digital exhibitions, and QR code-based learning tools



Figure 22. General view of the street

Proposed Solutions



Nature-Based Solutions

- To design bioswales and rain gardens for effective rainwater management
- To apply permeable surfaces to increase water permeability
- To utilise solar panels to provide renewable energy
- To enhance the microclimate by integrating vegetation on vertical surfaces and urban furniture
- To use native plant species to preserve ecological balance

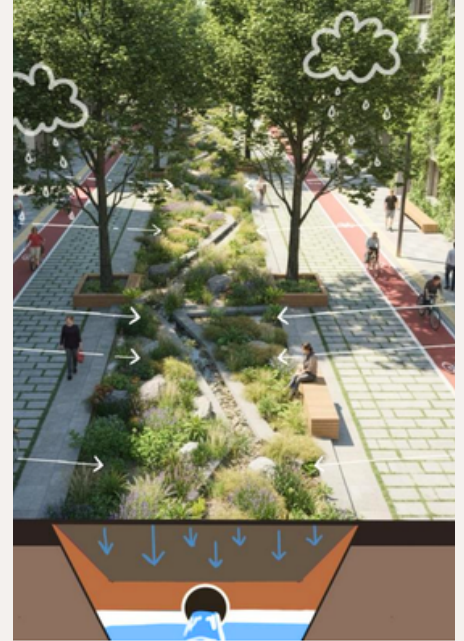


Figure 23. Bioswale



Shading and Resting Areas

- To install textured membrane pergolas with sun-shading features on steel or timber structural systems
- To use wood-composite materials for seating surfaces
- To create shaded and green spaces using climbing plants (Fatshedera lizei, Star Jasmine)
- To integrate concrete seating units with steel pergolas and climbing vegetation along the existing school wall



Figure 24. Prefabricated seating unit



Figure 25&26. Wooden seating elements

Proposed Solutions



Ecological Experience Route

- To design ground markings with directional elements to help children engage with the urban environment
- To create small tasks along the street that encourage learning through exploration
- To develop QR code-based games for identifying and learning about plants
- To organise seed collection and cultivation activities
- To encourage children's participation in digital exhibitions



Figure 27. Ecological Experience Route



Seed Bank

- To source native seeds such as lavender, chamomile, poppy, mallow, and rosemary
- To organise seed acquisition through a waste-exchange system
- To offer plant-growing kits, pots, and seeds for sale



Figure 28. Seed Bank



Digital Ecosystem

- To display home-grown plants on digital boards
- To provide information about plants in order to increase children's ecological awareness



Figure 29. General View of the Street

Problems

- Lack of safety and security
- Insufficient green space
- Inadequate wayfinding
- Discomfort due to climatic conditions
- Unsuitable and uneven ground surfaces
- Lack of urban furniture
- Irregular motor vehicle and bicycle access and circulation

Target Users



- School students



- Parents of school students



- Residents



- Local shopkeepers

Objectives

- To improve microclimatic conditions on the street and reduce the urban heat island effect
- To manage rainwater and reduce impermeable surfaces
- To create shaded seating and resting areas for users
- To organise pedestrian circulation and clarify movement through wayfinding elements
- To create safe and comfortable waiting areas for parents
- To strengthen green infrastructure through applications such as bioswales and planting
- To enhance education and awareness through interactive solutions (energy-generating pavements, photoluminescent paint, QR code-based learning, etc.)

Proposed Solutions



Nature-Based Solutions

- To install bioswales to filter and store rainwater
- To design rain gardens to support natural water management
- To use permeable paving materials (e.g., permeable asphalt) to increase water infiltration
- To integrate infrastructure systems for rainwater collection

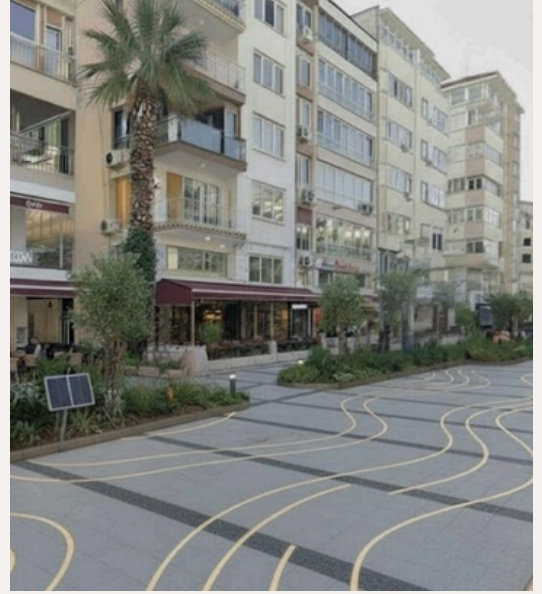


Figure 30. Bioswales



Pedestrian-Oriented Design

- To create shaded canopies and covered waiting areas
- To introduce tree planting and enrich seating areas with vegetated furniture
- To design wide and safe pedestrian corridors
- To install comfortable seating and waiting units specifically for parents



Figure 31. Seating Units



Figure 32. Facade greening of the school wall

Proposed Solutions



Integration of Energy and Technology

- To generate energy from pedestrian movement through piezoelectric paving systems
- To create wayfinding lines using photoluminescent road markings that store daylight and glow at night
- To transform the street into a micro energy hub by installing vertical charging units with modern digital interfaces



Figure 33. Piezoelectric paving system



Figure 34. Photoluminescent road markings and vertical charging units

PROJECT | 3 Kıbrıs Şehitleri Street



Figure 35. General view of the street

Problems

- Ineffective rainwater management
- Insufficient shading
- Lack of seating and waiting areas
- Unsuitable and uneven ground surfaces
- Pedestrian safety issues

Target Users

- Daily pedestrian users
- Commercial users
- Young and adult users
- Tourists
- Employees of local businesses

Objectives

- To manage rainwater and prevent water accumulation along the street
- To improve pedestrian comfort through walkable and barrier-free surfaces
- To enhance the microclimate through shading and planting applications
- To increase pedestrian safety and limit motorised vehicle access
- To encourage social use by creating public seating and waiting areas

Proposed Solutions



Nature-Based Solutions

- To create infrastructure that enables rainwater infiltration through porous concrete and iconically patterned drainage grates
- To increase green texture along the street through vertical farming elements
- To provide ecological value using low-maintenance ground cover plants

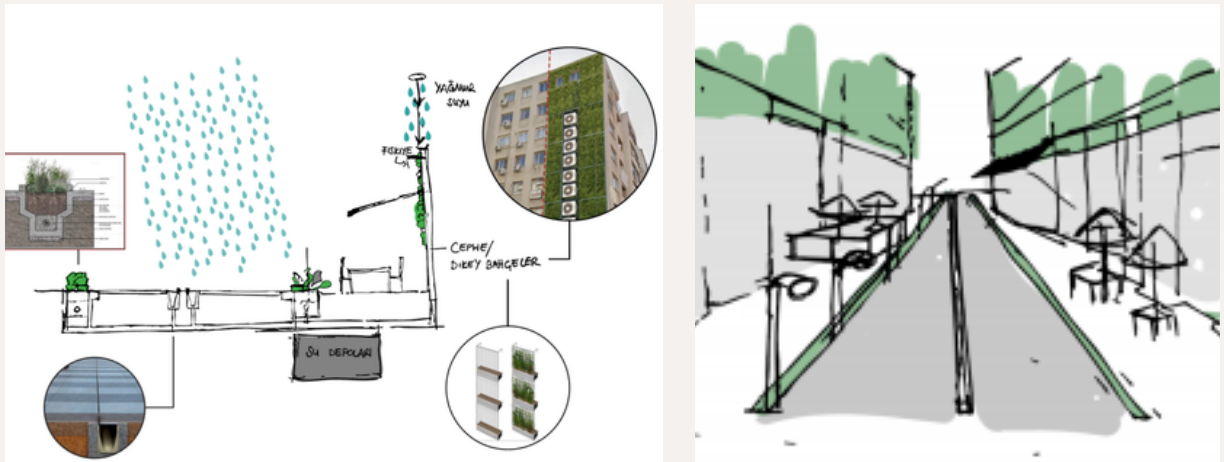


Figure 36&37. Technical description of Nature-Based Solutions



Public Recreation Area

- To install climate-friendly seating units providing passive comfort in front of Türkan Saylan Cultural Centre
- To create user-friendly spaces through tree shading and modular design
- To provide aesthetic and functional spaces through urban furniture integrated with green surfaces



Water Management and Infrastructure

- To prevent flooding through drainage systems that collect rainwater
- To install vertical farming elements integrated into lighting poles
- To use permeable textures and materials to direct surface water flow

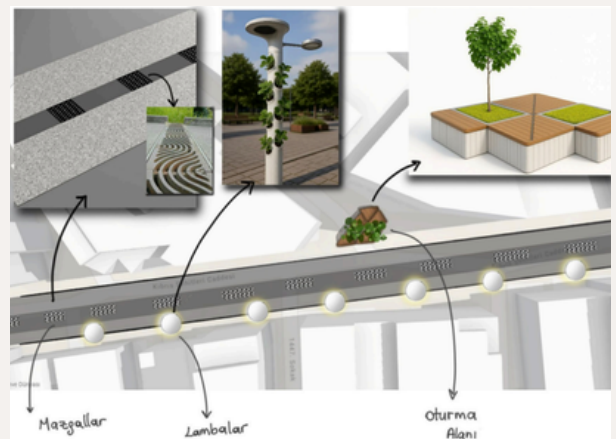


Figure 38. Water management of the street

PROJECT 4 Kıbrıs Şehitleri Street

Problems

- Insufficient shading
- Lack of harmony between the urban fabric and the architectural character
- Insufficient green space
- Inadequate wayfinding
- Lack of seating and resting areas
- Ineffective rainwater management

Target Users

- Daily pedestrian users
- Local shopkeepers
- Young urban users
- Residents
- Tourists

Objectives

- To provide a comfortable, shaded, and barrier-free circulation area for pedestrians
- To improve the microclimate through green spaces and planting
- To manage rainwater effectively and contribute to the groundwater cycle
- To increase public seating and resting areas
- To create interactive experience areas that encourage user participation
- To strengthen the sense of urban belonging and support social interaction
- To enhance sustainability through eco-friendly architectural approaches and the use of environmentally responsible materials



Figure 39. General view of the street



Resim 40. Spatial analyses of the site

PROJECT | 4 Kıbrıs Şehitleri Street

Proposed Solutions



Nature-Based Solutions

- To transform the public space into a circular ecosystem powered by human energy through the Alsancak Bio-Passage system
- To enhance the perception of vitality by converting pedestrian movement into biological and spatial interaction
- To strengthen the relationship between users and the space while encouraging participation
- To make commercial and social activity more visible
- To create a green public corridor that generates a microclimate within the urban environment
- To reduce flood risk and establish green corridors through bioswales
- To develop an ecological infrastructure that manages rainwater through a permeable concrete system (Ground FLYT System)



Figure 41. Green corridor design proposals



Figure 42. Green corridor design proposals



Figure 43. Bioswale and permeable surface application

Proposed Solutions



Pedestrian-Oriented Design Modules

- To create plant-integrated seating units, shading systems, and seating areas with green roofs
- **Module 1:** Planted shading elements
- **Module 2:** Vegetated modules for rainwater collection
- **Module 3:** Tree-integrated seating units



Figure 44. Vegetated seating units



Figure 45. Tree-integrated seating units

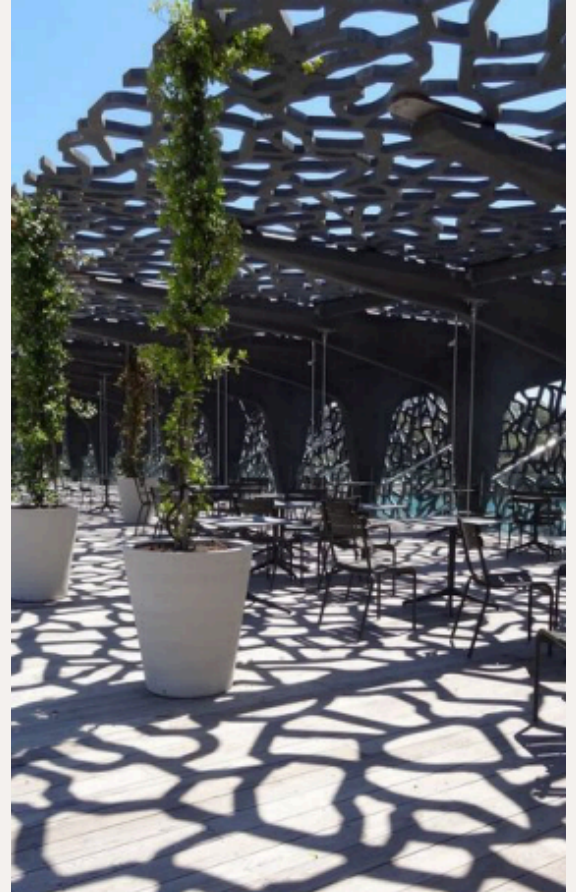


Figure 46. Shading elements with plants

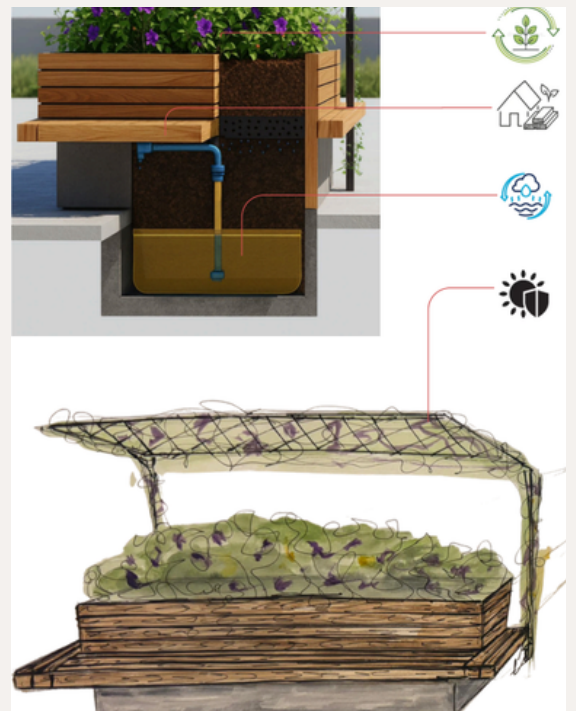


Figure 47. Rainwater-collecting modules

Proposed Solutions



Pedestrian-Oriented Design Modules

- **Modules 5&6:** A nature-based solution module developed for Kıbrıs Şehitleri Avenue to address the urban heat island effect, insufficient shading, and water scarcity; designed as a self-sufficient system that collects rainwater through a green roof and operates with solar energy and smart irrigation systems, offering a comfortable and low-maintenance solution
- **Modül 7:** Shading elements and environmentally friendly seating units



Figure 48. Seating units

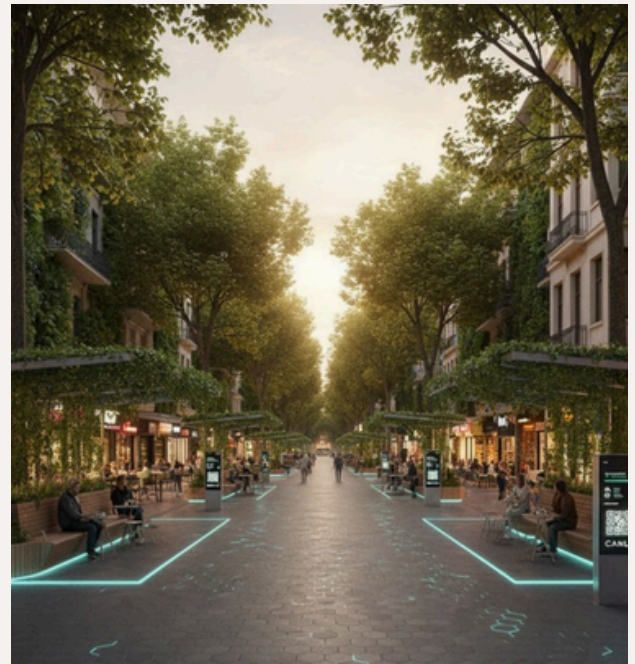


Figure 49. Seating units with green shading elements



Figure 50&51. Green shading elements collecting rain water



Proposed Solutions



Education, Awareness, and Technological Interaction

- To enable users to directly experience the rainwater permeability and water retention performance of different surface and seating units through an interactive laboratory setup
- To demonstrate, within a glass enclosure model, the comparative performance of permeable and impermeable surfaces under the same slope and rainfall conditions through rainfall simulation
- To allow users to activate the system and experience the contribution of the sponge city approach to rainwater management and urban sustainability



Figure 52. Sponge City Laboratory



Figure 53. Approach Principle: Nature-based solutions at the intersection of climate, people, and biodiversity



Public Value and Stakeholder Engagement

- To collaborate with local authorities and municipalities
- To implement storefront enhancements for local shops and cafés, supporting the functional use of public spaces
- To promote the use of sustainable materials and collaborate with local producers
- To develop user-oriented, accessible, and inclusive design strategies that strengthen urban belonging

Problems

- Vehicle traffic and parking issues
- Pavement encroachment
- Ineffective rainwater management
- Insufficient accessibility for people with disabilities
- Lack of sustainable mobility infrastructure
- Hard and impermeable surfaces
- Infrastructure deficiencies



Figure 54&55. General views of the street

Target Users

- Youth and active pedestrians
- Residents
- Local shopkeepers
- Drivers

Objecting.

- To reduce the urban heat island effect
- To create surfaces that harvest rainwater and support a sponge city approach
- To reclaim pavements and widen pedestrian circulation routes
- To strengthen green infrastructure (bioswales, rain gardens, vertical gardens)
- To promote sustainable mobility (cycle lanes, micromobility areas)
- To enhance user comfort through social spaces and parklets
- To develop a self-sufficient street model through energy-generating systems (piezoelectric paving and solar panels)
- To bring together the needs of local shopkeepers, residents, and youth within a shared public framework

Proposed Solutions



Nature-Based Solutions

- To enable rainwater dispersion across the surface through permeable ground materials
- To design low-maintenance landscaping using drought-tolerant plant species
- To reduce the urban heat island effect through tree shading and the use of green surfaces
- To support the local water cycle through the redirection of rainwater

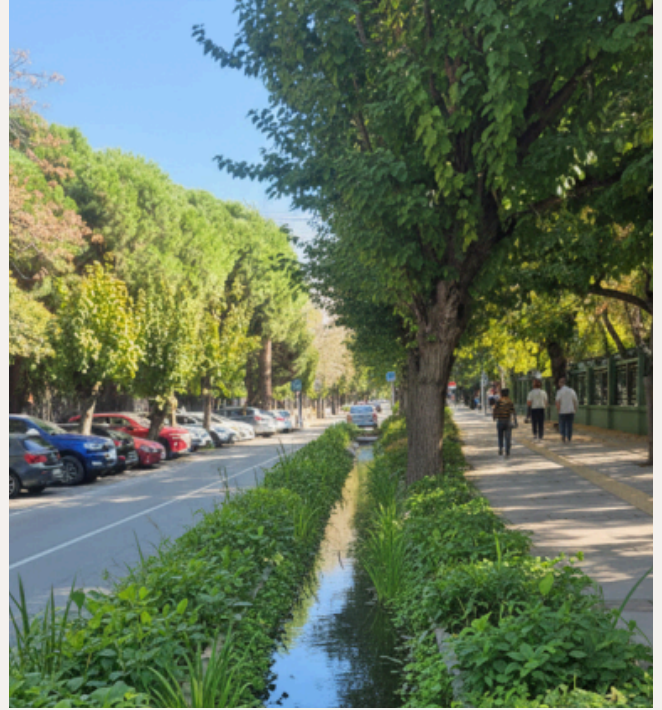


Figure 56. Bioswale

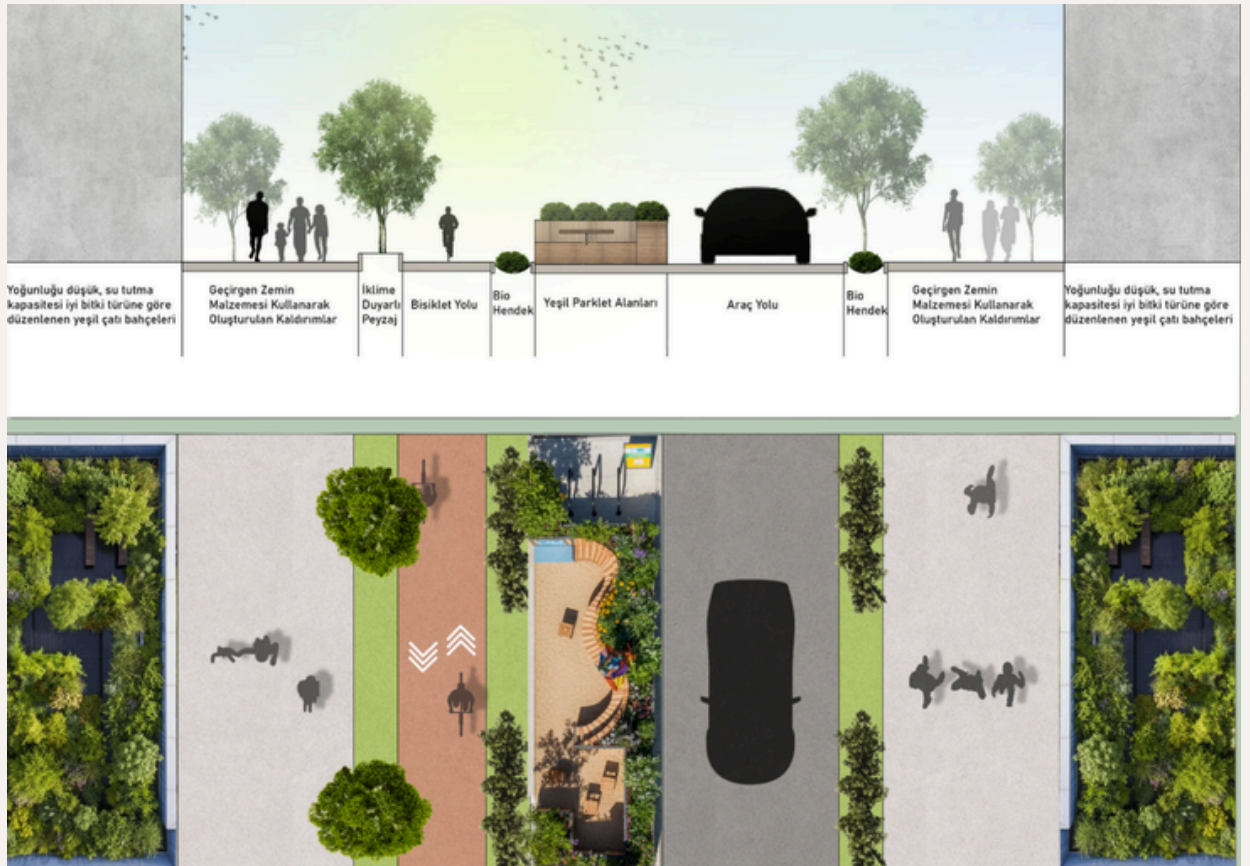


Figure 57. Nature-based street section proposal

Proposed Solutions



Comfort in Public Space and Pedestrian-Oriented Micro Interventions

- To integrate modular seating areas onto widened pavements
- To develop user-friendly modular designs through the use of timber materials
- To create aesthetic and functional social spaces with plant-integrated seating elements
- To implement a modern parklet arrangement that reduces spatial encroachment through organically curved concrete modules and planting

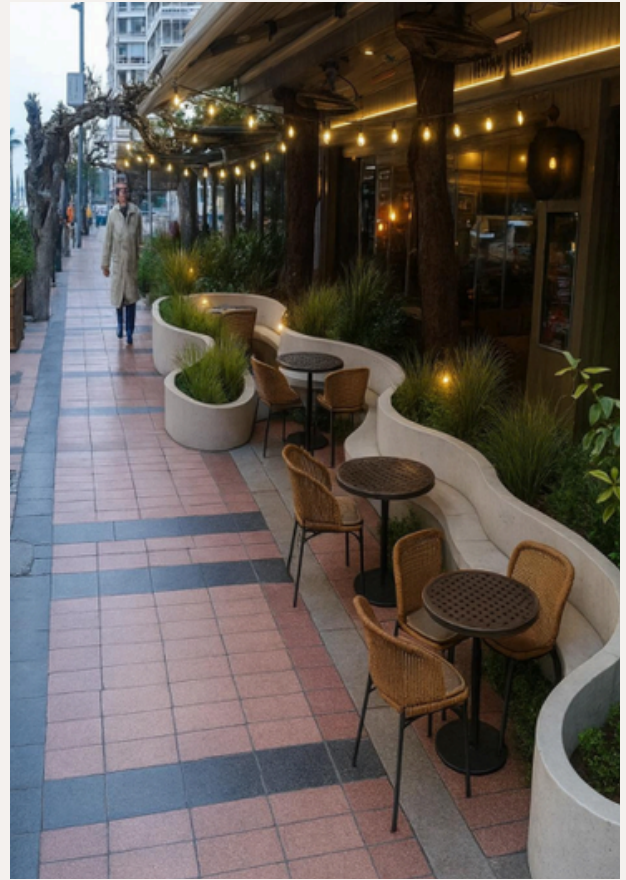


Figure 58. Curved concrete modules



Figure 59&60. A Timber modular seating units

Proposed Solutions



Sustainable Mobility and Parking Strategy

- To implement a user-friendly street experience through a kerbside parking system managed via a paid application
- To develop a sponge cycle lane along micromobility corridors and tree bases using “Flexi-Pave” technology produced from recycled rubber
- To integrate “Liquid Tree” units (biological smart installations) at intersections and high waiting areas through a smart stop system
- To integrate parking bay shading structures with a Hydro-Solar Canopy system, enabling energy generation and rainwater harvesting



Figure 61. Parking area solutions



Figure 62. Proposed cycle lane



Figure 63. Shading elements



Figure 64. Smart bus-stop

Problems

- Urban heat island effect
- Hard and impermeable surfaces
- Ineffective rainwater management
- Insufficient shading
- Insufficient green space
- Lack of urban furniture
- Pedestrian safety issues
- Disruption of wind corridors



Figure 65&66. General street views

Target Users

- Pedestrians
- Cyclists
- Elderly and youth users
- Commercial users

Objectives

- To reduce the urban heat island effect and transform impermeable surfaces through nature-based solutions
- To create a safe, inclusive, and high-quality public space that enhances the pedestrian experience
- To ensure integration between façade, ground, and roof surfaces in line with the Sponge City approach
- To improve the quality of public space and transform the boulevard into a sustainable asset at neighbourhood, user, and city scales
- To increase vertical and horizontal surfaces that contribute to ecological performance

Solution Proposals



Nature-Based Solutions

- To enable the collection and reuse of rainwater through rain gardens and permeable surfaces
- To reduce surface runoff through the implementation of rain gardens in the central median
- To apply filtration systems suitable for high groundwater levels
- To enhance the ecological contribution of roofs through green roof systems
- To reduce heat impact and increase biodiversity through the use of vertical gardens and green walls on façades



Figure 67. Rain garden, permeable surface and seating units



Pedestrian-oriented design modules

- To ensure safe and uninterrupted circulation through a pedestrian-priority street layout
- To enhance public use by providing seating, resting, and waiting areas
- To improve pedestrian thermal comfort through shaded areas
- To transform streets into social spaces by reducing the impact of vehicles



Figure 68. Seating unit module

Proposed Solutions



Spatial Design and Urban Identity

- To create a spatial configuration that references coastal and urban identity through ground patterns
- To support night-time use through integrated lighting elements
- To develop a design language that strengthens the relationship between commercial façades and the street
- To ensure a linear and continuous organisation of public space



Figure 69,70. Existing building façade and proposed intervention



Figure 71. Commercial area



Climate-Responsive and Feasible Solutions

- To integrate rainwater collection and management systems into the design
- To develop a landscape strategy with automatic irrigation and low maintenance requirements
- To propose technical solutions compatible with high groundwater levels
- To adopt a design approach that allows for phased and flexible implementation



- 1) *Lavandula officinalis*
- 2) *Rosmarinus officinalis*
- 3) *Thymus vulgaris*
- 4) *Salvia officinalis*
- 5) *Sedum sp.*
- 6) *Trachelospermum jasminoides*
- 7) *Hedera helix*
- 8) *Vinca major*
- 9) *Laurus nobilis*
- 10) *Myrtus communis*
- 11) *Acacia penninervis*
- 12) *Tamarix smyrnensis*

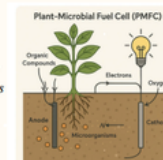


Figure 72. Proposed plants

JURY

Following the project presentations, the first, second, and third place projects were selected in line with the pre-defined evaluation criteria shared with the participants, and symbolic awards were presented to the students. Accordingly, Project 4 received the first prize, Project 5 the second prize, and Project 6 the third prize.

In line with the jury's evaluation, and following the distribution of participation certificates, it was decided that a catalogue compiling the projects developed during the camp would be prepared by Izmir Metropolitan Municipality and presented to decision-makers.

In addition, fourth-year students from the Department of Industrial Design at Yasar University continue to develop urban furniture designs for the four identified focus areas, in alignment with the approaches addressed during the camp, as part of their semester projects.



Figure 72-74. Project 4, 5 and 6 Design Teams



Figure 75. Participants of Re-Value Innovation Camp 3