



Investment Plan for Daring Cities in Dunaújváros

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Introduction

Municipality of Dunaújváros is an industrial city in Hungary with over 70 years of experience in urban planning, environmental sustainability, one of the first municipalities to receive an EMAS certificate (HU-000009). Historically known for its old panel dwellings and steel production, the city has shifted focus toward addressing climate-related challenges, including soil degradation, air pollution, and biodiversity loss. Dunaújváros has implemented several EU-funded projects (URBACT, EUI, LIFE, EUCF), aimed at enhancing green infrastructure and raising environmental awareness. The city has a strong track record in transnational cooperation, participating in Interreg projects like waterways forward and DAHAR, focusing on sustainable waterway management and climate resilience. Through integrated urban development strategies and community engagement, Dunaújváros is committed to reducing CO₂ emissions and enhancing its resilience to climate risks involving citizens, local stakeholders.

Dunaújváros and Climate Change

In the face of climate change, restoring nature and enhancing its benefits for people and the environment is becoming increasingly important in urban policies. The ability of nature to mitigate the effects of climate change is particularly important in urban environments, where most people live. Dunaújváros faces significant climate risks driven by its geography and industrial legacy, motivating the need for new initiatives and funding to assess, address these challenges comprehensively involving citizens and their needs.

Some data about the city from National Adaptation Geo-information System (NAGiS):

Expected change in the number of extreme heat days for the period 2021-2050 based on the ALADIN-Climate climate model (number of days) 20-25.

Drought index: expected change in aridity index for the period 2021-2050 based on the RegCM climate model: -0.15 - -0.1.

Expected change in precipitation for the period 2071-2100 based on the ALADIN-Climate climate model (mm): -75 - -50 mm.

The importance of climate change as a societal issue in Dunaújváros, 2015 Climate change ranked higher than the national average

Change in grasslands 2006-2030: low potential.



Some challenges:

Extreme weather (droughts and heavy rainfall)

Dunaújváros is increasingly affected by prolonged droughts followed by heavy rains. Drought weakens vegetation, making it vulnerable to disease, while intense rainfall worsens soil erosion, particularly on the loess plateau. Poor soil moisture retention and inadequate drainage systems, especially in urban areas, highlight the urgent need for climate resilience.

Air pollution and vegetation loss

Industrial activities, especially steel production, contribute to significant air pollution, which, combined with climate stress, has severely degraded vegetation, particularly trees like birch and pine. This harms biodiversity and reduces the city's ability to combat air pollution and the urban heat island effect. Revitalising green spaces is essential for improving air quality and resilience.

Industrial impact and soil pollution

Dunaújváros' industrial legacy has left extensive soil pollution, particularly in brownfields, hindering green infrastructure development. Contaminated soil cannot support healthy vegetation, while invasive species further disrupt ecosystems. Restoring soil health is critical for the city's resilience and sustainable urban planning.

Urban heat island effect

The dominance of concrete and steel infrastructure worsens the urban heat island effect, intensifying heat stress in densely populated areas. The lack of well-maintained green spaces exacerbates this issue, making revitalisation crucial for urban cooling, biodiversity, and public recreation.

The city needs a comprehensive investment plan and future projects on climate mitigation and adaptation putting cultural heritage, citizen-driven co-design governance in the first place.

Community engagement is another key motivation for Dunaújváros. The city is committed to involving local stakeholders in the project's planning and implementation phases and opening a Biodiversity office where e.g. sensors, co-design activities, community events, transgenerational activities, best practices, green kits will be shared/organised. This will ensure that the adaptation strategies are not only effective but also embraced by the community, fostering a collective effort toward building resilience. Engaging citizens in co-designing green spaces will promote greater environmental awareness and stewardship.



Cultural identity and digitalisation

Dunaújváros is a medium-sized Hungarian industrial city with a unique history spanning over 70 years of planned urban development. Originally conceived in the 1950s as a flagship socialist industrial centre centred around heavy steel production and constructed with rapid panel housing blocks, the city's identity was historically defined by its industrial prowess and collective working-class ethos.

However, in recent decades, Dunaújváros has undergone profound socioeconomic and demographic transitions. The restructuring of the heavy industrial sector, combined with broader national trends, has led to a **declining and ageing population**. Most of the local population currently resides in ageing, poorly insulated panel housing blocks. This demographic shift has created a dual challenge:

A generational disconnect: younger people, elderly residents, and fragmented cultural communities have become increasingly disconnected from one another, leading to a weakening of shared urban narratives and collective memory.

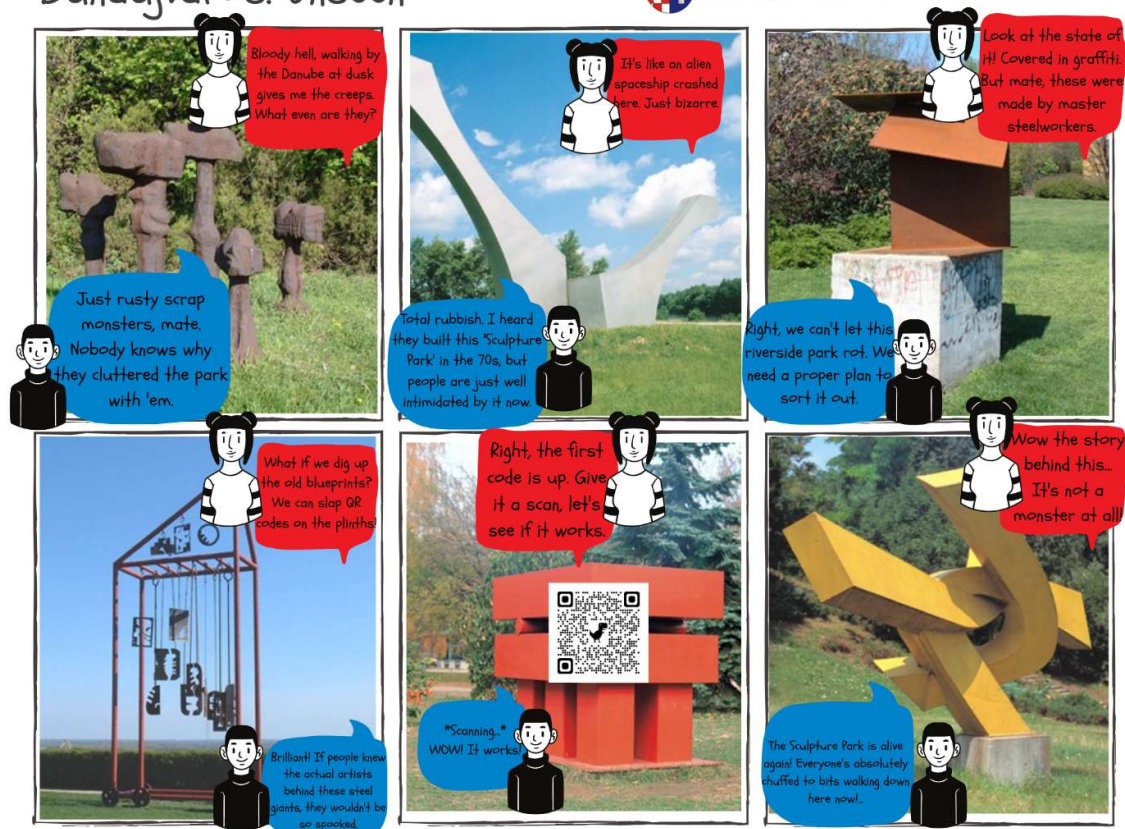
An identity crisis: The transition from a bustling industrial giant to a city navigating environmental and climate vulnerabilities (such as extreme summer heat waves and soil degradation) has left residents with a fragmented sense of emotional attachment to their public spaces.



Dunaújváros: Unseen

DUNAÚJVÁROS
Megyei Jogú Város

URBACT

Co-funded by
the European Union
Interreg

Presenting the problem as a comic strip

Despite these challenges, Dunaújváros retains an exceptional physical asset: **an unified socialist-realist ("szocreál") architectural city centre that is entirely unique in Europe.** Designed by pioneering architects of the era, the town centre was built as a harmonious urban ensemble, combining classicist proportions with socialist motifs.

Key architectural monuments that define this unique landscape include:

- **The Intercisa Museum:** Built in 1951 and designed by Tibor Weiner and Erika Malecz, this monumental building stands as a prime example of the socialist-realist style, preserving the archaeological and modern history of the region.
- **The Bartók Theatre and House of Arts (Bartók Kamaraszínház):** A crucial cultural hub serving as the beating heart of the city's performing arts.
- **The Dózsa Cinema (Dózsa Filmszínház):** An iconic, grand building fronted by a spacious public square and an ornamental fountain, which remains a key social meeting point.



- **The Éva Fabó Sports Swimming Pool (Vasmű tér) and the Zsigmond Móricz Elementary School:** Educational and recreational facilities characterised by classicist colonnades and spacious layouts designed to promote public well-being.

Stretching along the high loess bank of the Danube, the **Dunaújváros Sculpture Park** represents an extraordinary open-air museum where heavy industry meets fine art. Established through a series of international steel sculpturing symposia, the park features massive, modernist steel and iron sculptures overlooking the river. It stands as a physical manifestation of the city's industrial legacy turning raw structural steel into permanent, poetic monuments.

To combat the low availability of interactive experiences in public spaces and revitalise civic pride, Dunaújváros is leveraging **digitalisation to reconnect residents with their green and cultural heritage**. The URBACT DARING initiative has pioneered two major digital layers:

1. **The "Szocreál" Path of Architectural Monuments:** A fully realised cultural walking route utilising **33 physical QR codes** installed across the city centre's historic buildings (including the Intercisa Museum, Bartók Theatre, and Dózsza Cinema). Scanning these codes allows residents and visitors to immediately unlock historical information, archives, and stories in Hungarian, English, and German.

The Sculpture Park and Danube Promenade Route: During the project, the municipality also created another interactive route, where all 64 sculptures were equipped with information panels featuring QR codes.





Nature as a fragile treasure

The urban heat island effect further amplifies the city's vulnerability. Dunaújváros has extensive concrete infrastructure and insufficient green spaces. Rising temperatures due to climate change worsen heat stress in these areas, increasing energy demands for cooling and further straining public health resources. 90% of the city is made up of old panel dwellings which are extremely warm in the summertime. Residents of the ten-story panel buildings are among the groups most affected by climate change. During the summer heatwaves, their apartments get extremely hot, with temperatures consistently above 30°C. On 50-60 square meters, 3-4 people live together. The proximity of neighbours, the heat, and lack of sleep due to the heat cause irritability and conflicts. For many families, air conditioning is a luxury. Unfortunately, hundreds of pine and birch trees in the city are dying and need to be cut down.

Dunaújváros can be considered a community with limited resources for increasing climate and disaster resilience due to its industrial heritage, ageing infrastructure, and existing environmental challenges (Environment Dimension Vulnerability Index (NUTS3): 8.56.). The city's historical reliance on steel production has resulted in significant environmental degradation, including soil pollution and air quality issues. These challenges are compounded by insufficient investment in climate adaptation and sustainable infrastructure.

Most of the population lives in ageing panel housing blocks, which are poorly insulated and struggle to cope with rising temperatures during summer heatwaves. Residents, particularly in densely populated areas, experience extreme discomfort, as indoor temperatures often exceed 30°C, and the cost of retrofitting these buildings for energy efficiency is substantial. Furthermore, there is no protocol or system to collect rainwater.

Dunaújváros' green spaces are also under threat. Many trees and plants are dying due to pollution and drought, and the municipality lacks the resources to replace them or expand green infrastructure. This limits the city's ability to mitigate the urban heat island effect and manage stormwater, further increasing its vulnerability to extreme weather events.

Dunaújváros faces significant financial and technical challenges that hinder its ability to independently increase climate and disaster resilience. Without substantial external support, the city's capacity to adapt to the growing challenges of climate change remains restricted.

The city's challenges stem from several factors, including its industrial legacy, declining population, aging infrastructure, and limited green spaces.



NUTS2 Vulnerability Index: 6.0

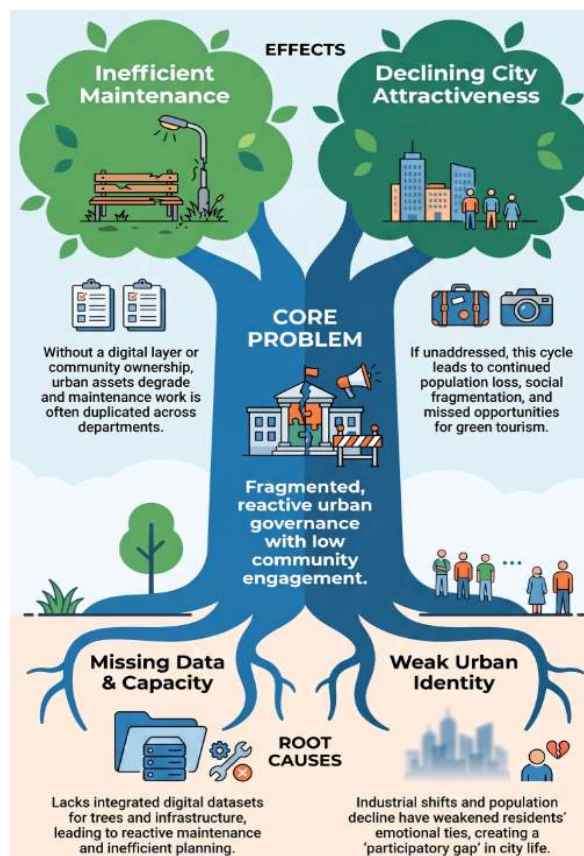
NUTS3 Vulnerability Index: 5.7

SECTION 1 – NEEDS ANALYSIS & POLICY RESPONSE

1.1 The Problem: problem analysis and needs assessment

Dunaújváros is a medium-sized Hungarian industrial city that has undergone significant socioeconomic and demographic transitions over the past decades. Although it retains substantial physical assets, green areas, a strong industrial heritage, and a cohesive urban structure, the city faces a combination of **structural, environmental and community-level challenges** that hinder its long-term resilience, attractiveness and socio-economic vitality. These challenges were identified through municipal analysis, URBACT Local Group (ULG) meetings, site visits, and citizen-science activities conducted during the DARING network's first implementation year

Core Problem: The current fragmentation in urban governance and the relatively low level of community engagement may pose obstacles to managing Dunaújváros's public spaces and urban identity in a sustainable, effective way.





A. Underlying Causes

1. Lack of reliable and integrated urban data

Prior to the initiation of DARING activities, Dunaújváros faced a critical lack of reliable, systematically collected, and integrated urban data, leaving the municipality without a precise overview of the location, species, and health condition of its trees or other essential municipal assets, including green spaces, waste containers, and parking infrastructure. In the total absence of an integrated digital asset inventory, urban planning and daily green-space maintenance remained strictly reactive and fragmented, lacking any evidence-based foundation for prioritisation and strategic monitoring. This severe data gap represented a critical municipal bottleneck because Dunaújváros is legally obliged to maintain accurate records on certain types of public infrastructure yet severely lacks the centralized financial and human resources required to develop such systems centrally. To directly bridge this baseline deficit, the DARING framework successfully mobilised local stakeholders to actively gather comprehensive resources on the city's unique biodiversity, urban forestry, sculptures, and cultural buildings. These pioneering efforts have successfully transformed the city's data culture through student-led fieldwork mapping over 2,400 trees across districts, citizen-science biodiversity observations using the iNaturalist platform, archival story harvesting at the József Attila Library, and the digital cataloguing of monuments along the 'Szocreál' and Sculpture Park walking routes. By linking these ecological datasets with local cultural assets, Dunaújváros is establishing its first community-supported digital registry to enable smarter, proactive urban governance and enhance local identity

2. Limited municipal capacities – financial and human

The city faces well-documented internal capacity constraints:

- limited financing for urban maintenance,
- small technical teams,
- parallel responsibilities across departments,
- difficulties retaining skilled professionals,
- lack of digital tools and training.

3. Weak civic engagement and declining sense of urban identity

Dunaújváros' identity has historically been shaped by rapid industrialisation. Population decline, economic restructuring and limited cultural or interactive public programmes have



weakened residents' emotional ties to the city. However, in the recent years, several EU funded projects and local activities tried to address this challenge.

- Young people, elderly residents, and cultural communities are often disconnected from one another.
- Public narratives about the city are fragmented; collective memory is not systematically collected or displayed.

4. Low availability of attractive, digital or participatory experiences in public space

Stakeholders repeatedly emphasised:

- limited interpretation of green spaces,
- lack of digital layers (QR routes, interactive educational tools),
- absence of visitor-friendly cultural storytelling or walking routes.

As a result, both residents and visitors have few opportunities to explore Dunaújváros through contemporary, engaging formats. This contributes to the city's **reduced visibility**, limited tourism appeal and a missed opportunity to highlight unique environmental and cultural assets.

B. Manifestations of the Problem

Fragmented and Inefficient Urban Maintenance

The complete absence of integrated, reliable environmental and structural data directly manifests in highly fragmented and inefficient city maintenance workflows. Without a centralised digital registry, municipal departments are forced to operate in a purely reactive manner, addressing environmental degradation, tree decay, and public space issues only after severe problems or hazards manifest. This lack of spatial data makes it impossible for municipal staff to systematically prioritising tree care, manage public green assets strategically, or perform proactive, evidence-based monitoring. Furthermore, because there is no unified digital asset inventory, different municipal departments and public maintenance entities such as the municipal maintenance company DVG Zrt. frequently duplicate work and operate in parallel, uncoordinated silos. This structural inefficiency is particularly critical as Hungarian towns are legally obliged to maintain precise public records on specific types of urban infrastructure, a requirement Dunaújváros struggle to meet due to a severe shortage of centralised budgets and technical personnel.

Weak Public Participation and Limited Ownership of Public Spaces



Decades of paternalistic urban management have left Dunaújváros with low baseline civic participation and a limited sense of community ownership over public spaces. Local citizens often do not view themselves as active partners or co-creators in maintaining, shaping, or protecting their physical surroundings, largely due to a lack of accessible information and low civic motivation. This civic disconnect manifests in a weakened emotional sense of local belonging, the underuse of public squares and parks, and a historical shortage of community-led volunteering or engagement in local green initiatives. Under the DARING framework, the city has begun to actively combat this passivity through hands-on community science, such as guided biodiversity monitoring walks using the iNaturalist platform. By inviting residents to directly record local ecological data, the city is building the environmental awareness and motivation necessary to transition citizens from passive observers to active co-designers and custodians of their local neighbourhoods.

Declining Attractiveness of the City

Dunaújváros faces a serious crisis of urban attractiveness, driven by the historic decline of its heavy steel industry, aging residential infrastructure, and a persistent emigration of young professionals and local talents to larger urban centres. Without strong, positive urban narratives, interactive digital layers, or highly visible cultural assets in public spaces, the city's image has suffered, directly impacting local pride, tourism, and talent retention. While the city possesses remarkable and unique physical assets including its unified post-war socialist-realist ("szocreál") architectural town centre and the monumental open-air Sculpture Park along the Danube promenade these spaces remain digitally and narratively isolated. Consequently, both residents and visitors have few contemporary, engaging formats through which to explore or appreciate Dunaújváros's unique history and environmental assets, further accelerating the city's declining socio-economic vitality.

Loss of Cultural Memory and Generational Disconnect

The rapid post-industrial transition of Dunaújváros has created a widening gap between generations, putting the city's rich informal history and collective memory at high risk of disappearing. As the pioneering generation of residents ages, the personal stories, historic photographs, and oral memories of the city's post-war construction and industrial glory days are being lost. This loss of heritage severely weakens local identity and reduces the community's social resilience during ongoing urban transformations.



Fortunately, committed local stakeholders and grass-roots organisations are actively collaborating to preserve these memories. Under the DARING framework, several key local initiatives have been successfully piloted:

- The Dunaújvárosi József Attila Library has reviewed historic local archives and compiled personal memories, leading to the creation of the chronological *Zöld Értékeink* (Our Green Values) bibliography, which documents the history of the city's trees and urban nature.
- The "From Balcony to Birdsong" workshop, organised in Petőfi Liget by the Dunamenti Regional Folk High School, has established a vital intergenerational bridge. This community event connected senior residents with local youth to transfer practical knowledge about sustainable urban gardening, build avian nesting boxes, and install QR codes in the park linking to a digital repository of green tips and community photographs. Thanks to the open call, citizens built together some big insect hotels which were placed in the sculpture park.
- The "Szocreál" Path of Architectural Monuments has established a fully completed cultural route utilizing 33 physical QR codes installed across the city centre's historic buildings (including the Intercisa Museum, Bartók Theatre, and Dózsa Cinema) to unlock historical information, archives, and stories in multiple languages.

Long-Term Consequences of Inaction

If the core vulnerabilities of Dunaújváros remain unaddressed, the city will face a self-reinforcing downward spiral where environmental degradation, demographic decline, and social fragmentation compound one another. The long-term consequences of inaction represent a severe threat to Dunaújváros's systemic resilience, municipal viability, and socioeconomic future:

- **Accelerated Population Decline and Talent Drain:** Without positive local narratives, contemporary digital layers, or engaging public spaces, Dunaújváros will continue to struggle with a persistent emigration problem. The city risks permanently losing its youth and skilled professionals to larger urban centres. This continuous talent drain will leave behind an increasingly elderly, vulnerable demographic, creating a shrinking tax base and placing an unsustainable fiscal and social burden on municipal services.
- **Severe Public Health and Quality of Life Degradation (The Climate Comfort Gap):** As the National Adaptation Geo-information System (NAGiS) projects an annual increase



- of 20 to 25 extreme heat days, doing nothing will turn the city's residential zones into severe heat traps. Since approximately 90% of the population resides in ageing, poorly insulated post-war panel blocks where air conditioning is an unaffordable luxury, thousands of citizens will face prolonged, extreme indoor heat stress (frequently exceeding 30°C). The cumulative physical discomfort and lack of sleep will trigger a rise in public health emergencies and chronic cardiovascular illnesses among the elderly.
- **Escalating Social Fragmentation and Domestic Friction:** The manifestation of extreme heatwaves within densely populated panel districts where families of three or four typically share small, 50-to-60-square-metre apartments is not just an environmental issue, but a social hazard. Prolonged thermal discomfort and sleep deprivation are documented drivers of rising irritability, leading directly to a projected increase in domestic friction, neighborly disputes, and community-level social tensions. Without cool, welcoming, and shade-providing green communal public spaces, social cohesion in these districts will continue to deteriorate.
 - **Irreversible Ecological Collapse of the Loess Plateau Canopy:** Dunaújváros's green infrastructure is already in a state of critical fragility, with hundreds of high-value pine and birch trees dying due to industrial air pollution and prolonged summer droughts. If the city continues to operate without a digital tree registry or a proactive, data-driven maintenance workflow, the urban tree canopy will collapse. This loss will accelerate soil erosion on the loess plateau, worsen the Urban Heat Island effect, and severely compromise the city's natural stormwater management and air-filtering capacities.
 - **The Permanent Loss of Cultural Memory and Urban Identity:** As the pioneering post-war generation of Dunaújváros residents ages, their unrecorded personal histories, old photographs, and unique oral narratives risk disappearing forever. Failing to systematically harvest and digitally preserve these memories will sever the intergenerational bond, leaving the younger generation entirely disconnected from the city's unique architectural and social heritage. This erosion of shared identity will weaken the community's emotional resilience and its capacity to unite during future economic and ecological transitions.

Erosion of Municipal Governance Capacity and Economic Attractiveness: Operating without modern, digitalised urban asset data will keep municipal workflows locked in an expensive, inefficient, and reactive cycle. Maintenance departments will continue to duplicate parallel tasks and respond to environmental hazards only after they occur, wasting scarce public funds. Ultimately, a city characterised by a deteriorating



microclimate, decaying green areas, and declining civic participation will fail to attract external investments, green tourism, or sustainable public-private partnerships, locking Dunaújváros into long-term economic stagnation.

Policy Response: Strategic Priorities and How the Project Addresses Them

Dunaújváros's Investment Plan does not operate in isolation; rather, it is strategically anchored within the city's established municipal policy planning framework. By introducing innovative digital and real alliances, the IP actively operationalises and modernises several key local strategies that have traditionally focused on physical urban regeneration without incorporating a digital transition or community-science perspective:

Alignment with Local Strategic Priorities

1. Integrated Urban Development Strategy of Dunaújváros

The cornerstone of the city's medium-term planning, the IUDS, strongly prioritises the physical and socioeconomic revitalisation of decaying post-war urban environments, with a particular focus on the high-density panel housing districts. However, the strategy has historically lacked concrete measures to address the digital transition. The DARING IP directly bridges this strategic policy gap by adapting the innovative co-creative methods of Ravenna. By combining physical urban greening with digital civic environments, the IP translates the IUDS's high-level objectives into tangible local assets:

- The first citizen-supported digital tree repository to systematise municipal asset management.
- **The Digital Storybank** to capture and preserve the city's social history, turning public spaces into active cultural environments.
- **Co-created neighborhood eco-day prototypes** to strengthen social integration and local community networks.

The DARING Investment Plan directly supports these directions by creating:

- the first digital, citizen-supported tree repository,
- a community storybank,
- a QR-based cultural walking route,
- participatory **eco-day** prototypes.



2. Dunaújváros Sustainable Energy and Climate Action Plan

Dunaújváros's SECAP highlights the extreme environmental vulnerability of the city's residential panel districts, where over 90% of the population resides, to the rapidly intensifying Urban Heat Island (UHI) effect. It outlines a clear mandate for climate change adaptation, heatwave mitigation, and sustainable stormwater management. The IP directly supports these goals through nature-based solutions and active urban forestry stewardship:

- The mapping of more than 2,400 trees across districts A–N via community-science fieldwork provides the necessary environmental baseline data to identify critical shading deficits in the most vulnerable concrete public spaces.
- The "From Balcony to Birdsong" intergenerational workshop and subsequent community fruit-tree planting initiatives directly address SECAP's objectives regarding the expansion of the urban tree canopy, local biodiversity preservation, and the reduction of summer thermal discomfort.

3. Municipal Environmental Protection Programme of Dunaújváros

This statutory programme governs the conservation of the city's fragile natural resources, the protection of its rich biodiversity, and the prevention of loess soil erosion along the Danube promenade. The DARING IP upgrades the delivery model of this programme by transitioning municipal maintenance from a reactive, parallel, and fragmented workflow into an evidence-based, proactive asset management system:

- Through the active involvement of the municipal Biodiversity Office, student-led data collection is validated and integrated directly into the city's long-term environmental planning and legal compliance registers.
- The integration of citizen-science platforms, such as iNaturalist, into municipal workflows raises ecological awareness, empowering residents to become active co-designers and long-term stewards of local ecosystems.

4. Local Cultural and Tourism Concepts

The cultural and tourism strategies of Dunaújváros (including the *Long-Term Urban Development Concept* and the *Cultural Concept*) place a high premium on strengthening local patriotism, documenting the city's unique industrial heritage, and enhancing green tourism. The IP operationalises these goals by deploying low-cost, high-impact digital layers that make the city's heritage highly visible and interactive:



- The fully completed "Szocreál" Path of Architectural Monuments, utilizing 33 physical QR codes installed across key historic landmarks (including the Intercisa Museum, Bartók Theatre, and Dózsa Cinema), creates an interactive, multilingual open-air learning route.
- The scenic Danube Promenade and Sculpture Park QR route (covering 64 sculpture), combined with the grass-roots *Community Land Art Project*, successfully merges fine art with urban ecology (creating pollinator "bee pastures" around massive steel monuments), establishing a highly attractive, contemporary narrative layer for both residents and visitors.
- The Digital Storybank, curated in close cooperation with the József Attila Library, systematically archives personal narratives and historic photographs, successfully bridging the generational disconnect between pioneering senior citizens and the city's youth.

3. Local cultural revitalisation and community identity priorities

Alignment with National Policy Priorities in Hungary

The Dunaújváros IP is designed to directly support and operationalise several key Hungarian national strategies, ensuring that local digital and ecological innovations are seamlessly integrated into the country's broader environmental, climate, and modernisation policies:

1. National Biodiversity Strategy 2030 (Nemzeti Biodiverzitás Stratégia 2030)

Hungary's national biodiversity framework places a high priority on strengthening ecosystem services, mapping and monitoring local habitats, and restoring urban ecosystems. The DARING project directly advances these national goals by transforming passive environmental monitoring into an active, community-supported system:

- **Active Ecosystem Mapping:** The student-led and volunteer-supported fieldwork that mapped **over 2,400 trees across districts** provides the municipality with its first reliable spatial database on local tree canopy health and distribution.
- **Citizen-Led Science and Pollinator Protection:** By incorporating the **iNaturalist platform** for public biodiversity monitoring and launching community-driven initiatives such as the *Community Land Art Project* to establish pollinator "bee pastures" along the loess bank promenade the city actively supports the national mandate to protect local pollinator species and enhance urban biological diversity.



Second National Climate Change Strategy (NÉS-2, 2018–2030)

The NÉS-2 framework prioritises climate change adaptation, the reduction of the Urban Heat Island (UHI) effect in densely built residential areas, and the enhancement of local carbon sequestration capacities.

- **Mitigating Heat Stress in Panel Districts:** Given that approximately **90% of Dunaújváros's population resides in poorly insulated post-war panel blocks** that suffer from extreme summer indoor heatwaves (often exceeding 30°C), protecting the urban tree canopy is a vital public health and adaptation necessity.
- **Data-Driven Canopy Management:** The creation of the digital tree registry allows the municipality to move from reactive maintenance to proactive, strategic urban forestry management, targeting tree-planting and shading initiatives precisely where high-density concrete infrastructure worsens thermal discomfort.

National Environmental Programme (NKP 2021–2026) & Green Infrastructure Regulations

Under Hungarian statutory regulations, municipalities are legally obliged to maintain accurate public records of their green infrastructure, including comprehensive urban tree cadastres (*fakataszter*). However, due to severe financial and human resource constraints, Dunaújváros has historically lacked the capacity to centrally develop and maintain such databases.

- **Cost-Effective Compliance:** The DARING project directly resolves this policy bottleneck by piloting a **low-cost, citizen-supported tree repository system**. By leveraging student fieldwork and volunteer mapping, the city meets national regulatory expectations in a highly cost-effective and socially integrated manner.

Hungarian National Digitalisation & Smart City Directives

Hungary's national digitalisation guidelines encourage local governments to adopt smart urban technologies, digitalise public services, and develop modern digital tools for domestic tourism.

- **Bridging the Local Digital Gap:** While central e-government portals exist in Hungary, **Dunaújváros has historically lacked concrete, local-level measures for the digital switchover**. The DARING IP represents the city's pioneering step in this direction.
- **Smart Tourism and Multilingual Digital Layers:** By establishing the **"Szocreál" Path of Architectural Monuments with 33 physical QR codes** and launching the digital Sculpture Park promenade route, the city merges cultural heritage preservation



with modern, interactive digital tourism, in strict alignment with national smart city directives.

National Cultural, Heritage, and Community Development Policies

National guidelines for community development emphasize the preservation of local history, the documentation of industrial heritage, and the strengthening of intergenerational cooperation.

- **Preserving Oral History and Civic Pride:** The **Digital Storybank**, curated in close cooperation with the *József Attila Library*, systematically archives the memories and historic photographs of the city's older generation, preventing the loss of local post-war cultural memory.
- **Intergenerational Knowledge Transfer:** Grass-roots workshops like "*From Balcony to Birdsong*" actively connect seniors with local youth, fostering a stronger sense of local identity, civic pride, and volunteerism, which are core pillars of national social cohesion policies.

C. Alignment with EU-Level Strategies

European Green Deal & EU Biodiversity Strategy 2030

Dunaújváros's IP is strategically designed to align with and actively contribute to the overarching policy frameworks, strategies, and funding goals of the European Union. Rather than implementing isolated local interventions, Dunaújváros leverages digital and ecological tools to operationalise key European mandates on the ground, linking local urban regeneration directly with the green and digital transitions.

Alignment with EU Cohesion Policy Objectives (2021–2027)

The DARING framework in Dunaújváros directly responds to the core Cohesion Policy Objectives (POs) that govern sustainable urban development across transition and less-developed European regions:

- **Policy Objective 1: A Smarter Europe (PO1):** Dunaújváros contributes to PO1 by introducing technological innovation to resolve systemic data gaps in municipal asset management. Prior to the project, the city possessed no digital tree registry or integrated spatial data. The establishment of the **first citizen-supported digital tree repository** optimizes urban regeneration through digital tools and data, facilitating evidence-based, smart urban planning and proactive decision-making.



- **Policy Objective 2: A Greener, Low-Carbon transitioning towards a net-zero carbon economy (PO2):** The IP is deeply anchored in PO2 through its focus on urban greening, biodiversity protection, and nature-based solutions to combat climate change. By deploying community-led mapping for over 2,400 trees, piloting tree-adoption mechanisms, and establishing insect hotels, the city actively mitigates the local Urban Heat Island (UHI) effect and strengthens ecological resilience.
- **Policy Objective 4: A More Social and Inclusive Europe (PO4):** Dunaújváros addresses PO4 by explicitly linking environmental improvements with citizens' physical and mental well-being, social inclusion, and digital literacy. The deployment of accessible digital layers (the QR-coded "Szocreál" and Sculpture Park walking routes) and intergenerational initiatives such as the *From Balcony to Birdsong* workshop connecting senior citizens with youth fosters lifelong learning, active citizenship, and community-level social cohesion, reducing the social isolation of vulnerable urban groups.
- **Policy Objective 5: Europe Closer to Citizens (PO5):** In strict alignment with PO5, the Dunaújváros IP employs a deeply participatory, bottom-up place-based approach. By utilising the **URBACT Local Group (ULG)** as a permanent co-creation platform across the quadruple helix (municipality, university, private business, and civil society), the city empowers residents to become active co-designers and long-term custodians of their public spaces.

European Green Deal & EU Biodiversity Strategy 2030

The core ambitions of the *European Green Deal* to make Europe the first climate-neutral continent, alongside the *EU Biodiversity Strategy 2030*, demand immediate urban actions to restore degraded ecosystems, increase green spaces, and protect pollinators.

- Dunaújváros responds to these green mandates by transitioning its municipal maintenance from a reactive model to a proactive, data-driven framework.
- The integration of citizen science via the **iNaturalist platform** to record local species and the co-created mini-projects implementing local ecological patches directly support the EU mandate to restore urban biodiversity, maintain ecological corridors, and raise environmental stewardship among citizens.



The New European Bauhaus Initiative

The *New European Bauhaus* calls for urban spaces that are sustainable, aesthetically enriching, and socially inclusive. Dunaújváros's IP represents a textbook application of NEB principles by fusing heavy industrial heritage, modern aesthetics, and urban ecology:

- The **Danube Promenade and Sculpture Park QR route**, combined with the *Community Land Art Project*, bridges fine art (monumental steel sculptures) with active biodiversity restoration (insect hotels)
- The **multilingual QR-coded "Szocreál" route (33 physical plaques)** and the **Digital Storybank** (curated with the József Attila Library) turn the historic, standardized post-war architectural centre into an accessible, creative, and community-centred cultural environment. This ensures that heritage preservation is not static, but actively drives contemporary social interaction and civic pride.

EU Mission: Climate-Neutral and Smart Cities & EU Adaptation Strategy

Dunaújváros faces severe environmental exposure on its high loess plateau, characterised by extreme droughts, soil erosion, and intense heatwaves where indoor temperatures in non-air-conditioned panel blocks consistently exceed 30°C.

- The IP contributes directly to the *EU Adaptation Strategy* by utilising its data-driven urban tree canopy mapping.
- By monitoring canopy health and targeting localized tree planting, the city deploys nature-based cooling solutions to reduce the Urban Heat Island effect in high-density panel housing districts, protecting vulnerable citizens from severe thermal discomfort and climate-induced health risks.

URBACT Core Methodological Priorities

Finally, the dunaújvárosi IP is structured in absolute conformity with the **URBACT Method Priorities**:

- **Integrated Urban Development:** Bridging environment, culture, education, and digital innovation in a single strategic document.
- **Co-creation:** Progressing from diagnostic mapping to prototyping (e.g. *From Balcony to Birdsong* and local eco-days) and implementation.



- **Multi-level Governance:** Creating sustainable partnerships that align municipal departments with educational institutions (University of Dunaújváros), regional entities, and civil groups.



D. How DARING’s Actions Directly Address Strategic Priorities

Strategic Priority	Specific Addressed	Local	Gaps	How Responds Actions)	DARING Key (Targeted Pilots	Tangible Outputs &
Improve environmental data and asset management	Complete legally register (<i>fakataszter</i>) missing due to severe	lack of spatial data; mandated tree	Transitions from reactive to proactive maintenance using a collaborative, citizen-science	municipal workflows from reactive to proactive maintenance using a collaborative, citizen-science	Student-led mapping of over 2,400 trees across N districts; iNaturalist walks;	



	municipal constraints.	budget low-cost science model.	community-validated database.	municipal tree
Strengthen community engagement	Low civic volunteerism and a weak sense of personal responsibility or ownership over public green spaces.	Deploys community grants co-creation workshops to empower residents as active stewards of local plant swaps; bird and nature.	small "From Balcony to Birdsong" intergenerational workshop in Petőfi Liget;	
Increase digital participation	Lack of municipal policies or interactive digital environments for digital switchover.	Introduces user-friendly, multilingual digital layers to make the environmental cultural interactive accessible.	Digital Storybank curated with the József Attila Library; physical QR code and integration across parks assets and heritage sites.	
Support sustainable tourism	Historic and natural assets are narratively and digitally isolated; lack of visitor-friendly walking routes.	Integrates industrial steel heritage with urban ecology, creating a unique green narrative along the Park and Danube.	Szocreál Path of Architectural Monuments (33 active QR plaques); Sculpture Park and Danube Promenade walking route.	
Enhance multi-stakeholder cooperation	Local institutions, university, organizations, and the municipality operate uncoordinated silos.	Strengthens the civil across the quadruple helix to co-design and implement urban tactics.	Permanent collaboration between the University of Dunaújváros, ICA (Kortárs Művészeti Intézet), József Attila Library, and local NGOs.	
Build long-term governance capacity	Small technical teams with responsibilities; reactive for	Establishes a highly scalable, low-cost model for environmental official planning workflows and	Integration of community-gathered tree data into municipal	



maintenance that monitoring and cultural climate adaptation
duplicates work. heritage interpretation. strategies.

Foster	local Broad	generational Harnesses	"Our Green Values"
identity	and disconnect; the	unique intergenerational	bibliography and video
cohesion	post-war social history	storytelling to preserve	archive; storytelling events
	and oral narratives risk	urban memories and linking	memories directly
	disappearing forever.	rebuild local patriotism.	to mapped trees.

SECTION 2

2.1 Specific Objectives – What We Want to Achieve

SO1: Establish a reliable, citizen-supported environmental data system

- Create the **first digital tree repository** for Dunaújváros with citizens.
- Enable continuous community-supported data collection (trees, green assets, stories, small urban elements).
- Improve evidence-based municipal planning, aligned with climate resilience and green-space policies.

SO2: Strengthen community identity and participation through storytelling

- Establish a **city-wide storybank** preserving cultural memory (photos, narratives, objects).
- Create opportunities for intergenerational exchange and local pride.
- Support cultural actors with new co-created content for events, exhibitions, and education.

SO3: Introduce human-centred digital tools for public space engagement

- Develop **QR-based thematic walking routes** integrating nature, culture, and local stories.
- Combine environmental information (trees) with cultural narratives (people, places, memories).
- Improve accessibility of urban spaces for residents and visitors through digital interpretation.

SO4: Foster long-term community stewardship of green areas



- Pilot adopt-a-tree / adopt-a-fruit-tree mechanisms.
- Organise community planting, eco-day events and educational programmes.
- Support neighbourhoods in becoming active custodians of public spaces.
- Publish a public-call for citizens ideas on environment, and NEB related events.

SO5: Build sustainable multi-stakeholder governance and municipal capacity

- Strengthen cooperation between municipal departments, cultural actors, schools, NGOs.
- Create a transferable model aligned with URBACT and national smart-city expectations.
- Ensure long-term maintenance of the digital tools and participatory frameworks.

2.2 Adapted Practice – What Elements Are Being Transferred and How?

This section outlines which components of the DARING network's Good Practice will be adapted to the Dunaújváros context, and how they will be customised through local needs identified in Section 1.

Adapted Element 1 – Community-driven environmental data collection (Ravenna, Darsena Tactic)

Original model: Citizen participation in mapping trees and green assets. Under the DARING Cities network, Dunaújváros is adapting Ravenna's '*Darsena Tactic*' of community-driven environmental data collection, which originally focused on active citizen participation in mapping trees and green assets. The local adaptation in Dunaújváros integrates a tree cadastre pilot utilising student-led, multi-day fieldwork a methodology that has already successfully mapped over 2,400 trees across districts A–N. This baseline digital inventory is being systematically expanded to include public narratives, photographs, and interactive QR-codes. The final stage of this adaptation ensures municipal validation and the seamless incorporation of these community-gathered datasets into the city's official long-term asset management and urban planning workflows.

Adapted Element 2: Storytelling as a tool for urban cohesion and identity (Ravenna)

Original model: Story harvesting and community narratives embedded in public spaces.

Local Adaptation: Under the DARING Cities framework, Dunaújváros is adapting the innovative collaborative storytelling methodology developed in Ravenna's DARE project. While Ravenna's original model focused on story harvesting, co-narrative building, and embedding community narratives into a co-creative digital platform to shape the future of the



Darsena district, Dunaújváros's local adaptation is strategically tailored to its specific post-industrial demographic and cultural needs.

In the local Dunaújváros adaptation, the **Dunaújvárosi József Attila Library** and local cultural institutions, such as the **Institute of Contemporary Art (KMI)**, serve as the primary, trusted story collectors, utilising their extensive archives and grass-roots community networks to harvest local memories. These qualitative social narratives, oral histories, and historic photographs are compiled to construct a **comprehensive digital storybank platform**. This interactive repository will serve multiple civic and educational functions, providing accessible digital content for local museum exhibitions, school curricula, social media engagement, and smart cultural tourism. To bridge the digital and physical realms, these community-harvested stories are **linked directly to mapped trees, physical public coordinates, and multilingual QR-coded walking routes**. By scanning these QR codes, residents and visitors can instantly unlock the social and ecological history of their public spaces, transforming ordinary urban elements into active "meaning anchors" that foster intergenerational dialogue, combat social fragmentation, and rebuild local patriotism.

Adapted Element 3: Community micro-actions for behavioural change (Ravenna)

Original model: Small-scale local actions ("eco-days", participatory activities).

Local adaptation: Under the DARING Cities network, Dunaújváros is adapting Ravenna's methodology of community-led micro-actions to transition residents from passive observers to active environmental custodians. This adaptation leverages neighbourhood-level "eco-days", which have already been successfully piloted in Újtelep (in collaboration with the local Városvédők association) and Szalki-sziget (focusing on hands-on biodiversity workshops and monitoring walks). A key innovation in Dunaújváros's adaptation is the systematic clustering of grass-roots citizen ideas gathered during public calls. By grouping individual proposals under major thematic pillars (such as urban biodiversity, public space aesthetics, and cultural memory), the municipality and the URBACT Local Group can co-design highly integrated, cost-effective urban tactics. These co-created tactics are directly operationalised on the ground through a fruit-tree and urban tree adoption programme to foster personal stewardship, alongside active training modules in schools and environmental groups to involve local youth in practical conservation efforts, such as building inclusive insect hotels and placing avian nesting boxes.



Adapted Element 4 Integrated governance & co-creation (URBACT, ULG model)

Original model: URBACT Local Group methodology.

Local adaptation:

- A structured ULG including municipal offices, educational institutions, cultural bodies, NGOs and residents.
- Clear division of roles for piloting, maintaining and scaling digital tools.
Ongoing co-creation sessions to refine actions and long-term governance.

2.3 Stakeholders & Partners

Municipal Stakeholders

All departments of the municipality and all the deputy mayors and the Mayor support sustainable, green and inclusive urban development.

Local Public Institutions

- **József Attila Library:** story collection, archives, exhibitions.
- **Biodiversity Office:** fieldwork support, educational content.
- **Local schools, vocational institutions, universities:** student participation in mapping, story harvesting, events.

Civil Society & Community Groups

- **Neighbourhood communities:** organise local eco-events.
- Environmental NGO
- Newspaper, local media, social media group

Cultural & Creative Actors

- **KMI – Institute of Contemporary Art:** creative workshops, exhibitions based on storybank and QR content.
- **Local artists, designers and photographers:** co-create content for QR routes and visual storytelling.

Businesses & Local Economy Stakeholders



- **Local SMEs and Chambers of Commerce:** potential sponsors for QR points, tree adoption, exhibitions.

Who?	Why? Involvement
Municipality and its departments	Cross sectoral planning, sharing knowledge, implement different piloting, actions
Neighbourhood Association (e.g. association for city protection)	Eco-day, own ideas to make the neighbourhood better with the stakeholder, action-competence day, collect memories with elderly people
House of generation and the biodiversity office	A hot point to NGO-s, locals, different stakeholders. Organise events, workshops there, collect memories, digitalise memories, set up a communication board, collect ideas, create a suggestion box
Chamber (Dunaújváros chamber of commerce and industry)	Involvement of industry players, local SMEs, business via them.
HED (University of Dunaújváros)	Involving students, expertise, scientific knowledge
Hungarian Hydrological Society	Collect feedback on how we can connect DARING project with Danube, water, etc.
NGOs (e.g. Eco club Dunaújváros, or adománykuckó)	Involvement citizens, collect local stories, ask feedback, create joint plan, actions
Museum (Institute of Contemporary Art Dunaújváros)	Cultural feedback, joint event, heritage, NEB aspects
Library (e.g. József Attila Library)	Use old archives, stories, pictures
Bird Life Hungary	Expertise regarding trees, birds, monitoring etc.
Epileptics EPI association	Inclusive approach
DVG Zrt - Dunaújváros	Implementation of ideas, knowledge sharing



Stakeholder Analysis Summary

Stakeholder	Influence	Interest	Role
Municipality	High	High	Governance, integration, hosting tools
Biodiversity Office	High	High	Data validation, environmental content
Schools & students	Medium	High	Mapping, content creation
Cultural institutions	Medium	High	Story collection, exhibitions
Residents	Low → Medium	High	Co-creation, adoption, storytelling
Local businesses	Medium	Medium	Sponsorship, tourism synergy
NGOs	Medium	High	Awareness, education

2.4 Integrated Approach – How Integrated Is the Project?

The Dunaújváros Investment Plan is characterised by a deeply embedded, multidimensional integration model that seamlessly unites cross-sectoral, territorial, social, digital, policy, and governance components into a singular, cohesive framework. In terms of cross-sectoral synergy, the project establishes a vital bridge between environmental protection, cultural heritage, public education, and digital innovation by linking the scientific data of the tree cadastre with the qualitative human memory of the interactive digital storybank, whilst operationalising these layers through physical QR-coded walking routes and hands-on community planting eco-days.

This multi-sectoral collaboration is physically anchored in a balanced territorial approach that strengthens both the city's central districts and its peripheral neighbourhoods, deploying targeted pilots in suburban Újtelep via the local Városvédők association, active environmental workshops on the natural Szalki-sziget, and interactive historical routes throughout the post-war city centre, alongside student-led micro-mapping campaigns, climate-resilient green-roof installations on municipal kindergartens, and co-creative workshops hosted at the municipal Biodiversity Office.

Socially and digitally, the project acts as an inclusive, intergenerational platform that engages children, local youth, and pioneering senior citizens, empowering all residents to actively contribute to the city's collective narrative and spatial data. By deploying mobile-friendly QR



technology and integrated online databases, Dunaújváros not only solves immediate asset management issues but also prepares its local infrastructure for future smart-city system.

Furthermore, this local action plan achieves strong policy integration by aligning dunaújvárosi strategic goals with Hungarian national digitalisation directives, the European Green Deal, the EU Biodiversity Strategy 2030, and the core aesthetic and inclusive values of the New European Bauhaus. Finally, this entire process is structurally supported by governance integration, wherein the URBACT Local Group serves as a permanent, quadruple-helix co-creation platform that guides local stakeholders through the complete URBACT cycle of diagnosing, co-designing, prototyping, implementing, and monitoring sustainable urban transformations.

SECTION 3 – THE FUNDING CASE: WORKPLAN, COSTING & BUDGET

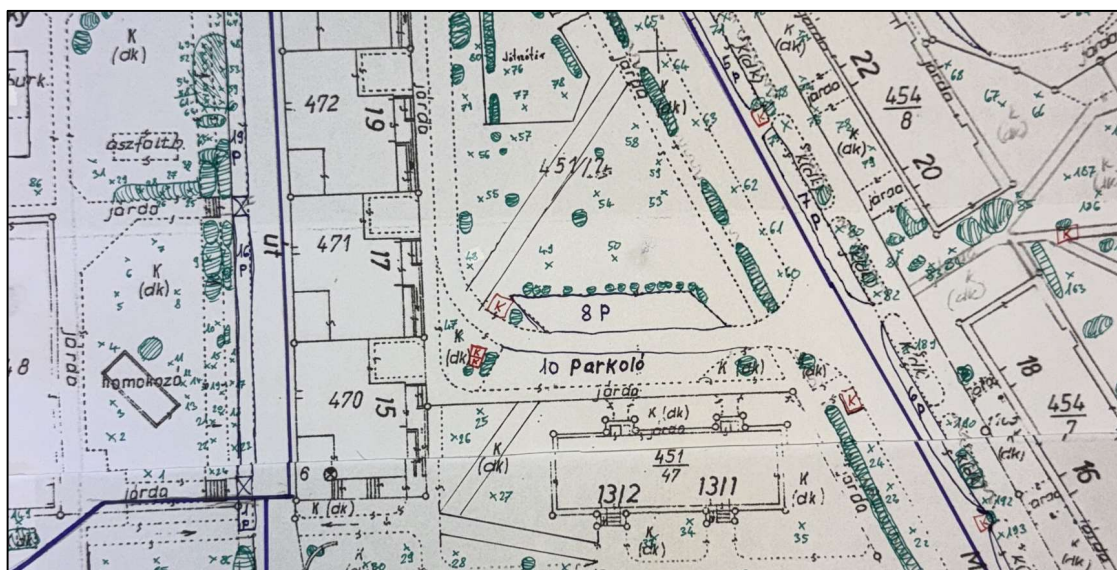
3.1 Workplan – Activities and Timeline

A. Phase 1 – Foundation & Preparation (months 1–6)

Activities:

- Finalise digital architecture for the **tree repository** (database structure, interface).
- Validate and clean the existing **2,400+ mapped trees other subjects** (A–N zones).
- Set up the **storybank platform** (upload structure, categories, metadata).
- Select pilot areas for **QR walking routes**.
- Establish governance roles (ULG coordination, municipal leads).
- Develop communication plan.

With youth citizen sciences activity, we collected information about more than 2400 trees. We created districts (A-N) adding a letter. We made photos and even measure their Trunk diameter. This is a first important step in our pilot:





Outputs:

- Operational prototype of the tree cadastre.
- Content guidelines for story collection.
- Map of proposed QR-route points.

B. Phase 2 – Co-Creation & Data Collection (months 7–14)

Activities:

- Conduct new citizen-science mapping rounds (trees + small assets).
- Organise **workshops** with cultural institutions.
- Mobilise schools and NGOs through eco-days and interactive events.
- Co-design and test the QR content: texts, photos, audio, micro-stories.
- Draft/publish the open call

Outputs:

- 300–500 additional tree entries + corrections.
- 30–50 curated stories with multimedia content.
- Prototype QR-route activated in at least one neighbourhood.

C. Phase 3 – Implementation & Scaling (Months 15–24)

Activities:

- Launch city-wide QR walking route with 8–12 points.
- Publish the public-facing storybank and digital tree repository.



- Integrate the tools into the municipal website and communication system.
- Deliver permanent educational modules on trees, identity, history.
- Explore replicating the model in additional neighbourhoods.
- Implement the result of the public call.

Outputs:

- Fully operational digital route.
- Long-term storybank.
- Integrated municipal workflows for data maintenance.

D. Phase 4 – Consolidation, Monitoring & Evaluation (months 24–30)

Activities:

- Evaluate citizen engagement (QR scans, story submissions, mapping activity).
- Assess environmental data quality and municipal uptake.
- Prepare a sustainability roadmap.
- Close the Investment Plan with a public event and dissemination material.

Outputs:

- Evaluation report
- Sustainability plan
- Lessons learned for scaling

3.2 Governance – How to Organise the Implementation

A. Lead Structure

Municipality of Dunaújváros

- Overall coordination
- Ownership of all digital tools
- Integration with municipal IT and environmental systems

B. URBACT Local Group (ULG)

Functions:

- Co-creation of actions
- Content generation (stories, route design)



- Monitoring, evaluation, engagement

Members include:

- Biodiversity Office
- Cultural institutions (Library, ICA-Institute of Contemporary Art-Dunaújváros)
- Schools and universities
- Environmental NGOs
- Local communities and neighbourhood groups

C. Implementation Teams

1. Technical Team

- Creates and maintains tree repository
- Ensures data integration and platform stability

2. Content & Culture Team

- Storybank curation
- QR-route content production
- Education and communication materials

3. Community Engagement Team

- Organises workshops, eco-days
- Mobilises volunteers and students
- Leads adoption programme

D. Decision-Making

- Strategic direction set by Municipality
- Co-design and content decisions via ULG
- Technical validation by Biodiversity office
- Quarterly review meetings

3.3 Barriers and Risks – What Could Prevent Implementation?

Organisational Risks

- **Limited municipal capacity** (staff time, technical expertise).
- Fragmented departmental cooperation hindering long-term maintenance.



Mitigation: clear governance structure; defined roles; training; automated workflows.

Technical Risks

- Difficulty integrating new data tools into municipal IT systems.
- Inconsistent data quality from citizen collection.

Mitigation: quality-control protocols; training sessions; simplified interfaces; periodic expert reviews.

Financial Risks

- Insufficient local budget for maintenance or scaling after pilot.
- Limited resources for digital development or hardware/software.

Mitigation: multi-source funding strategy (EU + national + local).

Social & Engagement Risks

- Low citizen participation in mapping or storytelling.
- Limited contributions from cultural or educational institutions.

Mitigation: targeted campaigns; incentives; embedding activities in school curricula; active partnerships.

Sustainability Risks

- Tools risk becoming outdated if not institutionalised.
- Dependency on voluntary-based data collection without long-term support.

Mitigation: embed updates in municipal operational routines; allocate ongoing budget.

3.4 Funding & Resourcing – What Support and Funds Are Needed?

Human Resources

- Project coordinator (part-time)
- Biodiversity officer
- Cultural content curator
- Community engagement officer
- External experts (optional)
- Stakeholders
- ULG coordinator



- NEB facilitator

Estimated Cost Categories and Projects Ideas

1. Cultural walking routes

Under the DARING framework, Dunaújváros pioneered the deployment of low-cost, high-impact digital layers to make its environmental and cultural assets interactive and accessible.

To date, **two thematic routes** have been established during the project's initial phases:

1. **The "Szocreál" Path of Architectural Monuments:** A fully operational cultural route featuring **33 physical QR-coded plaques** installed across key historic landmarks in the city centre (including the Intercisa Museum, Bartók Theatre, and Dózsa Cinema). This path allows residents and visitors to instantly unlock historical archives, photographs, and oral histories.
2. **The Danube Promenade and Sculpture Park Route:** A scenic route running along the high loess bank, designed to merge industrial steel heritage with urban biodiversity. Despite minor initial technical and vandal-related challenges, this route is being enriched through community-led micro-actions like the *Community Land Art Project*.

Proposed Expansion: Scaling to New Ecological Zones

To further strengthen territorial integration and promote outdoor environmental education, Dunaújváros proposes to expand this digital ecosystem by constructing **two (2) additional thematic routes**:

- **The Baracsi Út Arboretum Route:** This route will guide visitors through the city's botanical collection, connecting citizen-science tree data with educational narratives about climate-adaptive vegetation and biodiversity preservation.
- **The Szalki-Sziget Nature Trail:** Located on Dunaújváros's island, this route will focus on river ecology, wetland habitats, and water protection, linking active environmental workshops with physical public spaces.

To guarantee a comprehensive and immersive visitor experience, each of the two new routes will be equipped with **60 high-durability, weather-resistant physical signposts and QR-code plaques** (a total of 120 interactive stations across both sites), providing extensive botanical, ecological, and historical information.



The total estimated cost to design, manufacture, and physically install one complete 60-station route (including digital content mapping and platform backend configuration):

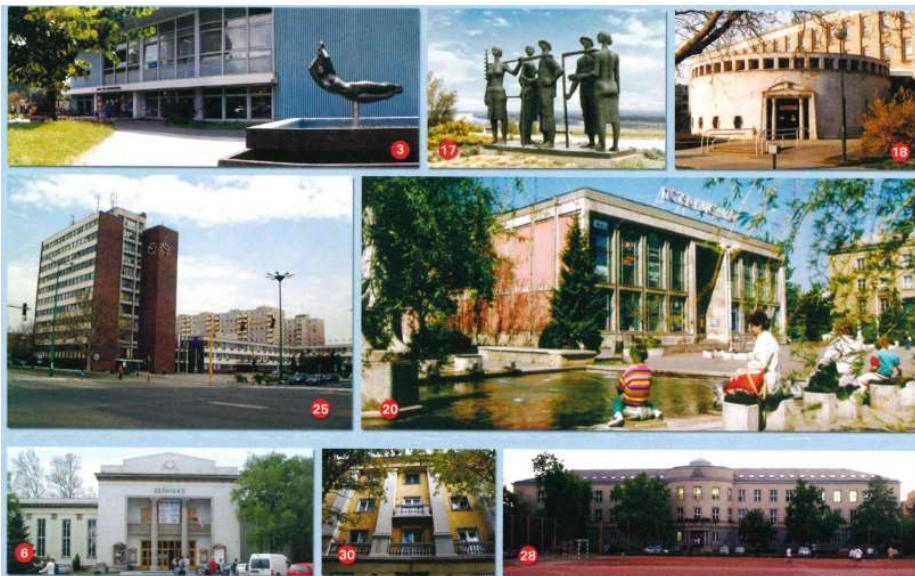
- Net Cost per Route: 1,000,000 HUF (approx. €2,703)
- Value Added Tax (27% VAT): 270,000 HUF (approx. €730)
- Total Cost per Route (Gross): 1,270,000 HUF (approx. €3,432)

The combined investment required to implement both the Arboretum and Szalki-Sziget routes is calculated as:

- Total Net Investment: 2,000,000 HUF (approx. €5,405)
- Value Added Tax (27% VAT): 540,000 HUF (approx. €1,459)
- Total Gross Investment (incl. VAT): 2,540,000 HUF (approx. €6,865)

Maintenance of the physical plaques will be absorbed into the municipal maintenance workflows of DVG Zrt.





Dunaújváros egyedisége, szocialista-realistai építészeti stílusú belvárosa, egyedülálló Európa-szerte. Az Építészeti Emlékek Tanútján végzettségű az érdeklődők megismerkedhetnek a város tervezését által megálmodott és kivitelezett építészeti relikviákkal, és a kellemes, mintegy 2 óra-pozitív körülmények között nyelhetők Dunaújváros múltjába, jelenébe és jövőjébe.

The unified socialist-realist architectural style of Dunaújváros' city centre is unique in Europe. Walking on the Path of Architectural Monuments, you can get acquainted with architectural masterpieces visualized and constructed by famous designers and during a pleasant 2 hours-long walk you will discover past, present and future of Dunaújváros.

Die einheitliche, im sozialistischen Stil der fünfziger Jahre gestaltete Innenstadt von Dunaújváros ist einzigartig in Europa. Wenn man auf dem Spaziergang von Dunaújváros zu Dunaújváros geht, kann man die von berühmten Architekten visualisierten Meisterwerke kennen lernen. Der zweistündige Spaziergang ermöglicht einen Einblick in die Vergangenheit, Gegenwart und Zukunft von Dunaújváros.

Однотипный центр города Дунауйвароса, построенный единообразно в стиле "соц-реализм". Если получаем на путь архитектурных памятников, тогда познакомимся с красивыми работами великих венгерских архитекторов. И за 2 часа заглянем в историю города...

DUNAÚJVÁROSI ÉPÍTÉSZETI EMLÉKEK TANÚTJA



Tanút vezetője
Pál Radványi
Stadtbezugsleiter
Pál Radványi



Alom és száma
Station and its number
Stationen und ihre Nummern
остановка и ее No



Szép kitérő
Beautiful panorama
Ausblickspunkt
панорама



1. Vasmű tér 1-3
2. Fűző Értékesítési központ
3. Gőltér utca 2/a
4. Kossuth Lajos utca 27/a
5. Vasmű Fő Állomás utca
6. Barokk Színház és Háza
7. Üzemház
8. Mátyás tér 1. utca 7
9. Mátyás tér 1. utca 1
10. Mátyás tér 2. utca 2
11. Árkád utca 1/a
12. Babits Mihály utca 5
13. Vasmű út 23
14. Gőltér út 15
15. Óvoda
16. Mórós Zsigmond Általános Iskola
17. Duna-part
18. 1. sz. Rendőrségi állomás
19. Vasmű út 37
20. Duna Főállomás
21. Vasmű út 38
22. Vasmű út 41
23. Vasmű út 10/a
24. Vasmű Múzeum
25. Vasműház
26. Széchenyi park 6
27. Tócsa utca 3
28. Tócsa utca 1/a
29. Tócsa utca 3/a
30. Duna Gyógy út 33
31. Széchenyi utca 5
32. Duna-part leveles utca 2/a
33. Duna-part leveles utca 1/a

1. 1-3. Vasmű square
2. Fűző Értékesítési központ
3. Gőltér utca 2/a
4. Kossuth Lajos street
5. Vasmű Fő Állomás street
6. Barokk Theatre and House of Art
7. Smelter House
8. 1. Mátyás street
9. 1. Mátyás street
10. 2. Mátyás street
11. 5. Árkád street
12. 5. Babits Mihály street
13. 23. Vasmű road
14. 10. Gőltér square
15. 15. Óvoda street
16. 26. Mórós Elementary School
17. Duna-Ufer
18. 1st Police Station
19. 37. Vasmű road
20. Duna Main Station
21. 38. Vasmű road
22. 41. Vasmű road
23. 10/a Vasmű road
24. Smelter Museum
25. Smelter House
26. Széchenyi park 6
27. 3. Tócsa street
28. 1/a Mihály Tócsa street
29. 3/a Mihály Tócsa street
30. 33. Gyógy Duna road
31. 5. Széchenyi street
32. 2/a leveles Boulevar street
33. 1/a leveles Boulevar street

1. Vasmű Platz 1-3
2. Fűző Értékesítési központ
3. Gőltér Strasse 2/a
4. Lajos Kossuth Strasse 27/a
5. Vasmű Hauptbahnhof
6. Barokk Theater und Haus der Kunst
7. Gießereihaus
8. Mátyás Strasse 7
9. Mátyás Strasse 1
10. Mátyás Strasse 2
11. Arkade Strasse 5
12. Mihály Babits Strasse 5
13. Vasmű Strasse 23
14. Gőltér Platz 15
15. Kindergarten
16. Zsigmond Mórós Grundschule
17. Duna-Ufer
18. Polizei No. 1
19. Vasmű Strasse 37
20. Duna Kino
21. Vasmű Strasse 38
22. Vasmű Strasse 41
23. Vasmű Strasse 10/a
24. Industriemuseum
25. Vasműhaus
26. Széchenyi park 6
27. Tócsa Strasse 3
28. Mihály Tócsa Strasse 1/a
29. Mihály Tócsa Strasse 3/a
30. Gyógy Duna Strasse 33
31. Széchenyi Strasse 5
32. leveles Boulevar Strasse 2/a
33. leveles Boulevar Strasse 1/a

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2. Story bank

Dunaújváros is leveraging digitalisation to bridge the severe generational disconnect and preserve the rapidly fading post-war cultural memory of the city's founding demographic. This idea delivers an **Interactive Digital Storybank Platform**, converting static historical records into an active, community-driven civic environment.

The project combines **software development** with **high-quality local content creation** (photography, video editing, and oral history harvesting). The Interactive Storybank will feature:

- A user-friendly, GIS-mapped digital portal where citizens can explore personal narratives, old photographs, and archival documents linked directly to physical urban coordinates (such as mapped trees or monuments).
- An open-submission module allowing senior residents, youth, and local organizations to upload their own stories, memories, and neighborhood anecdotes, fostering a strong sense of local patriotism and public ownership.

Cost Deliverable	Component /Description & Local Partners	Estimated Cost (Net HUF)	VAT (27% Total HUF)	Cost (Gross HUF)
1. Interactive Platform Development	WebCustom responsive citizen-science submission module, and administrative backend for the local library. web-based frontend design, public story- and	3,500,000 HUF	945,000 HUF	4,445,000 HUF
2. Media Production & Oral History Harvesting	Professional artistic photography of heritage assets; recording and professional video/audio editing of senior residents' oral histories in cooperation with the József Attila Library .	3,000,000 HUF	810,000 HUF	3,810,000 HUF



3. Graphic Design & Visual identity design, digital UI/UX 1,500,000 405,000 1,905,000

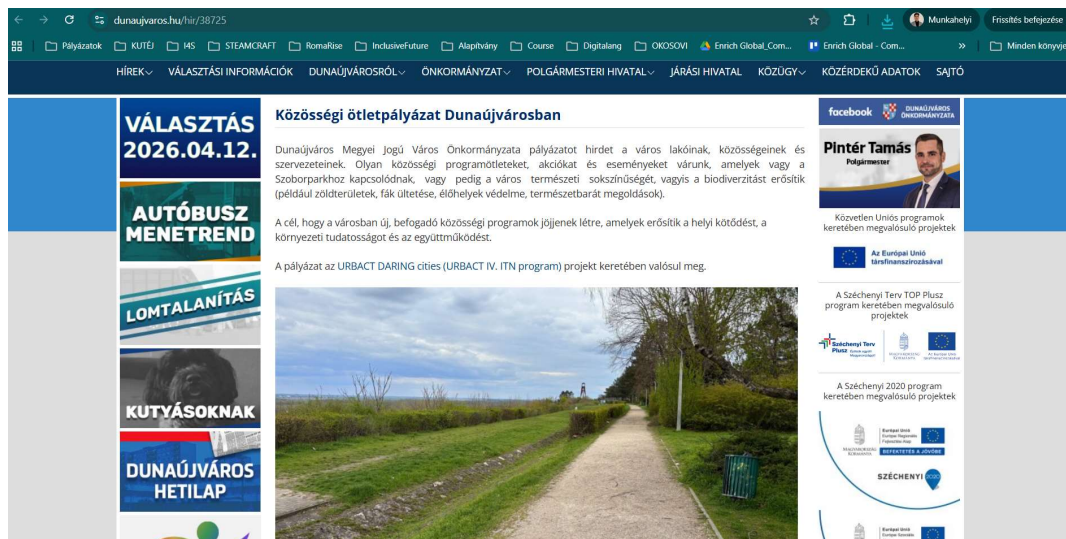
Visual styling, and graphic layouts for HUF HUF HUF

Communication physical QR-coded signs and temporary exhibitions in partnership with the ICA.

PROJECT TOTALS Combined Software & Content	8,000,000	2,160,000	10,160,000
Development Portfolio	HUF	HUF	HUF

3. Community-Led Open Calls (Small Community Funds)

Prior to the DARING project, Dunaújváros had no established administrative or cultural precedent for participatory budgeting or community-driven urban planning. Municipal operations were traditionally characterised by centralised, top-down decision-making, with limited formal pathways for direct civic involvement. Under the DARING framework, inspired by the co-creation and tactic composition methodologies of Ravenna, the municipality launched its **first-ever Public Open Call (közösségi ötletpályázat) pilot**.

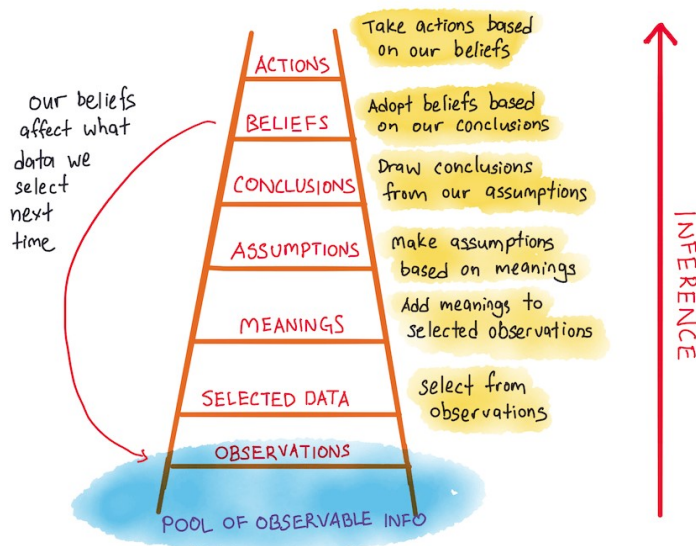


The pilot was structured around a rigorous **5-phase strategic framework**:

1. **Strategic Preparation & Benchmarking:** Analysing international best practices.
2. **Legal & Regulatory Clearance:** Resolving complex local overregulation, ensuring strict GDPR compliance, and establishing secure, compliant municipal payout structures for micro-grants.



3. **Co-Creative Application Design:** Utilizing the *Persona Canvas* to design and continuously simplify the application formats, making them highly accessible and easy to submit for ordinary citizens and small grass-roots organisations.
4. **Campaign Selection:** Designating two urgent ecological and identity-building themes: **Biodiversity** and **Cultural Heritage**.
5. **Co-designed Implementation:** Transitioning winning proposers from "idea generators" to active "on-the-ground implementers".



The planning and implementation followed the advises of the external expert and our thematic expert.

The pilot yielded outstanding results, with highly successful and visible local initiatives:

- **From Balcony to Birdsong (Balkontól a madárfüttyig):** Organised by the *Dunamenti Regional Folk High School* in Petőfi Liget, this intergenerational workshop successfully connected senior residents ("Grandmas") with local youth to build avian nesting boxes, share plant-growing tips, and install local QR codes linking to digital green guides.
- **Community Land Art Project:** Implemented in the Sculpture Park along the Danube Promenade, this project created insect hotels with citizens around modernist steel sculptures and engaged school children in creating biodegradable eco-art.



An example of a winning community project:

The primary goal of the event titled “From the Balcony to the Birdsong” was to foster an environmentally conscious mindset, promote the communal use of urban green spaces (balconies), and facilitate the transfer of knowledge across generations. As part of the project, the Dunamenti Regional Folk High School used an interactive program to provide practical knowledge on sustainable gardening in urban settings and bird conservation, thereby strengthening the concept of urban greening and fostering community cooperation.

BALKONTÓL A MADÁRFÜTTYIG
2026. június 10. (szerda) 17:00 – Petőfi liget

Szakmai előadás: Balkon- és fűszerkert ehető növényekből

Workshop: Felnőtteknek ültetés, gyerekeknek: madáretető, itató és fürdető készítése

Növénybörze: Palánta- és magcsere

Szakmai tanácsadás: a vegyszermentes balkonhoz

A részvétel DÍJTALAN!



DUNAÚJVÁROS
Dunamenti Regionális Népfőiskola Dunaújváros, Kossuth
Lajos u. 27/A, Tel: 06/25-523-050
Web: www.nepfosuli.hu, E-mail: szervezes@nepfosuli.hu

URBACT Co-funded by the European Union Interreg

ZÖLDCENTRUM
Helyi közéleti központ

Csatlakozz a facebook csoportunkhoz a friss programokért:

Média partnereink:



To keep administrative overhead minimal while providing sufficient resources for high-quality community execution:

- Gross Allocation per Project: 500,000 HUF (approx. €1,351) *(It is advisable to raise the budget considering the amount used during the DARNG project implementation)*



- Net Funding Value: 393,701 HUF (approx. €1,064)
- Value Added Tax (27% Hungarian VAT): 106,299 HUF (approx. €287)

Annual Programmatic Budget (10 Projects)

- Total Annual Net Budget: 3,937,010 HUF (approx. €10,641)
- Total Annual VAT (27%): 1,062,990 HUF (approx. €2,873)
- Total Annual Programmatic Budget (Gross): 5,000,000 HUF (approx. €13,514)

Two-Year (24-Month) Investment Horizon Totals

To align with the standard implementation cycle of the Investment Plan:

- Total Programmatic Net Investment: 7,874,020 HUF (approx. €21,281)
- Total Programmatic VAT (27%): 2,125,980 HUF (approx. €5,746)
- Total Programmatic Investment (Gross): 10,000,000 HUF (approx. €27,027)

4. Tree cadastre (as testing action started)



Dunaújváros is legally required under Hungarian national environmental regulations to maintain accurate, up-to-date registries of its municipal green assets. To meet this statutory obligation and address the systemic data gaps identified in the Needs Assessment, the city is implementing a **Digital Tree Cadastre (Fakataszter) system**. The project transitions the municipality from a reactive and parallel public maintenance routine into a proactive, data-driven green infrastructure asset management system.



The implementation is structured into a rapid **Pilot Phase** followed by a **City-Wide Scaling Phase**:

1. **The Pilot Phase (500 Trees):** This initial phase establishes the digital database architecture and registers 500 high-value trees in key urban spaces. Registered tree data will include precise GPS coordination (visualised to within 5 metres), species identification, tree height, trunk and crown diameters, health and environmental assessments, and recommendations for maintenance.
2. **The Scaling Phase (5,000 Trees):** Following the successful deployment of the pilot, the city will expand the database to **5,000 trees**, covering the high-density post-war panel housing districts and the historic Danube promenade

What citizens will know?

- Tree species name
- Tree height,
- Trunk diameter,
- Crown diameter,
- Visual condition assessment,
- Tree's environmental conditions,
- Management category,
- Recommendation for instrumental tree inspection,
- Digital photos 1–2

To scale the digital cadastre to 5,000 trees across Dunaújváros's urban core, the projected budget is calculated using the pilot unit cost:

- Net Expansion Cost: 22,500,000 HUF (approx. €60,811)
- Value Added Tax (27% VAT): 6,075,000 HUF (approx. €16,419)
- Gross Expansion Cost: 28,575,000 HUF (approx. €77,230)

Programmatic Portfolio Totals (Pilot + Scaling)

- Total Net Programmatic Investment: 24,750,000 HUF (approx. €66,892)
- Total Gross Programmatic Investment (incl. VAT): 31,432,500 HUF (approx. €84,953)



5. Thematic Archive and Videos

During the initial implementation phase of the DARING project, Dunaújváros successfully piloted its first community-driven digital archiving initiative, titled "OUR GREEN VALUES - THE TREES OF DUNAÚJVÁROS" (Zöld Értékeink). Curated in close cooperation with the Dunaújvárosi József Attila Library, this pilot proved highly successful in merging environmental data with civic storytelling. Local library staff reviewed historical municipal archives and collected deeply personal, informal stories from senior residents regarding the history, planting, and societal value of the city's urban nature.



These efforts culminated in:

- The publication of a detailed chronological bibliography mapping the development of the city's trees and green heritage.
- The production of an oral history community video capturing the memories of the city's older demographic, bridging the generational divide and raising local climate awareness.

Building on the outstanding reception of this pilot, Dunaújváros proposes to scale up this choral storytelling methodology. In a post-industrial city facing rapid demographic aging and a persistent emigration of young people, capturing and digitally preserving collective memory is an urgent social necessity to prevent the permanent loss of local heritage.



To address this challenge, the municipality, in partnership with the local library and the Institute of Contemporary Art (ICA), will launch two (2) additional thematic oral history and multimedia campaigns:

1. Thematic Campaign 1: Local Culture and Urban Identity ("Our City, Our Story")
 - *Focus:* Harvesting oral histories, vintage photographs, and personal memoirs of the pioneering generation who built Dunaújváros during the high-density socialist planning era of the 1950s and 1960s. This campaign will foster intergenerational dialogue, connecting older residents with youth volunteers to co-create a positive contemporary narrative for the city.
2. Thematic Campaign 2: Sculptors and the Heavy Steel Artistic Legacy ("Art in Steel")
 - *Focus:* Documenting the history of the legendary international steel sculpturing symposia that created the monumental steel and iron statues along the high loess bank promenade. This campaign will feature interviews with local artists, historians, and former steelworkers who assisted in the creation of these sculptures, enriching the digital layers of the Sculpture Park walking route.

Each campaign will deliver a professional, curated digital text/photo archive hosted on the Interactive Storybank platform, accompanied by a high-quality, edited 5-to-10-minute short video featuring local participants.

Cost Breakdown and Financial

The financial planning for the two new content-creation campaigns is based on highly cost-effective local media production estimates. The budget breakdown, incorporating Hungary's statutory 27% VAT, is structured as follows:

Budget Breakdown for New Storytelling Campaigns

Thematic Campaign Deliverable	Core Activities & Local Partners /	Estimated Cost (HUF)	VAT (Net(27% HUF)	Total Cost (Gross HUF)
Campaign 1: Local Archival Culture & Urban Identity	research, community harvesting workshops, professional photography, video recording and post-	708,661 HUF	191,339 HUF	900,000 HUF



production (editing, sound, subtitles) by
the József Attila Library.

Campaign	2: Interviews with surviving artists, design			708,661	191,339	900,000
Sculptors & Heavy	of contemporary visual materials, video			HUF	HUF	HUF
Steel Art Legacy	production and editing in cooperation with the ICA and local media.					
COMBINED	Dual-Campaign	Content	Creation	1,417,322	382,678	1,800,000
TOTALS	Portfolio			HUF	HUF	HUF

6. Green roof

Following the success of the pilot, the city aims to scale the intervention by greening the roofs of three (3) public kindergartens in Dunaújváros. Kindergarten pupils represent a highly vulnerable demographic during summer heatwaves. Greening these educational facilities will dramatically improve children's physical comfort, lower building operational costs, and create hands-on, outdoor educational classrooms to raise environmental awareness from an early age.

- Estimated Net Cost (3 Kindergartens): 33,000,000 HUF (approx. €89,189)
- VAT (27%): 8,910,000 HUF (approx. €24,081)
- Total Phase 2 Budget (Gross): 41,910,000 HUF (approx. €113,270)

Combined Programmatic Investment Portfolio:

- Total Net Investment: 44,000,000 HUF (approx. €118,919)
- Total Gross Investment (incl. 27% VAT): 55,880,000 HUF (approx. €151,027)





Consolidated Master Budget and Spend Profile

To guarantee the financial feasibility and operational scalability of Dunaújváros's IP budget is structured into **Capital Expenditure (CAPEX)** for software development, physical installations, and pilot infrastructures, and **Operational Expenditure (OPEX)** to cover licensing, event organisation, and community micro-grants.

The financial planning spans a **24-month horizon (2026–2028)**. All figures are presented in Hungarian Forints (HUF) and converted to Euros (EUR) at a strategic planning exchange rate of **1 EUR = 400 HUF**. Hungary's statutory **27% Value Added Tax (VAT)** is fully calculated and integrated.

Programmatic Master Budget & Investment Profile:

Project Pillar / Cost Category	Year	1 Year Spend (HUF)	2 Year Total Spend (HUF)	Net VAT (27%) (HUF)	Total Gross Cost (HUF)	Total Net Cost (EUR)	Total Gross Cost (EUR)
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Pillar 1: Green

Roof Program

Action	1.1: CAP	11,000,000	0	11,000,000	2,970,000	13,970,000	€29,730	€37,757
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Pilot Showcase EX

(Biodiversity

Office)

Action	1.2: CAP	0	33,000,000	33,000,000	8,910,000	41,910,000	€ 89,189	€ 113,270
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Kindergarten EX

Scaling (3 sites)

Pillar 2:

Digital Tree

Cadastre



Action 2.1: CAP 2,250,000 0 2,250,000 607,500 2,857,500 € 6,081 € 7,723
Pilot CadastreEX
(500 Trees +
setup)

Action 2.2: CAP 11,250,000 11,250,000 22,500,000 6,075,000 28,575,000 € 60,811 € 77,230
City-Wide EX
Scaling (5,000
Trees)

Pillar 3: QR

Walking

Routes

Action 3.1: CAP 1,000,000 0 1,000,000 270,000 1,270,000 € 2,703 € 3,432
Baracsi ÚtEX
Arboretum
Route

Action 3.2: CAP 0 1,000,000 1,000,000 270,000 1,270,000 € 2,703 € 3,432
Szalki-Sziget EX
Nature Trail

Pillar 4:

Digital

Storybank &

Curation

Action 4.1: CAP 3,500,000 0 3,500,000 945,000 4,445,000 €9,459 €12,014
Interactive GISEX
Portal Setup

Action 4.2: OPE 1,500,000 1,500,000 3,000,000 810,000 3,810,000 € 8,108 €10,297
Media & OralX
History
Production



Action	4.3: CAP	1,500,000	0	1,500,000	405,000	1,905,000	€4,054	€5,149
Visual IdentityEX & UI Design								

Pillar 5: Small**Community****Funds**

Action	5.1: 20 OPE	3,937,010	3,937,010	7,874,020	2,125,980	10,000,000	€21,281	€27,027
Micro-Grants X (10 per year)								

Pillar 6: "Our**Green Values"****Archive**

Action	6.1: OPE	708,661	0	708,661	191,339	900,000	€1,915	€2,432
Campaign 1 X (Culture & Identity)								

Action	6.2: OPE	0	708,661	708,661	191,339	900,000	€1,915	€2,432
Campaign 2 X (Sculptors & Art)								

COMBINED		37,145,671	50,895,671	88,041,342	23,771,158	111,812,500	€237,950	€302,196
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PORTFOLIO**TOTALS****Financing Mix and Fund Absorption Strategy**

To absorb the **€302 196 gross program budget**, Dunaújváros will implement a co-financing strategy across four primary funding channels:

1. **TOP Plusz (Territorial & Settlement Development Operational Programme Plus - ERDF):** Serving as the backbone source (covering 75% of the total programmatic budget), TOP Plusz allocations for urban greening, sustainable energy-efficiency



- (kindergarten renovations), and smart municipal tourism will fund the extensive green roofs (Pillar 1) and the expansion of the digital tree cadastre (Pillar 2).
2. **National Cultural Fund (NKA) & Creative Europe:** The qualitative, cultural elements of the project specifically the *Digital Storybank* development (Pillar 4) and the two expanded *Oral History Campaigns* (Pillar 6) will be funded via direct national cultural subsidies and European cultural grants.
 3. **Local Municipal Environmental Protection & Public Participation Funds:** Dunaújváros Municipality will allocate **10% of the annual gross budget** from its own internal municipal resources. This co-financing guarantees that the annual *Small Community Funds* (Pillar 5) can launch without bureaucratic delays.
 4. **Corporate Social Responsibility (CSR) Partnerships:** Leveraging Dunaújváros's heavy industrial economic landscape, the municipality will pitch targeted sponsorships (e.g., specific tree-adoptions in the cadastre, green route branding in the Sculpture Park) to local private companies and large industrial actors.

C. Funding Sources

1. Local Sources

- Municipal annual budget.
- Public works/maintenance funds.

2. National Sources

- Cultural heritage and community development funds
- Environmental protection grants
- ERDF and Cohesion policy

3. EU-Level Sources

- ERDF 2021–2027: urban development, digital tools, green infrastructure
- ESF+: community engagement, education, skills
- Creative Europe: storybank & cultural projects
- Erasmus+: re-skilling citizens
- LIFE Programme: green infrastructure and urban biodiversity
- Horizon Europe (Mission Cities / Climate Adaptation): nature-based solutions, urban digital twins



- DUT, EUI, Interreg, URBACT etc.

D. Sustainability Model

- Low-cost maintenance through municipal team, infrastructure + volunteer-supported mapping.
- Storybank content continuously generated by schools, ICA and the library.
- QR route maintained via small annual allocations + optional sponsorships (local SMEs).

SECTION 5 – MONITORING AND INDICATORS

5.1 Indicators – How to Measure Progress Towards the Intended Change

The indicators are structured along the project's Specific Objectives (SO1–SO5) and aligned with URBACT monitoring practice (output, result and process indicators).

SO1: Establish a reliable, citizen-supported environmental data system

Output Indicators

- Number of trees mapped and validated in the repository
- Number of new entries added during citizen-science rounds
- Percentage of validated data entries (data quality score)
- Number of mapped additional urban assets (waste containers, parking spots)

Result Indicators

- Number of municipal decisions/plans using repository data
- Improved response time in green-space maintenance operations
- Integration of the repository into at least 1 municipal workflow

Process Indicators

- Frequency of data updates
- Number of trained volunteers and students contributing to data collection

SO2: Strengthen community identity and participation through storytelling

Output Indicators

- Number of stories collected (text, audio, video, photos)
- Number of story-collecting events/workshops



Result Indicators

- Increase in community participation in cultural programmes
- Use of storybank content in exhibitions, social media, educational activities

Process Indicators

- Diversity of contributors (age, neighbourhoods, social groups)

SO3: Introduce human-centred digital tools for public space engagement

Output Indicators

- Number of QR points installed
- Number of micro-stories or contents linked to QR points
- Number of thematic routes developed

Result Indicators

- Number of QR scans (unique and repeat users)
- Engagement metrics on storybank and route web interfaces
- Usage by tourists / visitors (optional data collection)

Process Indicators

- Content refresh rate
- Maintenance events and updates carried out

SO4: Foster community stewardship of green areas

Output Indicators

- Number of trees adopted / planted
- Number of eco-day events organised
- Number of schools and NGOs involved

Result Indicators

- Participant satisfaction and awareness level (survey-based)
- Changes in local stewardship (e.g. number of volunteers continuing activities)

Process Indicators

- Return rate of participants in subsequent activities



- Number of follow-up community initiatives

SO5: Build sustainable multi-stakeholder governance and municipal capacity

Output Indicators

- Number of ULG meetings
- Number of municipal staff trained (digital tools, engagement methods)
- Number of formalised partnerships (MoUs, cooperation agreements)
- Number of received proposals from citizens under the public-call

Result Indicators

- Improved cross-departmental cooperation (qualitative assessment)
- Inclusion of the DARING methodology in long-term city planning documents

Process Indicators

- Regularity of governance meetings
- Responsiveness of stakeholders during implementation

5.2 Monitoring – How to Follow Up Progress During Implementation

Monitoring Framework Structure

The monitoring process includes four components:

1. Technical Monitoring
 - Led by the municipality's IT and environmental, other units
 - Focuses on data quality (tree repository, QR metrics)
2. Cultural & Social Monitoring
 - Led by cultural institutions, library, ICA
 - Storybank contributions, diversity, and engagement
3. Community Engagement Monitoring
 - Led by ULG + schools + NGOs
 - Participation levels, workshop outcomes, behavioural indicators
4. Governance & Process Monitoring
 - Led by the project coordinator
 - Stakeholder activity, action plan progress, integration into city systems

Monitoring Tools



1. Monthly Monitoring Sheets

- Each team (Technical, Cultural, Community) submits short updates
- Tracks outputs, challenges, and next steps

2. QR Engagement Analytics

- QR scan statistics (time, frequency, locations)
- User flow and page visits on the storybank platform

3. Repository Dashboard

- Number of trees mapped, edited, confirmed
- Maps visualising new entries and gaps

4. Community Participation Tracker

- Attendance lists, event feedback forms
- Demographic data (where appropriate)

5. ULG Governance Tracker

- Meeting minutes
- Action progress (Green/Amber/Red status)
- Decisions taken and pending issues

Monitoring Responsibilities

Monitoring Area	Responsible Actor	Frequency
Tree repository & asset data	Biodiversity Office + IT	Monthly
Storybank contributions	Library + ICA	Quarterly
QR route engagement	IT + Communication Department	Monthly
Community participation	ULG + Schools + NGOs	Quarterly
Governance process	Project Coordinator	Monthly
Overall progress review	Steering Committee	Every 6 months

Evaluation Moments



To ensure the long-term sustainability, impact, and responsiveness of Dunaújváros's interventions, the monitoring framework embeds a continuous cycle of **monitor learn adjust** in strict alignment with URBACT's methodologies. This adaptive process is operationalised through four key local feedback loops:

- Monthly analytics from physical QR code scans (including scan frequency, user flow, and digital platform dwell times) will be reviewed by the IT and Communication departments. This real-time quantitative data will be used to identify which monuments, trees, and historical narratives resonate most with the public, allowing the Content and Culture Team to continuously refine, update, and expand the multilingual content.
- Qualitative feedback gathered from students, teachers, and local volunteers following each tree-mapping campaign and iNaturalist biodiversity walk will be systematically analysed. These insights will guide the technical simplification of data-entry interfaces, improve fieldwork training protocols, and help mitigate technical or engagement risks for future mapping rounds.
- The story-collection and memory-harvesting methodologies led by the József Attila Library and the Institute of Contemporary Art (ICA) will be continuously updated based on community trust and response rates. This ensures that submission formats and intergenerational workshops remain highly inclusive, accessible, and adjusted to protect and represent vulnerable urban groups.

Monthly monitoring sheets and quarterly ULG governance tracking will provide the municipal administration with evidence-based insights. By bridging the parallel workflows of the Biodiversity Office, the IT department, and the municipal maintenance company (DVG Zrt.), Dunaújváros will successfully transition from reactive maintenance to a proactive, integrated green-space management system that feeds citizen-science data directly into official city planning and statutory registers.

Reporting

Reporting in Dunaújváros is structured across three distinct levels to guarantee administrative compliance, operational performance management, and public transparency:

The local Project Coordinator compiles quarterly progress reports based on the monthly monitoring sheets submitted by the technical, cultural, and community teams. These reports assess output indicators, track target achievements, and are presented directly to the local



Steering Committee and the URBACT Local Group to facilitate collaborative decision-making and project adjustments.

In strict compliance with URBACT IV regulations and the network management framework, Dunaújváros prepares and submits comprehensive activity, expenditure, and communication reports to the Lead Partner every six months. These formal documents undergo a rigorous validation process by the Lead Partner to ensure technical correctness and financial eligibility before being archived for annual submission.

To maintain high levels of citizen engagement and trust, the municipality publishes annual progress reviews, local green success stories, and digital route analytics through press releases, social media, and the official municipal portal.

Feedback & Learning Loops

- Continuous adjustment of QR content based on analytics
- Improvement of mapping events based on volunteer feedback
- Updating story-collection techniques according to community response
- Municipal process refinement based on cross-departmental insights

This creates a cycle of **monitor** → **learn** → **adjust**, aligned with URBACT's methodology.

Acknowledgements

We would like to express our gratitude to all participants and contributors who contributed to the implementation of the DARING cities project and the Investment Plan of Dunaújváros with their work and commitment.

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Written and edited by:

Dr. Anett Szalai,

András Merza

Dunaújváros, 2026