INCLUSION PROCEDURE

Adding partners to your proposal in the Stage 2

Applicants of the DUT Call 2025 had the choice to give the DUT Call Secretariat permission to publish their abstracts so that they can easily be accessed in the context of this inclusion procedure. These abstracts can be found in the table below.

Please be aware that these are only the ones that granted permission to be published and that there are more proposals invited to stage 2 than the ones in the table below.

You may find more proposals on the DUT matchmaking platform.

PEDestrians

(Positive Energy Districts: Engaging Sustainable Transitions through Research, Integration and Active Networks for Society)

Main Pathway: 3, Topic: 3

The project aims at developing a modular digital platform, based on data-driven methods, that support the transformation of existing districts into fully operational PEDs. This approach goes beyond conventional energy modelling by linking technical analyses of district heating, cooling, and renewable energy systems with socio-economic, equity, and citizen engagement dimensions. The developed platform will integrate dynamic simulation of energy systems, advanced control and energy-management algorithms, and multi-criteria optimization of energy scenarios, all grounded in detailed socio-economic baselines and stakeholder insights. The final goal is the development of a comprehensive platform to be used by engineering companies designing DHC systems and by Energy Service Companies (ESCO), policymakers and stakeholders to design the actions to achieve the PED paradigm. To this scope a multifaceted approach will be implemented including different sub-packages: i) a tool for the selection of the optimal combination of renewables and conventional technologies, based on the energy planning approach: ii) a detailed dynamic simulation model to be used to design and mimic the real time operation of the proposed systems; iii) an optimization routine to be used to select the optimal values of both design and operational variables, according to the different possible objective functions; iv) use of advanced theories to the calculation of the socio-economic impacts of the proposed systems; v) development of advanced control strategies, digital twin models, also based on the most recent techniques using AI, for the optimal management of the designed systems. The use of the comprehensive platform will also allow us to detect solutions that promote the use of energy for low-income populations and to define guidelines for the adoption and scalability of the proposed systems.

Validation will occur in real demonstration districts within partner municipalities, included in the consortium, where the platform will assess and optimize heating, cooling, and distributed renewable energy networks. The demo will serve as a living lab to evaluate data-sharing mechanisms, governance frameworks, and public acceptance. The outcomes will be generalised to produce a replicable toolbox adaptable to different urban contexts and climatic conditions across Europe. In this framework, the impact on the socio-economic environment will be emphasized. In particular, affordable energy supply will be ensured. The demonstration will also highlight how the proposed approach enables low-income households to access the different sources of energy.

The project's transnational consortium—comprising University of Naples Federico II (Italy, coordinator), AGH University of Krakow (Poland), University of Zagreb (Croatia), Technische Universität Berlin (Germany), two Polish municipalities and an Italian SME (TECNOSISTEM)—ensures scientific excellence and strong stakeholder integration. The heterogeneity of the consortium ensures balanced expertise from energy system modelling to socio-economic analysis and policy co-design.The collaboration among Italian, Danish, German, Polish, and Croatian entities ensures the transfer of technologies and operational practices that can benefit regions not directly involved, thereby multiplying the impact beyond national borders.

Expected impacts include: i)improved municipal capacity for integrated energy planning and decision-making;ii) enhanced affordability and social inclusiveness in PED transitions; iii) a validated methodology for replicable, data-driven PED design; iv) contributions to the DUT Knowledge Hub, providing open data, guidelines, and policy briefs for European cities.The development of interoperable tools aligned with EU data frameworks will facilitate the adoption of the platform in other countries, as outlined in the call's objective to scale PED solutions within a multi-level context.

TWIST

(Circular Regeneration of Brownfields in Urban Areas with integrated Digital Twins)

Main Pathway: 2, Topic: 1

As a key urban innovation, Digital Twins will act as enabling instruments for data-informed and participatory regeneration of brownfields, connecting social, ecological, and spatial dimensions of urban transformation. Moving from linear to circular models, the project fosters co-development of adaptive and inclusive solutions through active engagement of stakeholders and citizens. By integrating process- and evidence-based research, TWIST addresses current knowledge gaps and develops a transition framework that links digital innovation with learning and sustainable governance. Combining scientific and practical expertise, TWIST will deliver community-centered, transferable, and replicable decision-support tools that advance environmental, technical, and social renewal beyond technological experimentation. Structured in six work packages, TWIST will establish a data-driven circular assessment framework for adaptive reuse, validated through pilot sites, such as Porte Ouest in Charleroi. Through iterative co-design, simulation, and dialogue, the consortium will promote mutual understanding and shared decision-making among public and private actors. A comprehensive dissemination strategy will ensure two-way knowledge exchange and support replication of TWIST's methods in other European urban contexts through a well-designed communication plan to ensure the bidirectional communication between the regional stakeholders of existing networks and contribute to its replicability with practice-oriented processes, including training materials, workshops, and communication campaigns, and academic diffusion of high quality. The involvement of public authorities and the private sector will empower the actions into realistic results for future applications.

CROSS-PED

(CROSS-scale passive cooling strategies for Positive Energy Districts)

Main Pathway: 3, Topic: 3

The CROSS-PED project aims to establish an integrated framework for the implementation of context-effective passive cooling solutions in Positive Energy Districts. While passive cooling strategies, such as shading, greenery, natural ventilation, and façade retrofitting, have the potential to significantly reduce active cooling demand, and contribute to a positive energy balance, their performance and implementation highly rely on the characteristics of different urban settings. On this basis, the project addresses the pressing need for scalable and replicable passive cooling strategies and examines the nexus between cross-scale solutions and the contextual factors that determine their level of adaptability and effectiveness, such as macro- and micro-climate characteristics, spatial and morphological configuration of the urban fabric, contribution to the energy balance in PED models, carbon and thermal environments, and feasibility within the socio-economic context. With a specific focus on co-creation and co-assessment the project involves decision makers, designers, citizens and industry to develop a robust framework, and an innovative catalogue of technical solutions to accelerate the implementation of PED cooling models towards the achievement of carbon neutrality.

CROSS-PED specifically aims to 1) build a comprehensive knowledge base on combined building and neighbourhoods passive cooling strategies for PEDs; 2) develop and test a methodological framework for spatial scalability based on innovative archetypes; 3) co-create cross-scale passive cooling strategies through stakeholders engagement; 4) assess their contribution to the energy balance in PED scenarios; 5) develop a decision model based on multidomain assessment of co-benefits and feasibility in socio-technical landscapes to facilitate the implementation of passive cooling strategies across European PEDs.

With a specific focus on post-modern housing stock (1980-2000) and archetypical urban settings, the project will provide guidelines for scalable and effective cooling strategies contributing to the synergistic decarbonization of urban cooling and adaptation of urban areas to heat stress. CROSS-PED will employ a comparative approach, focusing on three case studies in The Netherlands, Romania and Italy, which will facilitate the transfer of effective passive cooling strategies in European Oceanic, Mediterranean and Continental climates, while strengthening Europe's capacity to implement context specific yet scalable PED solutions.

SPA-PED

(Structural path analysis for quantifying the bi-directional contribution between district heating/cooling and positive energy district)

Main Pathway: 3, Topic: 3

District heating and cooling (DHC) systems have been well developed for urban energy supply for decades. Positive Energy Districts (PEDs) are relatively new concepts that can be incorporated with DHC systems to offer a transformative pathway for higher energy efficiency, lower greenhouse gas emissions, effective energy cost, and enhanced urban sustainability. However, the relationship between these two concepts stays on qualitative level, mainly because there is no method yet to quantify interactions between the two.

This project (SPA-PED) aims to quantify bi-directional energetic, environmental, economic and energy-poverty (EEEE) contribution ('bi-contribution' afterwards) between DHC and PEDs from the system perspective. The methodology, structural path analysis (SPA), will be applied to reveal step-by-step proportional bi-contributions of subsystems (direct + indirect) between DHC and PED. Each popular renewable/low-carbon heating and cooling subsystems for DHC or PED, e.g., geothermal systems, heat pumps, solar (photovoltaic/) thermal systems, thermal storage, (waste) heat recovery and energy efficiency of buildings, will be assessed by normalizing their respective bi-contribution to the system-wide impact, based on context-specific weighted factors. The household-level metrics, such as the energy cost burden (share of annual DHC expenses in disposable income), over-burden rate (percentage of

households spending above a defined threshold, e.g., 10% of income), and comfort adequacy (share of time within healthy indoor temperature ranges) will be then linked with the SPA-derived cost flow and subsystem bi-contributions, allowing proportional attribution of energy poverty reduction or risk to specific DHC subsystems.

The project will have four case studies spreading in following countries, such as Sweden (Stockholm), Latvia (Jūrmala), Italy (Campolattaro) and Austria (Lower Austria Waldviertler region). The weighted factors will be co-determined in each context by the consortium through co-creation workshops. The project will further compare how these four different DHCs (including both centralised and decentralised) impact PED integration by the co-learning process. SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) and PED matrix will be implemented to compare these case studies, by focusing on existing DHC infrastructure, social fairness, local policies and regulations, availability of renewable and low-carbon solutions, system-wide carbon emissions and business models/benefits. Adaptable strategies for different urban settings will be finally proposed to harmonize and upscale the way to integrate DHC with PEDs, especially regarding off-site production, system losses, renewable shares, and dynamic interactions. The findings will contribute to define a set of quantitative key performance indicators (KPIs) for PEDs.

The SPA-PED project has four specific objectives: (1) to trace the proportional EEEE bi-contributions between DHC and PED; (2) to normalize the bi-contribution of different renewable and low-carbon subsystems; (3) to compare different case studies through co-learning process for developing scalability and replicability strategies for PED's heating and cooling solution; and (4) to recommend the KPIs for PED rating system. The key project results include: (1) a structural path analytical tool for quantifying bi-contributions; (2) the guidelines for integrating renewable and low-carbon solutions for both centralized and decentralized DHC system; (3) the strategies for scale-up and replicate DHC solutions in PEDs based on SWOT and PED matrix analysis; (4) a set of quantitative KPIs to increase social-economic impact. The outcomes will promote the development of PED rating system and EU green taxonomy, which ultimately will add commercial values to PEDs, enable green loans and attract more public-private investment in an organic way.

TOILED

(Towards more resilient urban infrastructures through toilet-led research and policy on provisioning, accessibility and maintenance of public toilets)

Main Pathway: 2, Topic: 1

The 'infrastructural turn' in urban studies has brought increased attention to the role of green and social infrastructures in shaping urban life. However, public toilets and sanitary services remain conspicuously absent from both academic discourse and urban policy, despite their critical role in enabling equitable access to these infrastructures. This oversight disproportionately affects marginalized groups – such as older adults, homeless individuals and people with disabilities or digestive illnesses – who rely more heavily on accessible sanitary facilities but are often underserved. The lack of accessible toilets restricts their mobility, participation and overall quality of life in urban environments. TOILED therefore advocates for toilet-led research and policy as a cornerstone of resilient urban infrastructure. It calls for a reorientation of urban studies and planning to recognize public toilets as vital components of the urban fabric. By foregrounding public toilet governance, TOILED seeks to challenge the taboos and institutional neglect surrounding sanitation in cities. To answer the main research question 'how to create more

resilient green and social infrastructures through inclusive public toilet governance?', the 36-months project uses a mix of institutional analysis, mapping exercises, ethnographic observation and approximately 150 interviews with different stakeholders (municipalities, private sector, patient associations, advocacy groups, (representatives of) marginalised groups and maintenance workers) in three European cities: Rotterdam (Netherlands), Ghent (Belgium) and Ankara (Türkiye). The research focuses on three subthemes: 1) provisioning, 2) socio-spatial accessibility, and 3) maintenance of public toilets. In so doing, TOILED uses the notions of 'zooming out' and 'zooming in' to investigate both macro-level dynamics of toilet provisioning and micro-level labour of maintenance of toilet spaces, and the interplay between these different levels. Each theme has its own set of research questions, (qualitative) methods, deliverables and expected impact. The academic team closely collaborates with three urban authorities in the Netherlands, Belgium and Türkiye, and will also involve other relevant actors in both Local and International Stakeholder Forums. TOILED aims to put public toilets more prominently on research and policy agendas through at least 7 academic publications, 3 city reports, 9 policy briefs and a Toilet Manifesto disseminated on the walls of a portable toilet in each of the investigated cities. Through all of these activities, TOILED will promote inclusive, accessible, healthy and equitable urban environments for all.

FlexPED

(Driving Urban Energy Flexibility: Enabling Positive Energy Districts through Smart Technology Integration and Sector Coupling)

Main Pathway: 3, Topic: 3

FlexPED – Driving Urban Energy Flexibility: Enabling Positive Energy Districts through Smart Technology Integration and Sector Coupling – aims to accelerate the transition toward climate-neutral and resilient urban districts by demonstrating how sector coupling can enhance the effectiveness, affordability, and replicability of Positive Energy Districts (PEDs). The project focuses on integrating electricity, heating, and cooling systems to create flexible, low-carbon urban energy ecosystems that are socially inclusive and economically viable.

FlexPED will assess four real-life pilot cases in Italy, Turkey, Sweden, and the Czech Republic, each representing a distinct urban context: a rural-industrial Renewable Energy Community in Savignano Irpino (IT), a circular economy-based landfill energy plant in Istanbul (TK), a university campus integrated with 4th Generation District Heating in Halmstad (SE), and a post-coal regeneration district in Ostrava (CZ). These pilots will test innovative solutions such as waste heat recovery, thermal energy storage, Thermally Activated Building Systems (TABS), and Digital Energy Twins (DETs) to optimize energy flows and reduce greenhouse gas emissions.

The project's overarching goal is operationalized through four specific objectives:

1- Engage and empower local stakeholders by establishing community hubs and advisory boards to co-design PED solutions tailored to local needs.

2- Demonstrate the feasibility and replicability of sector-coupled PEDs through the deployment of Digital Energy Twins, innovative business models, and flexible energy systems.

3- Co-create and co-design pilot interventions via participatory workshops, ensuring social acceptance and alignment with local transformation agendas.

4- Disseminate and exploit results through targeted communication strategies, policy briefs, and replication guidelines, contributing to the DUT Knowledge Hub and supporting PED adoption across Europe.

FlexPED directly addresses key challenges in PED implementation, particularly the integration of heating and cooling systems, which are often focused on electricity-centric approaches. By leveraging sector coupling, the project reduces dependency on critical raw materials for power battery storage, enhances energy self-sufficiency, and supports just transitions in vulnerable urban areas.

FlexPED contributes to the DUT PED Transition Pathway by offering scalable, inclusive, and innovative models for urban energy transformation. It aligns with EU climate and energy goals, supports the Sustainable Development Goals (SDGs 7, 10, and 13), and targets replication in up to 1.300 European cities, potentially impacting 9 to 27 million citizens. Through its innovation-oriented and community-centered approach, FlexPED demonstrates how integrated energy systems can drive systemic change in urban environments.

Resilient Roots

(Resilient Roots: Promoting nature-based schoolyards for sustainable transitions)

Main Pathway: 2, Topic: 1

Nature-based schoolyards, schoolyards with "green", "blue", and "brown" natural elements present, can be a powerful multifunctional tool to address current societal and sustainability challenges in urban areas. They contribute to climate mitigation and adaptation, biodiversity regeneration, socio-ecological resilience, and human health and wellbeing. Despite growing global interest in nature-based schoolyards, evidence from previous projects and research highlight that many schools either do not adopt nature-based schoolyards or include only limited natural elements, leaving significant opportunities for learning and public engagement untapped.

To address this, the objective of Resilient Roots is to promote the effective and equitable use and implementation of nature-based schoolyards as inclusive, multi-functional, green and social infrastructures that contribute to climate resilience, biodiversity, and wellbeing. The project seeks to identify equitable governance structures and strategies that support successful implementation and management, the integration of schoolyards into education and school culture, and their activation as community hubs that foster engagement and wellbeing. To achieve this, Resilient Roots addresses three research questions:

(1) What implementation and management practices are needed to support the uptake of nature-based schoolyards?

(2) How can schools, municipalities, and other key actors promote the educational use of nature-based schoolyards?

(3) How can nature-based schoolyards contribute to community use and wellbeing?

A central focus is placed on social equity, ensuring that future nature-based schoolyard initiatives are designed, implemented, and managed for the benefit of all schools, communities, and children.

Resilient Roots generates knowledge through a comparative, cross-country approach that combines a literature review, multi-country key actor interviews, and case-studies in the Netherlands, Spain, and Sweden. It will use interdisciplinary research methods, including landscape analyses (i.e., inventories and site analyses), ethnographic approaches (i.e., interviews and observations), participatory methods and co-design processes involving active engagement of key local actors. Insights gained from this interdisciplinary project will result in dissemination materials that provide applied and actionable recommendations, tools, and strategies for policy makers, urban planners, designers, managers, school communities, and other key actors to upscale the effective and equitable use and implementation of nature-based schoolyards across Europe.

The innovation potential of Resilient Roots stems from its multi-scalar approach to the use and implementation of nature-based schoolyards, aiming to scale up the implementation by supporting policy and governance, scale out by promoting effective and equal use, and scale deep by transforming current culture and practice. It advances from proof-of-concept to applied and actionable recommendations, tools, and strategies for widespread adoption. Furthermore, it embraces a holistic approach that integrates the multiple functions of nature-based schoolyards, and it sheds light on how nature-based schoolyards can evolve into community hubs that promote engagement and wellbeing. Stakeholders will be actively engaged throughout all stages of Resilient Roots to ensure that research outcomes are practical, inclusive, fair, and ready for real-world implementation.

Dyna15Connect

(Dynamic 15-Minute Connections for Enhancing the Multimodal Travel Experience in Peri-Urban Communities)

Main Pathway: 1, Topic: 1

Across Europe, small and mid-sized towns and peri-urban areas remain highly dependent on private cars, with limited access to affordable, reliable, and sustainable public transport. Rising housing costs and changing lifestyles have expanded these areas, while conventional mass-transit systems are often financially unviable where population density is low. To address this gap, the Dyna15Connect project applies the principles of the 15-Minute City beyond metropolitan cores, creating a practical framework for human-centred multimodal accessibility in suburban, peri-urban, and small-town contexts.

Dyna15Connect combines research and innovation to design, test, and validate next-generation multimodal systems that integrate AI-based next-gen scalable on-demand transport, micromobility, cycling, and car sharing into a coherent and scalable service ecosystem. The approach builds on the Tomatiq technology, which merges the flexibility of app-based demand-responsive transport with the cost efficiency of mass transit by optimising passenger routing toward dynamic stops. This system creates Dynamic Mobility Hubs, which serve as data-informed interchange points connecting walking, cycling, shared mobility, and social interaction within local communities.

The project introduces digital twin models for participating municipalities, combining open and local data with behavioural and geospatial analyses to understand travel patterns, accessibility barriers, and user experiences. These models support planning and testing of scalable interventions, reducing the financial and technical burden for municipalities. Through a co-creation process involving local authorities and residents, pilot implementations in several European towns will demonstrate how digital tools, active mobility, and human-centred design can replace short car trips with sustainable and flexible multimodal options.

The behavioural component of Dyna15Connect applies the Rubicon model of action phases to analyse how travel intentions form and evolve under new mobility conditions. At the same time, the Quintuple Helix innovation model ensures that business, government, academia, citizens, and the environment jointly shape and validate the proposed solutions. The impact generated by the implemented solutions and therefore its efficacy will be assessed quantitatively in terms of social, economic, and environmental impacts based on data collected during the pilots, including emission reductions, improved accessibility, and enhanced travel satisfaction.

The innovative strength of Dyna15Connect lies in its focus on small and car-dependent territories and in its capacity to produce both scientific knowledge and practical outcomes. The project provides municipalities with ready-to-use digital twins, behavioural evidence, and open replication tools for

multimodal planning, offering resources that would otherwise require significant financial and technical investments.

By connecting digital innovation, behavioural science, and community participation, Dyna15Connect advances the 15-Minute City Transition Pathway toward an inclusive, low-carbon, and data-driven mobility model suitable for Europe's small and medium-sized urban areas.

HUMAN-AI HUBS

(Healthy Urban Mobility Anchors for Multimodal Integration, Public Health Co-Benefits, and AI-Driven Implementation Strategies)

Main Pathway: 1, Topic: 1

Healthy Urban Mobility Anchors for Multimodal Integration, Public Health Co-Benefits, and AI-Driven Implementation Strategies

HUMAN-AI HUBS is a transdisciplinary, research-oriented project that aims to transform urban mobility systems into climate-neutral, inclusive, and health-promoting infrastructures. Anchored in the 15-Minute City (15mC) Transition Pathway and aligned with DUT Partnership goals, the project addresses persistent challenges in multimodal integration, equity, and public health across four diverse pilot cities: Trnava (Slovakia), Cádiz (Spain), Cluj-Napoca (Romania), and Sousse (Tunisia).

The project's core ambition is to understand and model the complex interplay between mobility systems, behavioural responses, and public health outcomes. It will diagnose barriers and enablers of multimodal integration, model behavioural and health impacts of active travel, and assess institutional and governance dynamics that influence implementation success. These insights will inform the development of AI-powered tools—including predictive models for demand forecasting and disruption management, equity and health dashboards, and digital twins for scenario testing under climate, demographic, and policy variations.

HUMAN-AI HUBS will produce actionable knowledge for policymakers and practitioners through evidence-based guidelines, open-access toolkits, and data standards that support interoperability and scalability. The project applies implementation science frameworks (CFIR, RE-AIM) and Health Impact Assessment (HIA) to evaluate feasibility, acceptability, and cost-effectiveness of interventions, ensuring their relevance and transferability across urban contexts.

The project's innovative approach embeds public health directly into mobility design, moving beyond traditional metrics like speed and cost to include health indicators such as physical activity, pollutant exposure, and thermal comfort. Co-creation with vulnerable groups ensures inclusive, context-sensitive solutions, while AI-enhanced participatory processes integrate community preferences with predictive analytics.

Expected outcomes include:

- Scientific contributions: New models linking mobility, health, and equity outcomes; peer-reviewed studies on behavioural and health impacts of multimodal integration.
- Technological outputs: AI-based decision-support platforms, digital twin prototypes, and real-time dashboards for strategic mobility management.
- Policy and practice tools: Implementation playbooks for multimodal hubs, equity and health monitoring instruments, and procurement guidance.

- Societal and environmental benefits: Increased active travel, reduced exposure to pollutants and heat stress, improved accessibility and safety, and enhanced climate resilience.
- Capacity building: Training modules for municipalities and transport operators on AI applications and implementation science.

The project builds on existing European R&I initiatives (MOVE21, SmartHubs, SCALE-UP, PASTA) and introduces novel elements such as AI-supported co-creation, multidimensional impact modelling, and health-integrated mobility planning. Its transnational cooperation enables comparative analysis and knowledge transfer, strengthening the robustness and scalability of solutions.

Through active engagement with the DUT Knowledge Hub and adherence to FAIR data principles, HUMAN-AI HUBS will disseminate its findings via open-access publications, workshops, and digital repositories. Ultimately, the project aims to catalyse systemic change in urban mobility, delivering healthier, more inclusive, and resilient cities across Europe and beyond.

WALK-UP4

(Walkability and the Appropriation of Local Key Urban Places through Pedestrian-Friendly Parking Patterns)

Main Pathway: 1, Topic: 2

WALK-UP4 tackles one of the most sensitive obstacles to the pedestrian-friendly 15-minute city: the sheer amount of public space still devoted to parked cars, and the cultural expectations that come with it. Rather than treating parking as a purely technical or economic issue, the project approaches it as a spatial, social and ecological system, asking how different parking patterns can entice drivers to become pedestrians, support local businesses and improve the liveability of key urban places.

Building on the DUT projects EMC2 (on convivial 15mC main streets) and ENHANCE (on multimodal accessibility), the project develops and tests a multi-scalar "pattern language" of pedestrian-friendly parking. It links metropolitan Park & Ride systems, suburban Park & Walk facilities and inner-city intercept parking to the fine-grained world of sidewalks, crossings, greenery, ground-floor activities and everyday walking experience. Two guiding principles structure the work: "the right parking type in the right place" and "pedestrian quality in key urban places," particularly along main streets and squares where public life and symbolic centrality are highest.

Four contrasting cities form the empirical backbone: Amsterdam, Vienna, Marseille and Kaunas. Together, they represent different planning traditions, regulatory frameworks and stages of parking reform, from Amsterdam's large-scale removal of on-street parking, to Vienna's ambitious plans to eliminate almost all curb parking in District 7, to Marseille's emerging attempts to rebalance car use and walkability, and Kaunas's rapid motorisation and evolving regulatory tools. Across these cities, the project combines historical and policy analysis, AI-based mapping of streetscapes, space syntax and morphometric analysis, sociotope and sentiment mapping, and advanced 3D "Urban Parterre" and City Information Models to understand how parking supply, street form and activity patterns interact.

At street level, the project benchmarks approximately forty local centres in Marseille and selected areas in the other cities, assessing how parking layouts, sidewalks, bike lanes, façades, greenery and traffic conditions shape pedestrian conviviality and post-parking walking behaviour. Surveys, perception studies based on street-view images, and hedonic price models will link these spatial patterns to resident satisfaction, walking distances from parking places, housing values and retail performance. Additional work on greening former parking spaces will evaluate impacts on urban microclimate and health-relevant night-time temperatures.

The project is strongly transdisciplinary. Academic partners (CNRS-ESPACE, TU Wien, KTU and VU Amsterdam) work hand in hand with the cities of Amsterdam, Kaunas, Marseille and Vienna, and with the consultancy Public(s). Urban living labs in Marseille, Vienna and Kaunas create co-construction arenas where residents, businesses and municipal staff can test alternative uses of parking spaces (such as greening, logistic micro-hubs or new public spaces) using 3D models and the emerging pattern language as design and dialogue tools. City visits across the four cases foster mutual learning and help distinguish context-specific from transferable solutions.

Expected outputs include: a theory and pattern language of parking transformation within the 15mC; comparative evidence on behavioural, economic and environmental impacts of parking reduction; assessment guidelines and analytical protocols for European cities; and concrete design and policy recommendations for different urban morphologies. The project follows an open-science strategy and actively contributes to the DUT Knowledge Hub, through the provision of widely accessible guidance and tools. Ultimately, the project aims to demonstrate that carefully designed and strategically located parking reductions can unlock new forms of walkable urbanity, while maintaining accessibility and supporting vibrant local economies.

KICCO

(Kids' Interactive Comic Cartography for sustainable urban mobility)

Main Pathway: 1, Topic: 1

The KICCO (Kids' Interactive Comic Cartography for Sustainable Urban Mobility) project aimes to create an innovative, participatory approach to integrating children's perspectives into sustainable urban and transport planning across Europe. Addressing the goals of the 15-Minute City, KICCO promotes child-sensitive mobility design that enhances safety, accessibility, and democratic participation in the transition toward climate-neutral cities.

The project introduces a novel methodological and digital innovation — the KartoComica approach — which combines elements of comic-based visualization, participatory mapping, and digital cartography to capture children's emotions, perceptions, and wishes regarding their everyday mobility. These emotional and cognitive dimensions of traffic and movement are translated into a standardized visual language, the KartoComica symbols, that can be integrated into digital maps and used within the KICCO App. Through this interactive platform, children map their school routes and local environments, indicating safe and unsafe spaces, barriers, and ideas for improvement. These data provide urban planners with valuable, location-specific insights that complement traditional traffic data, supporting inclusive and evidence-based planning.

KICCO follows an Innovation-Oriented Approach (IOA) that combines applied research, experimentation, and real-world testing. It brings together an interdisciplinary consortium of partners from Germany, Spain, France, and Sweden, including experts in geography education, urban and transport planning, cartography, and comic design, as well as an NGO and the city administration of Solingen as a municipal partner. The project's transnational cooperation ensures that the KartoComica visual language and the KICCO App are adaptable and understandable across different European cultural and linguistic contexts, and applicable to cities of various sizes and spatial structures. It also allows for the comparison of mobility-related emotions and barriers—such as fear, insecurity, or spatial exclusion—and for the methodological adaptation to national school curricula and planning practices.

The KICCO project comprises five Work Packages: WP1 explores children's mobility experiences and planners' needs, forming the basis for the KartoComica visual language. WP2 develops didactic frameworks and teaching materials for curricular integration. WP3 designs and tests the KICCO App for

participatory mapping. WP4 applies and evaluates the approach in schools across four countries, examining educational and planning impacts. WP5 ensures dissemination, teacher training, and broad outreach to urban planners through open-access toolkits and co-creation workshops.

Educationally, KICCO advances Education for Sustainable Development (ESD) by fostering pupils' spatial reasoning, mobility awareness, and civic engagement. By using the KICCO App, students reflect critically on their environment and learn how democratic participation contributes to sustainable and inclusive urban development. For urban planners, the project delivers actionable data that visualize how children perceive and use city spaces — enabling planning that better responds to young citizens' mobility needs.

KICCO's European added value lies in its capacity to establish a common framework and toolkit for participatory, child-centered mobility planning, which can be flexibly implemented in diverse educational and urban contexts.

EXACT

(Experience-based Accessibility for Co-creating Tomorrow's Mobility)

Main Pathway: 1, Topic: 1

The 15-Minute City (15mC) has become a key vision for sustainable and inclusive urban development, aiming to ensure that everyday amenities are reachable within a short travel time. Yet, current approaches to the 15mC often rely on static, time-based accessibility measures that fail to capture how people actually experience mobility. A "15-min" distance may feel very different for an elderly person or a parent with a stroller. Moreover, spatial proximity alone does not reflect how comfort, safety, waiting times, or cognitive effort shape the lived experience of urban travel. To make the 15mC truly meaningful and equitable, accessibility must be redefined as a human-centered, multimodal, and experience-based concept.

The EXACT project responds to this challenge by developing a novel, cross-city framework that connects human experience with objective accessibility modeling and policy design. The project's main ambition is to bridge the gap between technically optimal mobility planning and socially accepted travel experiences, creating actionable insights for cities aiming to improve multimodal accessibility.

The project proceeds in four interlinked research and innovation stages. First, it builds a digital "as-is" model of urban accessibility that captures the objective characteristics of accessibility related to infrastructure, amenities, and multiple modes of transport networks, i.e., walking, cycling, micromobility, public transport, and car. Using harmonized open datasets and socio-demographic statistics, this stage produces a high-resolution, cross-city comparable model representing the baseline accessibility conditions for different user groups.

Second, the project advances to the modeling of subjective accessibility, exploring how people perceive and evaluate their travel behaviour and experience. Participatory mapping and cognitive, psychological, and physiological analyses are used to gain insights into how different user groups experience accessibility. These insights are then incorporated into the development of the Travel Experience Index (TEI), a unified measure that combines objective and subjective parameters to quantify experienced accessibility for different demographic groups.

Third, the Travel Experience Multimodal Accessibility Engine integrates the TEI into a computational framework that generates multimodal accessibility zones for each user group and city. The engine allows cities to visualize accessibility not only as a function of time or distance but also as a function of perceived quality and effort. Comparative analyses across cities assess which behavioral and

infrastructural factors are transferable and which remain context-specific, offering new insights into the universal and local dimensions of accessibility.

Finally, the on-site Living Lab operationalizes the project's citizen-centered approach. Using an interactive digital platform, participants, who are approached in their neighborhood, can explore both current and hypothetical mobility scenarios, visualized through multimodal routes or accessibility zones. They are invited to evaluate these scenarios, express preferences, and suggest their own interventions (e.g., relocating a micromobility hub). This iterative feedback process enables direct comparison between engineered policy solutions and public acceptance, revealing which interventions are both technically feasible and experientially desirable. This process also serves as a blueprint for future citizen participation in the continuous evolution of an accessible, human-centered 15mC. With living lab study sites in Vienna and Catania, EXACT delivers a transferable framework for understanding modeling, and designing urban accessibility as lived experience of the 15-min concept. This project offers cities new tools to evaluate and co-create policies that reflect how mobility is truly experienced, not just measured.

CIRCU-STREET Hub

(CIRCU-STREET Hub: Empowering systems-level circular procurement for sustainable urban infrastructure)

Main Pathway: 2, Topic: 3

Cities across Europe are under growing pressure to accelerate the transition toward more resilient and resource-efficient built environments. Streets and roads (large, high-impact public assets) remain predominantly procured through linear, cost-driven models that depend on virgin materials, overlook reuse and recycling opportunities, and insufficiently integrate biodiversity and nature-based solutions (NBS). Despite political commitments, municipalities face systemic barriers: fragmented procurement responsibilities, weak cross-institutional and departmental coordination, and limited tools to translate sustainability goals into operational tender criteria and decision processes. CIRCU-STREET Hub aims to address this gap by enabling European cities to integrate circularity and NBS into the procurement of materials and services for street and road infrastructure through a user-centred digital platform that transforms systemic knowledge and collaborative governance into actionable and scalable tools designed to improve procurement coherence, material circularity, and cross-sector decision-making. To achieve this, the project will pursue four objectives:

(SO1) generate systems-level knowledge on how procurement decisions, actors, and processes interact across sectors, institutional levels and project life cycles;

(SO2) build an evidence base of circular and NBS (materials, technologies, business models) and translate this into validated procurement criteria and performance indicators (KPIs);

(SO3) co-create and validate a collaborative governance framework that strengthen coordination across sectors and institutions; and

(SO4) develop, test, validate and evaluate the CIRCU-STREET Hub, a user-centred digital platform that operationalises the project's knowledge base into practical decision-support tools and integrated resources to support replication - including NBS and circular strategy navigator, collaborative governance and tender-support toolkit, procurement KPI dashboard, and case studies hat demonstrate concrete applications for municipal teams.

The project adopts a systems-thinking and participatory approach, where the Pilot City will offer real-world context for co-creating, validating, and evaluating the platform and tools. Collaboration with learner cities, a transnational consortium, and effective multi-level dissemination will ensure the effective

transfer of knowledge for widespread adoption. The project will produce ready-to-use outputs: system map identifying actors, dynamics, barriers and leverage points (SO1), consolidated evidence base with cross-cutting procurement criteria and KPIs (SO2), validated collaborative governance framework with policy recommendations (SO3), and fully functional digital CIRCU-STREET Hub (SO4) capable of supporting cities in preparing circular and NBS-oriented tenders and assessing their expected impacts..

CIRCU-STREET Hub's ambition is to deliver a coherent, validated digital ecosystem tailored to the complex procurement reality of street and road infrastructure. By translating circular and nature-based principles into practical workflows, criteria, and tools, the project provides city officials and practitioners with a clear pathway to coordinate institutions, sectors, and departments; apply circular and NBS KPIs; and generate tender clauses and impact estimates - all enabled through an integrated, user-centred platform. The project creates direct pathways to impact. In the short term, pilot and learner cities will gain capacity, confidence, and practical experience in integrated circular procurement, while targeted EU-wide dissemination with capacity-building mechanisms will enable wider replication. In the long term, the project will support more resource-efficient and biodiverse urban environments, improved street quality, strengthened local circular economies, and reduced environmental footprints.

GLOWB

(Green Livability & mObility for WellBeing)

Main Pathway: 2, Topic: 1

Should we prioritise shaded, permeable active ways now, or wait for clearer climate and demographic data? Which blends of green + social infrastructure reliably deliver stormwater control, heat relief, biodiversity, urban food, and climate resilience while doubling as communal spaces? What are the costs of inaction for wellbeing and mobility, and how do look-alike options (rain gardens vs. sponge streets) diverge under cloudbursts and coastal floods?

Policymakers face deep uncertainty, competing objectives and a combinatorial explosion of options. Even a few policy levers explode into millions of scenarios, overwhelming expert judgement and forcing bounded rationality—i.e. reliance on heuristics and "good-enough" choices instead of optimising across the full scenario space. GLOWB addresses these dilemmas by providing a rigorous and transparent approach to determining long-term climate adaptation policies that aim to maximise wellbeing while safeguarding everyday mobility.

Grounded in systems thinking and explicitly aligned with place-based and human-driven strategies, GLOWB couples AI-accelerated simulators for hydrology, mobility, land use, and biodiversity with distributional, multi-objective reinforcement learning (RL). The RL agent searches over policy portfolios to analyse what to implement, where, and when, subject to budget and maintenance constraints. The centrepiece is an auditable wellbeing reward that integrates: (i) opportunities for undirected travel (spontaneous walking/cycling supported by route diversity and green proximity), (ii) accessibility to daily needs and social/cultural venues, (iii) health impacts via exposure to flood, heat and air pollution, (iv) mobility performance (door-to-door delays and disruption on wet/heat days), (v) environmental quality and biodiversity uplift (canopy, habitat connectivity, blue-green corridor quality), (vi) impacts on the built environment. Actions prioritise nature-based solutions (NBS)—permeable "sponge" streets, bioswales, floodable parks and plazas, riparian/wetland restoration, urban forests, shaded way-found walking/cycling spines—augmented by demand-management measures such as work-from-home and staggered hours, seasonal street reallocation, pricing/permits for peak access, and relocation incentives to reduce exposure and improve access. Policies are stress-tested across diverse climate and socio-economic scenarios, with scenario discovery used to reveal potential blind spots.

To ensure transferability beyond a single city, GLOWB will be co-designed and evaluated in four contrasting environments: Odense (Denmark), a municipality-led, mid-sized city with a strong track record in blue–green stormwater solutions and multi-hazard adaptation (with initial but expandable work on urban heat-island mitigation); the Paris region (France), focusing on intercity corridors where "wellbeing pathways" connect rail/bus nodes and towns to provide reliable, green mobility in extremes and attractive daily routes; Jeonju (Republic of Korea), a monsoon-prone, hilly city where traditional Hanok districts form a "Heritage–Smart Nexus" alongside national smart-city pilots—an Adaptable City testbed integrating cultural-heritage preservation with resilient, inclusive urban design; and Galway (Ireland), a coastal city and cultural capital with high tides and a history of storm surges. Policymakers are directly involved. Municipal authorities in Odense and Jeonju, as well as the Paris transport operator RATP, are members of the consortium and co-lead the co-design and evaluation. In Galway City, partners collaborate through data sharing, workshops, and reviews.

GLOWB delivers a wellbeing-centred, NBS-first, AI-accelerated RL planner that learns robust policy portfolios across deep-uncertainty futures and transfers from dense cities to inter-urban corridors—providing interactive, co-produced policy advice for climate adaptation that is systems-oriented, place-based, and human-driven.

HEART

(Holistic and Inclusive Energy Approach for Renewable Transitions)

Main Pathway: 3, Topic: 3

Neighbourhood Energy Systems as the way forward for PEDs

PEDs are not taking off as they should. The main issues holding them back are all related to a lack of integration: they suffer from being technically siloed, spatially isolated, or socially limited. They often optimise single technologies within one district without addressing system-wide coordination or equity outcomes.

HEART overcomes these barriers. It aims to maximise locally produced renewable energy through the creation of a Neighbourhood Energy Systems (NES). They coherently connect, manage and balance electricity and heat production and consumption across urban districts, while ensuring that the benefits are shared fairly for all citizens/ stakeholders. To this end the project combines innovations in three areas

- Technical integration beyond the district Level: It develops Neighbourhood Energy Systems (NES) as modular units that combine electricity, heating, and cooling networks across multiple districts, enabling real-time balancing and energy exchange between them. Smart, interoperable control systems are key.
- Socio-Technical co-design for justice: Energy justice principles (distributional, procedural, and recognition) are embedded both in the technical and organisational design process itself — a novel departure from projects that treat social inclusion as a separate work package. This means the physical setup as well as the governance structure managing it, reflect energy justice from the outset.
- Financial integration and value Capture: The project aims to pilot financial mechanisms for local value creation from flexibility and balancing services, coupling reduced system costs with fair benefit distribution to vulnerable residents.

A joint effort of leading cities and knowledge institutions

The project revolves around the design of three NES in three cities around Europe: Ameland (NL), Sevilla (ES) and Leuven (BE). In addition the town of Fuchstal (DE) will serve as an example as it has already

moved forward with an energy system that integrated electricity and heat (albeit at a smaller scale). Leuven, as a leading Mission City, leads the effort, but all share a commitment to climate action. At the same time they are also very complementary: Climate zones, geographical situations (Ameland, for example, is in island), policy contexts, size and population mix are quite different. This background is essential for HEART's main outputs: a validated blueprint of a NES that can be used broadly across Europe, backed up by a comprehensive set of policy meaures.

The pilots are supported by a prime team of knowledge partners with strong technical, economic and social credentials. They help design the pilots, make sure the governance structures are fair and open to all stakeholders; and draw lessons from the experience in the pilot cities. Each pilot has a local partner to help with implementation. At the same time the knowledge partners exchange insights among them to accelerate learning and spread best practices.

A model for a broad group of cities

HEART puts a lot of emphasis on impact. Its model of NES is meant to be replicated by as many cities across Europe as possible. This is why we strongly believe in the power of active dissemination. Rather than sticking with reports or presentations, we will set up a Community of Practice (CoP) with other cities and relevant stakeholders. The network will consist of local groups that meet regularly to discuss the deployment of NES; and an overarching digital platform in which key stakeholders convene digitally a limited number of times.

To ensure a broad reach for the CoP the consortium counts Rescoop.eu among its partners and can fall back on support from the NetZeroCities secretariat.

PRoToS

(Planning Radical Transport Policies in Post-Truth Societies)

Main Pathway: 1, Topic: 3

Radical transport policy measures (RTPM)—such as low-emission zones, road space reallocation, parking restrictions, and user fees—are essential for climate-neutral, resilient, and livable cities. Yet their implementation is increasingly undermined by radical contestation and misinformation, often amplified by digital platforms and polarised debates. While contestation is frequently assumed to be inevitable, its actual prevalence, drivers, and electoral impact remain poorly evidenced, leaving policymakers without reliable guidance. PRoToS addresses this gap by responding directly to the DUT 15-Minute City Transition Pathway (Topic #3: "Mobility policymaking in context of radical contestation"), aiming to generate robust empirical evidence and actionable tools for cities navigating contested mobility transitions.

The project tests five key hypotheses:

*Contestation of RTPM is less common than assumed, and misinformation is not always the primary driver.

*A limited number of voters believe misinformation and are less decisive in elections than generally assumed.

*Politicians and planners are often paralysed by anticipated contestation, leading to abandoned policies.

*Inclusive planning processes may not significantly reduce contestation or its impacts.

*Contestation is likely to grow as AI makes misinformation easier to produce and disseminate.

To explore these hypotheses, PRoToS answers four core research questions:

*How common is contestation of RTPM, and to what extent does misinformation fuel it?

*Who spreads and believes misinformation, and why?

*How do planners and politicians experience and respond to contested processes?

*Can co-creative participation reduce misinformation and rebuild trust, or are alternative approaches (e.g., empowering silent supporters) more effective?

PRoToS employs a transdisciplinary, mixed-methods approach, combining fundamental research (ROA) with innovation-oriented pilots (IOA):

*A transnational survey of local authorities across partner countries to map experiences with RTPM contestation (WP3).

*A coded cross-country database (AI-assisted media/document/social media analysis) to quantify prevalence, drivers, and electoral effects (WP3).

*Urban living-lab case studies in Amsterdam, Brno, Kaunas, and Ilirska Bistrica, using stakeholder interviews, electorate surveys, and narrative analysis to study real-world contestation dynamics (WP4).

*Participation experiments (citizens' panels, youth engagement, storytelling) in half the cases, compared to conventional participation, to assess their impact on trust and misinformation (WP5).

By integrating political communication theories (framing, post-truth politics) with urban planning frameworks (collaborative rationality, governance networks), PRoToS will deliver:

*A conceptual framework on contestation and misinformation in mobility policy.

*An open RTPM database with drivers, impacts, and electoral consequences.

*Practical tools and training to help policymakers distinguish legitimate concerns from misinformation, communicate effectively, and design inclusive participation processes.

*Guidelines and storytelling formats to reframe RTPM as public interest measures.

*Contributions to the DUT Knowledge Hub for long-term capacity building.

The consortium, uniting leading scholars in mobility, governance, and communication science, as well as municipalities and practitioners, bridges research and practice. It aligns with DUT's call for transdisciplinary, co-creative approaches, providing cities with evidence, tools, and governance models to implement transformative policies despite polarisation. Through comparative analysis, action research, and experimental testing, PRoToS advances both theoretical understanding and practical solutions for planning in post-truth societies.

STREET PULSE

(STREET PULSE: Green, social and healthy urban arteries)

Main Pathway: 2, Topic: 1

Cities today face interconnected challenges, from climate change, biodiversity loss and environmental stressors to widening social inequalities and declining public health, that require a fundamental shift in how urban spaces are conceived and managed. Streets, which in Europe occupy 20–30% of urban land, represent a major but underused resource. While concepts such as Complete Streets and Green Streets have gained traction, cities still lack validated evidence on how street greenery contributes to physical, mental, and social health, especially in suburban areas where walkability, social interaction, and access to nature are weakest. Current knowledge is fragmented across disciplines, and planning tools rarely integrate walkability, greenery, environmental stressors, and health outcomes into a unified approach. As a result, municipalities struggle to identify which streets should be prioritized for transformation and what types of greening strategies provide the greatest integrated benefits.

STREET PULSE addresses these gaps by empirically investigating how street greenery contributes to health outcomes through three pathways: instoration (supporting physical and social activity), restoration (reducing stress and improving environmental comfort), and mitigation (reducing heat, noise and air pollution). The project uses a mixed methods strategy, combining quantitative city-scale geospatial modelling, street-level mapping of greenery and stressors, automated measurements of walking and co-presence, with qualitative PPGIS (Public Participation Geographic Information System) and Photovoice analyses linking everyday routes to health and perception data. Conducted across three diverse European cities, Halmstad (Sweden), Delft (Netherlands) and Basel (Switzerland), this cross-city dataset will form the evidence base for a decision-support framework that helps cities identify, prioritize, and redesign streets to maximize health impacts. Through Urban Living Labs, STREET PULSE will co-create and test "what-if" redesign scenarios with planners, designers, public-health experts, NGOs, and residents.

The STREET PULSE consortium unites high-level expertise in urban analytics, spatial morphology, environmental exposure, public health, behavioural science, participatory research and landscape architecture. Municipal partners and the NGO Healthier Basel ensure strong transdisciplinary collaboration and direct pathways for implementation.

The project will deliver a transferable decision-support framework that enables municipalities to strategically transform streets into green, socially active urban arteries that strengthen physical, mental, and social health, while simultaneously addressing pressing climate challenges. Key outputs include a classification of streets based on walkability, greenery, and stressor exposure; a validated dataset linking street features to health outcomes; and tested co-created redesign scenarios for the participating cities. By supporting evidence-based planning and encouraging local evidence-based co-creation, STREET PULSE will help cities achieve greater community and health resilience, reduce inequalities in access to green and walkable environments, and advance circular urban development by regenerating existing infrastructure rather than expanding it. Ultimately, the project will include systemic redesign positioning streets as essential green and social infrastructures that can deliver long-term benefits for people and the environment.

DESIGN4AGES

(Developing and Testing a Structured Intergenerational Co-Design Methodology for Inclusive and Climate-Adaptive Urban Spaces in European Cities)

Main Pathway: 2, Topic: 1

Cities worldwide are increasingly adopting green and social infrastructure strategies to promote sustainability, resilience, and well-being. At the same time, demographic ageing poses significant challenges for urban environments in becoming more user-friendly, considering the diverse needs of different age groups. However, limited attention has been devoted to developing methodologies that

effectively integrate diverse generations into participatory design. This gap is critical given the growing recognition that age-diverse perspectives are essential for creating truly inclusive urban environments that respond to the needs of all ages. The DESIGN4AGES project aims to develop and test a Structured Intergenerational Co-Design Methodology (SICoD-M) for planning Intergenerational Contact Zones (ICZs) in European cities. The project addresses the current lack of systematic, empirically grounded methods for involving multiple generations in the collaborative design of inclusive and climate-adaptive public spaces. SICoD-M will be applied in both physical and virtual co-design settings to explore its feasibility, effectiveness in fostering intergenerational collaboration, and adaptability across cultural and urban contexts. Grounded in the literature on Intergenerational Contact Zones (ICZ; Kaplan et al., 2020) and intergenerational contact theory (Whear et al., 2023), the project conceptualises structured co-design as a mechanism for fostering empathy, creativity, and cooperation across age groups. The theoretical framework recognises that meaningful intergenerational encounters in urban planning processes can reduce age-based stereotypes, enhance mutual understanding, and generate more innovative solutions. The methodology will be tested across five cities, Aalborg (DK), Antwerp (BE), Lisbon (PT), Twente (NL), and Valladolid (ES), each with distinct climatic, cultural, demographic, and institutional conditions. The research aims to achieve five interrelated specific objectives. The first, SO1 – To establish an evidence base on policy, stakeholder needs and best practices, analyses comparative policy frameworks, stakeholder perspectives, and best practices for intergenerational and climate-adaptive urban public spaces. The second, SO2 – To define climate-adaptive design guidelines for ICZs, co-produces practical adaptation and carbon-transition criteria for participatory co-design. The third, SO3 – To co-create intergenerational design inputs using participatory methods, engages older adults and younger participants in generating design concepts, needs statements, and evaluation criteria. The fourth, SO4 – To develop and embed the SICoD-M into hybrid co-creation environments, integrates these outputs into hybrid settings combining face-to-face and immersive virtual reality. The fifth, SO5 – To test, evaluate and validate the SICoD-M across contexts, pilots the methodology across European sites, assessing feasibility, collaborative processes, psychosocial outcomes, and cross-cultural transferability. By combining policy analysis, experimental co-design workshops, and virtual reality-supported participatory prototyping, DESIGN4AGES will deliver a validated, evidence-based and transferable methodology for intergenerational urban co-design for urban planners, municipalities, and community organisations. By integrating social inclusion and ecological awareness in participatory design, the project contributes to the Circular Urban Economies Transition Pathway of the DUT 2025 partnership, supporting cities in their transition toward climate-neutral and socially cohesive solutions based on a structured public participation approach in co-designing liveable public space. The expected impacts extend beyond methodological innovation to include strengthened intergenerational collaboration, enhanced capacity of local authorities and practitioners to design more inclusive and climate-adaptive urban spaces for all citizens, from younger to older.

FLOURISH

(FLOURISH – Fostering Liveable Open Urban spaces and Resilient green Infrastructure for Social Health)

Main Pathway: 2, Topic: 1

European cities are under increasing pressure to densify while maintaining liveability, equity, and resilience. Compact urban forms can enhance sustainability by reducing energy use and enabling efficient public transport, yet densification often diminishes access to high-quality green infrastructure. The loss of communal green spaces not only undermines ecological resilience but also reduces opportunities for social interaction, belonging, and community wellbeing.

FLOURISH – Fostering Liveable Open Urban spaces and Resilient green Infrastructure for Social Health responds to this challenge by advancing scientific understanding and practical solutions for integrating green and social infrastructure within densifying European cities. The project investigates how urban density and greenery interact to influence social health, defined as "adequate quantity and quality of relationships in a particular context to meet an individual's need for meaningful human connection", and how small-scale, co-created greening interventions can strengthen social interaction, a sense of belonging, social cohesion, and connection in diverse communities. The project's central premise is that greening can ensure that streets and squares will function as social infrastructure. Green infrastructure and nature-based solutions can foster social interaction and a sense of belonging, thereby helping to prevent and reduce loneliness. When urban density is complemented by inclusive, well-designed greenery, social health in cities can be enhanced.

FLOURISH pursues three interlinked objectives:

1. Examine causal effects of urban density and greenspace on social health through advanced causal inference analyses of existing longitudinal European health and spatial data.

2. Investigate how small-scale green infrastructure enhances social health via four local Living Labs in Copenhagen, Eindhoven, Ghent, and Barcelona, where co-created greening interventions with residents—especially vulnerable groups—are tested (in real world and/or VR environments) to reveal mechanisms linking small-scale green and social health outcomes.

3. Translate evidence into practical guidelines for greening cities through decision-support tools and evidence-based guidelines that help planners, policymakers, and communities balance densification with inclusive, health-promoting green infrastructure strategies.

The project combines robust scientific methods with participatory experimentation and real-world implementation. FLOURISH introduces methodological innovation by merging causal modelling and spatial analytics with co-design and virtual-reality testing, generating evidence that is both rigorous and actionable.

FLOURISH will deliver:

- A causal evidence base on how density and greenspace influence social health across European cities.
- A methodological framework for designing, implementing, and evaluating small-scale green interventions.
- Four Local Living Labs showcasing inclusive greening approaches for vulnerable populations.
- Decision-support tools and evidence-based guidelines for planners and policymakers.
- Open datasets, policy briefs, and replication toolkits disseminated via the DUT Knowledge Hub.

FLOURISH brings together a transdisciplinary consortium with complementary expertise across health promotion, epidemiology, urban planning, behavioural science, spatial analysis, policy and community engagement. The consortium's geographic spread across Northern, Western, and Southern Europe enables cross-context learning and generalisability of results.

By linking scientific evidence, local experimentation, and co-design, FLOURISH will offer insight into how urban densification can be balanced with green infrastructure to promote social health in urban neighbourhoods. In doing so, FLOURISH equips urban stakeholders with actionable knowledge and tools to create compact, green and social cities where both people and nature can truly flourish.

REGEN-CITY

(Regenerative Tourism for Inclusive and Circular Urban Futures)

Main Pathway: 2, Topic: 2

Tourism in Europe increasingly exposes contrasting urban dynamics: while metropolitan centers face overtourism and intense visitor pressure, many peripheral areas of these cities, and many secondary cities, experience economic stagnation, demographic decline, and cultural erosion. These territories possess rich heritage assets and strong community

potential but remain disconnected from tourism flows and regeneration policies. REGEN-CITY – Regenerative Tourism for Inclusive and Circular Urban Futures proposes an innovative framework to reconnect these imbalanced urban systems through regenerative tourism, participatory governance, and digital tools. By exploring how tourism can redistribute cultural and economic value between saturated cores and shrinking peripheries, the project aims to foster social cohesion, cultural revitalization, and circular urban economies that strengthen resilience and inclusivity across Europe.

The overall objective is to investigate how digital tools and regenerative tourism strategies can be mobilized to redistribute visitor flows, enhance social cohesion, and support revitalization in peripheral urban centers affected by depopulation, while alleviating tourism pressure in saturated areas. REGEN-CITY adopts a comparative, transnational approach, with pilot cases representing both sides of this imbalance — overtouristed cores and declining secondary cities — designed to generate scalable insights for circular and inclusive urban transitions.

The project's specific objectives are to:

1. Develop a conceptual framework on the role of digital tools in regenerative urban tourism, showing how participatory and data-driven approaches can foster circularity and inclusion in underrepresented urban areas.

2. Map and connect regional and transnational actors — including creative professionals, cultural associations, local enterprises, and civic initiatives — across contrasting urban realities, identifying transferable practices and collaborative networks that strengthen regenerative tourism.

3. Co-create, with local communities, municipalities, and European partners, a pilot digital platform conceived as a research demonstrator to test functionalities for storytelling of urban heritage, connection between visitors and local actors, and community-led engagement in regeneration initiatives.

4. Ensure scientific dissemination, transnational comparison, and capacity building by training associations, municipalities, and SMEs to manage digital tools and by implementing an entrepreneurial acceleration program for regenerative and inclusive urban tourism services.

Methodologically, REGEN-CITY combines a systematic literature review, transnational mapping of initiatives, and comparative fieldwork in European cities representing both overtouristed metropolitan centers and shrinking secondary urban areas. Participatory co-design workshops with residents, local authorities, and associations will define the prototype's functions, while impact evaluation will integrate quantitative analytics and qualitative indicators such as strengthened urban identity and stakeholder cooperation.

Conceived as an interdisciplinary and transnational initiative bridging tourism studies, urban sociology, ICT, and social innovation, REGEN-CITY will produce both academic outcomes (conceptual framework, open-access publications, methodological advances) and applied relevance (pilot digital prototype, participatory governance model, and policy recommendations). Aligned with SDGs 11, 9, and 8, the project contributes to urban justice by demonstrating how digital tools and regenerative tourism can foster inclusivity, cultural vitality, and socio-economic resilience in European cities.

EquiPED

(Justice-oriented and PED-based heating and cooling in equitable housing)

Main Pathway: 3, Topic: 3

European cities are confronted with expanding urban populations and climate change, intertwined with an increasing energy demand. The challenges of an increased energy insecurity and escalating housing costs, combined with stagnant incomes, disproportionately burden vulnerable households. Housing prices have surged by nearly 50% in the last decade, while energy price volatility exacerbates inequality. In Eastern and Southern Europe, 30-40% of households struggle with energy affordability, compared to less than 5% in Western Europe. Energy poverty is not only an economic issue but also a systemic one, linked to outdated housing and energy systems, and it has a gendered impact, with women—especially single mothers, older women, and female-headed households—bearing the brunt.

Social and subsidized housing plays a crucial role in addressing these disparities, yet its availability has been declining. In countries like Austria, social housing comprises 25% of the market, whereas nations like Portugal and Romania have less than 2%. Given the variety in housing types and ownership rates in Europe, increasing social housing stock alone will not release the burden for low-income households. Even where social housing exists, many systems—especially heating and cooling—are inefficient, aging, and often managed through top-down models, leaving residents with little control over their energy costs or comfort.

The concept of Positive Energy Districts (PEDs) has emerged as a promising model for urban energy transitions. While many European PED initiatives focus on technical aspects like smart grids and new business models, they often overlook the social dimensions, particularly the needs of residents in rental and social housing. This project aims to fill this gap by focusing on social, subsidized, and affordable housing and involving residents in decision-making.

EquiPED focuses on several key dimensions, characterised by (1) engaging residents (tenants and owners), housing associations, DHOs, local businesses, and municipal authorities to ensure that residents' voice shape energy decisions (social dimension), (2) developing heating and cooling strategies that balance social equity with technical and economic efficiency, including district heating, heat pumps, waste heat recovery and pho-tovoltaic systems (technical dimension), (3) designing financing mechanisms that reflect local priorities, using hybrid models that combine public, private, and community resources to ensure affordability and transparency (financial dimension) and (4) connecting project outcomes to national and EU strategies on energy poverty, climate-neutral housing, and inclusive energy markets, with recommendations for policy and governance reforms that promote equitable transitions (policy dimension). The project's results will be tested across several European contexts, including Portugal, Romania, Austria, Switzerland, and Poland, each of which faces different challenges in terms of energy poverty and housing governance, fostering knowledge sharing, and the development of contextually grounded solutions that can be replicated in other cities. By incorporating gender considerations throughout the project, EquiPED empowers women to participate in energy decision-making and addresses the gendered nature of energy poverty.

The project EquiPED is framed within an energy justice approach, prioritizing distributive fairness, procedural inclusion, recognitional decision-making, and transformative capability over efficiency-first. Hence, EquiPED is predicated on the principles of justice as the foundational element for creating a just and sustainable energy transition. This ensures that equity is reflected in the analytical and practical considerations of the system design, governance, and implementation. Instead of merely providing financial support to those most affected by the multifaceted crisis, EquiPED addresses the underlying causes of the crisis itself.

Geo-PED

(Urban shallow geothermal systems for Positive Energy Districts: Feasibility and Optimization)

Main Pathway: 3, Topic: 3

The current climatic and political context urges for a rapid development of local renewable energies to reduce carbon emissions, while increasing energy independency. Shallow geothermal systems can play a key role in the diversification of the energy mix as they represent a local, low-carbon emission and non-intermittent energy source for heating and cooling of buildings. In addition, these systems offer possibilities for energy storage, also known as underground thermal-energy storage, to buffer seasonal imbalance between energy demand and production or availability of energy seen in regions of contrasted seasons. This seasonal imbalance also restrains the development of renewable and/or recycled energies.

In the Geo-PED project, we evaluate the shallow-subsurface geothermal potential and heat-storage capacities and use the results to design adapted geothermal systems (e.g., closed- or open-loop) to replace fossil fuels for heating and cooling of a neighbourhood cluster, while ensuring social inclusion, affordability and replicability. Our project will promote development of geothermal systems for heating and cooling of a high-school and the Town Hall in Somcuta Mare (NW Romania) and the university hospital neighbourhood in Lille (N France). In Delft (W Netherlands) and in Podhale (S Poland), the project will accurately describe the shallow-geothermal reservoirs to complement the deep geothermal doublets already in place.

To study the subsurface geological structure, water-bearing layers, fluid pathways, fault zones, and diverse lithologies relevant to geothermal-energy extraction and storage, we will use existing and newly acquired geophysical and borehole data. We will record ambient seismic noise and active-source seismic data (P- and S-waves) using three component receivers and an electrical vibrator in the study areas from Romania and Netherlands. We will record electrical and/or magnetotelluric data in France and Romania. We will perform Distributed Temperature Sensing and Vertical Seismic Profiling measurements in a newly drilled borehole in Romania. We will process all geophysical and borehole data using state-of-the-art techniques to handle noise and improve data quality.

The existing and newly acquired geological, hydrogeological, geophysical and borehole data will allow creating digital twins of the targeted areas from Romania, France and Netherlands, for which machine learning algorithms, numerical simulation platforms, data integration and visualization software will be employed. We will analyse the performance of closed-loop and open-loop (aquifer) geothermal systems for heating and cooling and for heat storage for the study areas from Romania and France using static reservoir models.

The project consortium includes researchers from the University of Bucharest (Romania), Delft University of Technology (Netherlands), University of Paris-Saclay (France), and Institute of Geophysics-Polish Academy of Science (Poland). During the project, we will collaborate with representatives of the National Regulatory Authority for Mining, Petroleum and Geological Storage of Carbon Dioxide, the Somcuta Mare Town Hall (Romania), the Lille Town Hall (France) and the stakeholder Geothermie Delft Group (Netherlands). Other academic partners in our project are represented by researchers from the University of Lille and the local office of the French Geological Survey (France).

In the Geo-PED project, we emphasize the value of multidisciplinary approach and investigate the mechanisms of social acceptance and stakeholder engagement across cultural and economic boundaries. By applying our methods and technologies, the stakeholders could unlock local geothermal resources and take important steps toward reducing reliance on fossil fuels. This could significantly support their efforts to meet the European Union’s 2050 climate targets.

emPEDded

(Embedding Positive Energy Districts as Integrators of Multi-Energy Urban Systems)

Main Pathway: 3, Topic: 2

emPEDded – Embedding Positive Energy Districts as Integrators of Multi-Energy Urban Systems – positions Positive Energy Districts (PEDs) as embedded balancing components of wider urban and regional energy transitions. Rather than treating PEDs as isolated demonstrators, the project conceptualises PEDs as multi-energy nodes where electricity, heating, cooling and mobility systems are strategically coupled with data governance, spatial planning and community participation. In this way, PEDs become resilient, affordable and inclusive local energy ecosystems supporting cities on their path to climate neutrality.

The project develops interoperable methods, models and AI-enabled Urban Digital Twins (UDTs) that enable integrated planning, investment decisions and operational optimisation. The UDT framework combines semantic 3D city models, multi-energy simulation, flexibility and storage modelling, socio-economic and spatial data, and Agentic AI interfaces. These tools support clarifying PED boundaries, assessing dynamic PED expansion and enabling flexible participation in local energy markets, including energy sharing, flexibility trading and cooperative ownership models.

Methodological innovations are demonstrated in four complementary Urban Living Labs across Europe: Amsterdam (NL) as a cooperative heat transition expanding toward a multi-energy PED; Gothenburg (SE) as a large high-performance redevelopment testing sector coupling, thermal networks, PV, V2G and AI-assisted investment planning; Großschönau (AT) as a rural multi-energy municipality with Renewable Energy Communities, district heating optimisation and summer operation enabled by solar surplus; and Budapest (HU) as a multi-ownership metropolitan retrofit environment exploring new governance and energy-sharing models. Together, the sites test integrated technologies such as heat pumps, ATES, thermal storage, PV, EV charging and V2G, distributed storage, demand response and DH optimisation under different regulatory and infrastructural conditions.

emPEDded pursues four central goals:

-> Define and operationalise PED boundaries and value chains, integrating infrastructure, energy flows and actor constellations.

-> Enable multi-energy and sector-coupling optimisation across heat, electricity, cooling and mobility using AI-enhanced forecasting and scenario modelling.

-> Develop governance frameworks and fair business models that strengthen participation, affordability and energy sharing in cooperative, municipal and hybrid ownership structures.

-> Embed PED concepts into municipal and regional planning by linking spatial planning, heat transition strategies and investment pathways.

By combining bottom-up cooperative initiatives with top-down planning and advanced digital modelling, emPEDded establishes PEDs as embedded infrastructures of change that deliver energetic, social and climate balance. The project provides municipalities, utilities, cooperatives and developers with validated, scalable and actionable methodologies for transforming existing neighbourhoods into integrated, balanced and citizen-centred Positive Energy Districts. It directly supports the DUT PED Transition Pathway and contributes to Europe's Mission for climate-neutral and smart cities by providing evidence-based methods that can be replicated across diverse urban and regional contexts. Through close links with the DUT Knowledge Hub, Scalable Cities and national innovation networks, emPEDded ensures wide dissemination and uptake of results. All activities follow a strong inclusiveness and energy justice orientation, ensuring that PED benefits are accessible to all social groups.

AdaptHub

(A Shared European Framework for Adaptive, Eco-sustainable and Multifunctional Urban Infrastructures)

Main Pathway: 2, Topic: 1

Urban areas across Europe face intertwined environmental, social, and climate-related challenges, including heat islands, flooding, biodiversity loss, social isolation, and underutilized public spaces. AdaptHub addresses these challenges by developing a transnational framework for adaptive, eco-sustainable, and multifunctional urban infrastructures that integrate green and social components to foster resilient, inclusive, and climate-ready cities.

The project operates across five regions – Naples (Italy), Barcelona Metropolitan Area (Spain), Stockholm (Sweden), Poznań Metropolitan Area (Poland), and Trabzon Metropolitan Area (Turkey) – each representing diverse environmental conditions, socio-cultural contexts, and urban vulnerabilities. AdaptHub's central approach is the co-creation of multifunctional spaces that serve both ecological and social purposes, combining climate adaptation and mitigation strategies with community engagement, inclusion, and wellbeing.

In Italy, the project transforms abandoned and emergency-mapped sites in the Campi Flegrei into flexible public infrastructures that enhance social cohesion and ecological resilience in a context of environmental fragility and chronic urban pressures. In Spain, Urban Canopies link peripheral districts of Barcelona, providing modular green-social connectors that reduce heat islands, support biodiversity, and counter social isolation. In Sweden, AdaptHub implements adaptive flood-mitigation corridors in socially segregated neighborhoods, integrating NbS with recreational and community functions. In Poland, brownfield and post-industrial sites are repurposed into multifunctional green hubs to promote urban regeneration, heat mitigation, and social inclusion. In Turkey, dense metropolitan peripheries benefit from multi-temporal infrastructures capable of supporting both everyday activities and emergency functions, including climate- and disaster-resilient public spaces.

The project combines research and innovation activities across six work packages: urban diagnosis and mapping; co-design and participatory planning; pilot-scenarios implementation; evaluation and impact assessment; knowledge Hub engagement and dissemination; and project management. Each pilot site will employ modular, flexible, and recyclable solutions, including a Transformation Toolkit, allowing spaces to adapt to everyday life and emergency conditions. Participatory co-creation and transdisciplinary collaboration underpin all stages, ensuring the integration of urban design, social sciences, ecology, engineering, and governance expertise.

Expected impacts include enhanced biodiversity and ecosystem services, mitigation of urban heat and flood risks, strengthened social cohesion and inclusion, activation of underutilized spaces, and development of scalable, replicable models for adaptive urban infrastructure. Knowledge Hub contributions, open-access toolkits, policy recommendations, and community capacity-building activities ensure that project outcomes are transferable across Europe, advancing the goals of the Driving Urban Transitions 2025 call, the European Green Deal, and the New European Bauhaus initiative.

AdaptHub exemplifies a holistic approach to urban transformation, turning vulnerabilities into opportunities for resilient, inclusive, and multifunctional urban infrastructures that respond to the urgent challenges of climate change, social inequities, and urban degradation across Europe.

CommonFuture

(Regenerative pathways for green and social spaces in Eastern European panel housing estates.)

Main Pathway: 2, Topic: 1

CommonFuture addresses the urgent need to regenerate communist-era panel housing estates across Eastern Europe. These neighbourhoods remain home to millions yet face social fragmentation and the degradation of common and green spaces as well as of their unique identity, expressed in everyday landscapes and self-made interventions. These areas, originally designed with large open spaces, now stand at the intersection of social vulnerability and environmental opportunity.

The project reconceptualises them as living laboratories of socio-ecological resilience, with potential to contribute to climate adaptation, biodiversity enhancement, social cohesion and sustainable transformation. Its overarching aim is to bridge the transition towards regenerative, inclusive, climate-resilient neighbourhoods through a research-oriented and applied approach, combining scientific analysis with participatory practice. It focuses on five objectives: (1) understand how original planning shaped community life, resilience and everyday landscapes; (2) assess current spatial and socio-ecological conditions, including residents' perceptions and uses of common spaces; (3) co-design nature-based and social solutions through Living Labs; (4) co-develop governance and transition frameworks that support regenerative neighbourhoods transformations;(5) connect international actors through a platform and StoryMaps to exchange knowledge, scale-up solutions and impact. These objectives align with DUT CUE Pathway, especially regarding resilient green and social infrastructure.

CommonFuture applies Participatory Action Research, engaging municipalities, NGOs, private entities and residents as active co-researchers throughout the process. Living Labs (LL) in Poland, Latvia, Lithuania, and Romania will serve as spaces for collective learning, design, and evaluation, ensuring that solutions are socially accepted and feasible. In parallel, an explorative study in Ukraine will examine how regenerative design and green infrastructure can support recovery and resilience in crisis conditions.

The project combines historical, social and spatial analysis with community engagement. Methods include participatory GIS, AI-assisted perception studies, walk-along interviews, and co-design workshops, integrating environmental solutions with social and cultural understanding. This methodological triangulation links urban ecosystems with lived experiences, fostering evidence-based yet community-centred regeneration models. Expected results include new methodologies and indicators for assessing and co-designing socio-ecological systems; integrated governance and planning frameworks; transition pathways; a set of replicable nature-based and social solutions; community involvement guideline; platform linking research, policy, and practice. An emphasis on transferability ensures solutions that can be adapted across the Eastern European context.

Through the project, municipalities and housing authorities will gain tools for inclusive, biodiversity-oriented regeneration; practitioners will access replicable solutions; and residents will strengthen their sense of belonging and stewardship. By integrating social, ecological, and cultural dimensions, CommonFuture will demonstrate how communist-era panel housing neighbourhoods can evolve into regenerative, climate-resilient, and socially cohesive urban futures.

SEMPLICE

(Simplified multiple usages of parking spaces)

Main Pathway: 1, Topic: 2

Using a mixed approach leveraging Living Lab practices and disciplines such as design thinking, engineering, architecture, political science, sociology, law, education, urban studies, SEMPLICE aims at co-designing with citizens new uses of parking spaces, dynamically across the day and over the week, in a way that is exceptionally simple to implement. In a narrow setting, it copes with fundamental

determinants of urban space use towards a better balance between private and social goals, providing a core of simple solutions nested in a city-appropriate setting. Its low-cost solutions are particularly suitable for replication within and beyond the countries and cities in which they are devised and tested (Finland/Tampere, Portugal/Aveiro, Türkiye/Başakşehir, Republic of Korea/Wonju).

SEMPLICE (SimplifiEd MultiPLe usages of parkIng spaCEs) has four main goals: 1. to deliver to urban authorities (including the departments for planning and designing parking slots on streets and public areas), regulators, private companies (managing parking areas for internal and external users), and local civil society organisations (including active citizens for the environment and quality of life) simple ideas, approaches, and a tested menu of flexible parking and post-parking alternatives, with templates for communication. 2. to demonstrate social enthusiasm for the new uses, attracting non-traditional stakeholders in the process; 3. to provide a Behaviour Change Design System producing new habits for post-parking spaces leading to sustainable profit and no-profit opportunities; 4. to legitimise the transformation by addressing conflicts, regulations, and mindsets.

The methodology builds upon years of Living Lab practices and certifications achieved by the partners, in an iterative cycle of empathy, problem setting, divergence and convergence, co-design, rapid prototyping, testing, selection and improvements with real citizens of all genders and representatives of stakeholders. A three-stage cycle across A. simple ideas B. the fitting of diverse requirements from regulation and interests (leading to some complexity), and C. a re-simplification design leading to neat, sound and realistic proposals is embedded in the project.

More specifically, students and Living Lab practitioners observe in real settings the behaviours of drivers and road users, as well as business and activities near the road and on the kerbside, detecting hour by hour and over the week if parking spaces are empty and could host alternative (including ludic, artistic, health-related, sport-related, income generating) activities. Such activities are co-designed with groups of citizens and stakeholders. Hybrid solutions (that allow for a First-in First-served social norm), dynamic solutions (reserving the space for certain activities at certain moments of the day/week), and more traditional total substitution (with an absolute reduction of parking slots) are detailed and tested in private parking spaces by partners and cooperating companies (in Başakşehir, Tampere and Aveiro), to see both real and simulated reactions. As critics and nuanced supporters are expected, strategies for conflict prevention and management are outlined and tested, first by negotiation simulations and then with educational tools, towards a teaching model to be provided to public authorities and active stakeholders. Complementing these activities (aimed at socially acceptable new geometries and dynamic allocation of space), road and parking regulations are analysed and, where necessary, proposed for changes (first in a regulatory sandbox, then in city rules), with specific reference to the real conditions in the four cities, so that a commitment to implement them is realistically sought. An even broader wave of adoption is fostered by deepening and widening the actors, cities and countries contacted and facilitated by the open nature (open data, open source) of the project deliverables and tools.

CIRP

(Co-designing the Socially Fair 15-Minute Town)

Main Pathway: 1, Topic: 1

The prevailing discourse on the 15-minute city, with its emphasis on density and walkability, overlooks the distinct realities of rural and peri-urban areas, thereby risking increased social exclusion for populations dependent on private cars. The "Co-designing the Socially Fair 15-Minute Town" (CIRP) project addresses this critical gap. The project's primary objective is to co-design, test, and validate a transferable model for a socially fair 15-minute town specifically tailored for lower-density European contexts.

This transdisciplinary project is driven by a consortium structured as a complementary multi-actor net: Comparative Research Network (CRN, DE)as coordinator and methodological lead; implementation specialists Stadtlabor Graz (AT)(with its 'LandLabor' expertise as SME) and Associação Famalicão em Transição (PT) (a grassroots Transition Network CSO); the University of Gdansk (PL) as the research and evaluation lead (WP5); the municipal partner Town of Luckau (DE) (WP6 Co-Lead); and the policy expert FOSTER EUROPE (AT) for dissemination.

The project's core activity is the deployment of its innovative Multi-Actor-Prototyping (MAP) methodology. This human-centric cycle unfolds in four phases: 1. Exploration & Emotional Cartography, using creative tools like "Map Me Happy" and "Community Reporting" to co-define "15-minute access" based on the lived experiences of vulnerable groups; 2. Co-Visioning & Creative Design, where multi-actor platforms are established; 3. Prototyping in Action, where we co-develop and test low-cost, non-technical social and governance innovations (e.g., community-run transport, mobile service delivery); and 4. Evaluation & Policy Integration(led by Univ. Gdansk).

These activities will be implemented within Urban Living Labs (ULLs) in three diverse case study locations: a German 'twin-town' lab in the historic towns of Luckau and Calau (Brandenburg); a polycentric rural Austrian Energy and Climate region, WEIZplus, (representing 41 municipalities); and the peri-urban municipality of Vila Nova de Famalicão (Portugal).

The project's expected impact is threefold: scientifically, it will generate new knowledge on adapting proximity-based planning models; societally, it will enhance social inclusion and quality of life in the partner municipalities; and at a policy level, it will produce the project's main deliverable: a validated and transferable "15-Minute Town Policy Toolkit for Rural & Peri-Urban Contexts." This toolkit, modeled on the German "Standards for the Mobility Transition" (FGSM), will equip local authorities across Europe with the methods and strategies needed to lead their own socially just mobility and service transitions, ensuring the 15-minute city concept becomes a universal tool for a sustainable and equitable future.

GenAI-GIS4ECA

(An Open-Source Generative Artificial Intelligence–Geographic Information System Tool for Automated Urban Ecosystem Condition Assessment)

Main Pathway: 2, Topic: 1

Accurate assessment of ecosystem condition is essential for urban planning, resilience, and sustainability. In this regard, there is a need for highly efficient and intelligent tools to facilitate geospatial analysis, which is often data-intensive, time-consuming, and challenging for local authorities to perform. Although the integration of Artificial Intelligence (AI), particularly Large Language Models (LLMs) with Geographic Information Systems (GIS) has attracted attention, challenges and inherent knowledge gaps persist, such as decisions related to finding and selecting the most appropriate and relevant data, inferential combination of geospatial data layers, and solving complex questions that require reasoning, especially when assessing ecosystem conditions. This project aims to develop an open-source Generative AI–GIS tool for automated Ecosystem Condition Assessment (GenAI-GIS4ECA) that integrates LLMs (e.g., ChatGPT) with geospatial data analysis to automate and interpret the process of ecosystem condition assessment aligned with the System of Environmental-Economic Accounting Ecosystem Accounting (SEEA EA) guidance. Implementing in multiple cities representing different geographical, developmental, and planning contexts, such as Vilnius (Lithuania), Riga (Latvia), Cluj-Napoca (Romania), Lisbon (Portugal), Madrid (Spain), Karlstad (Sweden), and Izmir (Turkey), the project will develop an interactive tool that enables users to query, input, manage, analyse, and interpret multi-source ecosystem and socio-ecological data using natural language. It will answer questions such as what are the ecosystem types of

our city? What characteristics and variables can be defined for condition assessment? How has the size and extent of ecosystems changed over time? And ultimately, what is the ecosystem condition index for our city? The conceptual framework developed in this project supports data-driven decision-making in urban planning and sustainable ecosystem management. It consists of five interconnected Work Packages (WP). WP1 ensures overall connection, progress, quality, and risk. WP2 establishes the conceptual foundations, while WP3 develops the tool, building on the insights from WP2. Furthermore, WP4 validates the outputs and engages municipal stakeholders, and WP5 ensures dissemination, training, and policy impact. Stakeholder engagement, led by Karlstad University, Izmir Institute of Technology, and the University of Latvia, and coordinated through WP4, ensures that all outputs are co-designed and practical. The multidisciplinary and transdisciplinary structure of the project consortium ensures a strong foundation, logical coherence, innovation, scientific rigor, and practical soundness. The project impacts include the scientific community, policymaking, governance, and society. It therefore contributes to supporting policies like the EU Green Deal, the EU Nature Restoration Law, data-driven urban planning, and achieving the EU biodiversity and climate goals.

15minYOUTH

(Strengthening youth, youth institutions and youth organizations to mediate in radically contested mobility projects)

Main Pathway: 1, Topic: 3

Contested mobility projects require mediation by a neutral third party to restore communication, mutual understanding, and - ideally - trust. Traditionally, expert mediators have fulfilled this role, relying on professional tools and procedures. However, in polarized contexts, expert-led mediation is frequently rejected, leading to standstills that can spill over into other policy domains.

To address this impasse, 15minYOUTH proposes to introduce a second category of intermediaries: not external experts, but peers from within the community - specifically, youth. Although young people are often marginalized in decision-making processes, they routinely assume informal mediating roles in everyday life, particularly when parents are unable to do so due to time or resource constraints. We consider it especially relevant to involve youth in debates surrounding the transition toward the 15-minute city, as young people depend directly on proximity for their day-to-day mobility - whether walking, cycling, or using public transport.

For ethical reasons, we propose involving a third category of intermediaries: institutions and organizations that provide safe and supportive spaces for young people, such as schools and youth associations. In sum, youth act as mediators between their families and the safe spaces, whereas these 'safe' institutions and organizations mediate between youth and policymakers.

The central aim of 15minYOUTH is to explore how to strengthen this coalition of youth, youth institutions, and youth organizations as effective mediators within highly contested mobility projects. Concretely, we will develop a set of mediation tools - including artefacts, languages, and protocols - together with implementation guidelines to help policymakers adapt the set of tools to their particular cultural and historical contexts.

To achieve this, we adopt a Participatory Action Research (PAR) approach. We will conduct three mobility mediation experiments in post-industrial regions in Belgium, Poland, and France - each currently facing contestation around a mobility transition project and each relying on a distinct participatory culture to address this contestation. The research will be structured through the conceptual framework of Expansive Learning (EL), which posits that collective learning can be triggered by encouraging participants -

citizens, youth, institutions, organizations, and policymakers - to gradually 'expand' their (mobility and mediation) practices through small, iterative transformations.

Within 15minYOUTH, each of the three collectives will complete three full expansive learning cycles (one per project year), with each cycle consisting of four steps: agenda formation, behavior analysis, scenario design and project implementation. This three-cycle-four-step process will enable us to systematically explore how to simultaneously expand mobility practices and mediation practices. Mobility practices will be 'expanded' spatially - from school environment to the municipal level - and temporally - from quick prototypes to permanent arrangements. Mediation practices will be 'expanded' methodologically through the progressive introduction of the three mediation tools: first artefacts, then languages, and finally protocols.

The three experiments will yield two primary outcomes: (1) a constructive contribution to the ongoing, polarized mobility debates in the three post-industrial regions; and (2) a transferable set of mediation tools and implementation guidelines for policymakers, applicable across diverse urban contexts throughout Europe.

SPARK

(Sharing Parking and Rides Across Generations)

Main Pathway: 1, Topic: 2

Rising car ownership, spatial pressures from parking demand, and entrenched mobility habits highlight the need for alternative mobility strategies that reduce reliance on private vehicles. Car sharing has emerged as a promising tool in this regard, with evidence showing its potential to significantly lower vehicle fleets, reduce emissions and liberate urban space.

Despite rapid market growth, car sharing remains underutilised by people aged 65 and older, even though this demographic often owns underused vehicles. Emerging research and pilot initiatives suggest that Peer-to-Peer (P2P) car sharing could simultaneously reduce urban car dependency and foster intergenerational social networks, an important co-benefit of this research considering the challenges of an aging society. However, little is known about how car sharing models can be effectively tailored to the motivations, psychological needs and everyday practices of older adults. Existing studies indicate that age strongly shapes participation, with younger, digitally literate groups dominating current user bases. Addressing this imbalance requires deeper insight into age-related motivational shifts—towards autonomy maintenance, emotional meaning and generativity—and their implications for car sharing adoption.

This project investigates the potential of P2P car sharing, especially involving vehicles owned by older adults, to reduce parking demand and contribute to socially sustainable neighbourhood transformation. It responds to growing interest in experimental and participatory planning approaches that reallocate mobility space and challenge institutionalised decision-making processes. By linking mobility innovation with spatial planning and social inclusion, the project aims to reposition intergenerational P2P car sharing as a catalyst for reimagining urban space in line with the 15-minute city.

Key work packages address:

1. Integration of (P2P) car sharing in parking, mobility and urban planning policies (WP2): Looking for examples, tools, processes and effects of car sharing in the parking landscape of 15-minute cities.

2. Intergenerational and social aspects (WP3): Determining the car sharing needs across adulthood and evaluating the acceptance of various solutions, including P2P and B2C models. Examining the impact of sharing models on neighborhood social cohesion and intergenerational integration.

3. Business models (WP4): Developing practical and socially responsible business models for intergenerational P2P car sharing by analysing how sharing arrangements between older car owners and younger users can be organised, governed and monetised while generating community benefits.

4. Spatial possibilities (WP5): Research on, by and through design scenarios of public spaces and the experimental integration of small neighborhood sharing points for P2P car sharing into dynamic street settings or collective housing garages, aiming to optimize design and use of scarce urban space.

The goal is to look for different update possibilities for policies at local/regional/national/EU-level to promote the sharing of private cars (WP6) and thus strengthen the efficiency in car use to challenge current on-street parking. This may include reforming mandatory parking rules by integrating a regulated percentage of well-positioned car sharing spots in housing garages, supported by inclusive neighbourhood communication. The co-benefits of P2P car sharing can be leveraged to foster intergenerational integration and to free up public space to create sustainable, vibrant and healthy neighbourhoods.

CBT / Circular by Tradition

(Circular by Tradition: Municipal Pathways Toward Regenerative Cities for a Sustainable Future)

Main Pathway: 2, Topic: 1

The CBT project enables municipalities and stakeholders to co-create infrastructures of care, assess their impact, and integrate traditional and alternative circular economic practices rooted in post-growth principles and socio-economic justice into urban and regional planning, including social wellbeing and community cohesion indicators. It analyses circular economic functions in selected cities, examining the socio-economic and political conditions that sustain these practices and identifying policies and support systems that enable them to grow and strengthen urban resilience. Circular activities—such as composting, food rescue, waste picking, upcycling and repair—are often carried out by low-income or marginalised actors or by municipal authorities, which reduce loneliness, enhance social interaction and support everyday wellbeing. The project investigates how these practices can expand while ensuring socio-economic justice, public health, environmental wellbeing including social wellbeing and community cohesion indicators. A matrix will evaluate and support these practices across different spatial contexts. Through six case studies, the project proposes regenerative policies and inclusive development models that foster resilient, green and socially just infrastructures, reduce dependency on global supply chains and convert linear global resource use into local circular economies.

The project is grounded in six complementary case studies that collectively span the spectrum of traditional, informal and municipal circular practices: Christiania in Copenhagen, the informal recycling and repair milieu of Barcelona, the contested grassroots circularities in Gothenburg, the historical and artisanal circular practices documented in Nantes, the maintenance and reuse cultures embedded within Bucharest's public transport system and the subsistence-based textile and food circularities in Gaziantep. These cases, together with the traditional gleaning, composting and repair economies of Pontevedra and Allariz, provide a comparative empirical foundation to co-develop inclusive, regenerative and low-entropy infrastructures of care within the Circular Urban Economies pathway.

The main goal is to develop knowledge and policy discourse around subsistence circularities and propose municipal interventions that position grassroots circular practices as core elements of resilient, green and socially just urban infrastructures. The project promotes community-centred and socially just strategies that ensure circularity contributes to cohesive, inclusive and climate-adaptive neighbourhoods while improving socio-economic wellbeing and environmental indicators.

By analysing diverse cases and collaborating with municipal authorities, industrial partners and research institutions, the project identifies governance patterns enabling community-driven circularity to flourish. It demonstrates how participatory approaches improve circular infrastructures and public–commons governance formats, how governance and financing models can institutionalise inclusive and resilient practices. It shows how co-creation supports multifunctional, socially embedded public spaces. The project aligns with the DUT Circular Urban Economies pathway, translating community-based experimentation into policy tools, measurable indicators and replicable models for resilient, inclusive and low-entropy urban transitions.

By strengthening academic and policy discourse on traditional circular economies already present within urban communities, the project advances the CUE pathway and broadens circular economy thinking beyond technological and market-driven models. Through co-creation with municipalities and informal actors, it develops evidence-based frameworks, entropy-based indicators and post-growth governance models, transforming overlooked everyday economies into drivers of resilient, compassionate, inclusive and low-entropy urban transitions.

CouPED

(Innovative Business Models for Urban Sector Coupling in Positive Energy Districts)

Main Pathway: 3, Topic: 3

Europe's heating and cooling sector accounts for nearly half of final energy use but remains dominated by fossil fuels and poorly prepared to integrate emerging low-carbon heat sources. Cities are increasingly hosting new actors— Power-to-X (PtX) and hydrogen plants, Carbon Capture Utilization and Storage (CCUS) facilities, data centres, industrial waste-heat providers, biowaste-to-energy systems—but lack viable business models, governance structures, and contractual frameworks to incorporate these resources into District-Heating and Cooling (DHC) networks. As a result, valuable waste heat is lost, heating costs remain high, sector coupling progresses slowly, and municipalities struggle to design financially viable pathways toward Positive Energy Districts (PEDs). Without clear investment frameworks and replicable integration models, the potential of these technologies to support affordable, resilient, and low-carbon urban heating remains unrealised.

CouPED addresses this gap by developing and validating scalable business-model archetypes for integrating emerging sector-coupling actors into PED-aligned DHC systems. The project combines techno-economic assessment, financial and risk analysis, governance and policy evaluation, and stakeholder co-creation to determine which business models work under which conditions, and how they can be transferred across Europe. Rather than promoting a single technological solution, CouPED focuses on the business, contractual, and governance innovations required to make sector-coupled heating and cooling systems investible, affordable, and socially inclusive.

The project is validated through four complementary real-world case studies—Sønderborg (DK), Heide (DE), Vienna (AT), and Vandoeuvre-lès-Nancy (FR)—each representing a different configuration of industrial heat, DHC infrastructure, hydrogen/PtX systems, and municipal energy strategies. Sønderborg explores integration of brick-manufacturing waste heat, renewable hydrogen, and CCUS; Heide examines renewable-hydrogen production and industrial waste heat linked to a regional DHC network; Vienna assesses data-centre waste heat for Direct Air Capture (DAC) and low-temperature DHC; and Nancy evaluates biowaste-to-energy and distributed PV as additional inputs to municipal DHC. These diverse conditions enable robust cross-case comparison and support development of widely transferable business models. CouPED delivers:

☐ Validated business-model archetypes enabling integration of new energy actors into DHC systems within PEDs.

☐ Investment-readiness and bankability guidelines supporting municipal decision-making and risk-sharing.

☐ A streamlined techno-economic assessment framework for evaluating sector-coupling opportunities.

☐ Policy and governance recommendations to support adoption of sector-coupled heating solutions.

☐ Principles for social inclusion and equitable cost distribution in low-carbon heating transitions.

By bridging technical potential with business, financial, and governance innovation, CouPED provides practical and replicable pathways for cities to implement sector-coupled heating and cooling systems. The project strengthens local energy resilience, reduces greenhouse-gas emissions, enhances circular resource use, and accelerates Europe's transition toward climate-neutral, socially inclusive, and resource-efficient Positive Energy Districts.

EQUITOUR

(Measuring and maximising tourism benefit distribution, mapping revenue flows and facilitating inclusive governance in urban tourism destinations)

Main Pathway: 2, Topic: 2

Tourism is one of the most powerful forces shaping Europe's landscapes - both urban and rural - yet its benefits are not shared evenly. Accordingly, this project aims to answer the following question: How can tourism benefits be more equitably distributed across local communities, ensuring shared economic and social gains? To explore this overarching question in more depth, the project focuses on two sub-questions: How can we more effectively measure and maximise the distribution of tourism benefits among local communities and urban societies? And what management and policy measures can be designed and deployed to generate shared value for all stakeholders while creating better tourism experiences?

These are not abstract concerns; they are urgent, real-world challenges faced by many of Europe's tourism hotspots, where the balance between economic gain, cultural integrity, and community wellbeing is increasingly under strain. By addressing these questions, this project seeks to reimagine tourism as a force for equity, exploring how its economic, environmental, spatial, and cultural benefits can be shared more equitably across urban communities and, potentially, beyond.

To achieve this mission, we expect to produce the first Urban Tourism Equity Index: a globally recognized monitoring framework that enables cities to assess the distribution of tourism benefits and benchmark their performance against other urban areas. The index will be developed within a European context, with scope for application in other regions. Furthermore, we aim to create a Map of Monetary Flows and revenue distribution in urban tourism landscapes: the first ever comprehensive overview of the taxation models, public revenue distribution and re-investment in the urban space of Europe's leading urban tourism destinations. Lastly, we will design a Policy and Practice Toolkit to enable more balanced urban tourism development: a comprehensive overview of policy knowledge needed to identify imbalances and design strategies that optimize the balanced distribution of tourism's benefits (economic, environment, spatial and cultural) for all stakeholders. These interventions and mechanisms are currently scarce and often implemented in isolation, without the necessary evaluation of their impact. We strongly believe that

a resilient urban future for all requires a systemic approach that equitably addresses the needs of all user groups.

TRANSFER15

(TRANSFER15 - Using Novel Human-Centered Data and Mixed-Methods Approaches to Assess and Enhance the Worthwhileness of Multimodal Transfers)

Main Pathway: 1, Topic: 1

From "Meanwhile" to "Worthwhile": Turning stressful transfer time into meaningful moments in multimodal mobility is the guiding idea of the project TRANSFER15, which explores how transfers between multiple legs of a trip can be reimagined by transforming transfer activities and waiting times into meaningful, less stressful, and more socially engaging moments. By doing so, the project aims to improve multimodal trip convenience, increase public transit usage, and reduce car dependency in line with the broader goal of a 15-minute city. This responds to the challenge of limited ridership in public and active transportation modes due to the inconvenience of multimodal trips, which can be particularly demanding for groups such as parents with children and the elderly, who require better accessibility.

TRANSFER15 aims to deepen the understanding of travellers' physical and emotional experiences during mode transfers and to reimagine transfer points as spaces that enhance travel utility through social interaction, accessible design, and multipurpose opportunities. The project identifies common barriers and opportunities across three European countries with case studies in five cities – Haßfurt (Germany), Konak (Türkiye), and Graz, Klagenfurt and Vienna (Austria) through surveys and stakeholder workshops while piloting context-specific data collection methods in multiple use cases. Computer vision techniques will be used to assess accessibility and perceived worthwhileness of activities at transfer points both via automated assessments and human-in-the-loop experiments. Mobile and wearable sensors will capture travellers' physiological and behavioural responses to transfers and stated preference surveys will gather detailed insights into traveller attitudes about transfers and multimodal trips.

This novel research approach will yield a comprehensive understanding of pain points and user needs for transfers across various urban contexts. Building on these empirical insights, large-scale mobility simulations will evaluate requirements and opportunities for improved infrastructure and amenities such as bike racks, shops, and services, which may heighten convenience and preference of multimodal trips. Additionally, we will investigate the potential impact of demand-responsive transport and bike-sharing solutions on reducing transfer frequency and waiting times.

The project will engage closely with stakeholders through co-creation workshops and one-on-one interviews and translate its findings into both accessible policy briefs and an LLM-based Q&A forum for urban planners and decision-makers. These briefs will highlight the mobility needs of key demographic groups, outline the most significant barriers to seamless multimodal mobility and demonstrate the economic and societal value of offering services and amenities at transfer stations. For mobility users, TRANSFER15 will provide a comprehensive synthesis of how transfer time can be meaningfully used, drawing on real-world examples from case studies as well as simulation-based analyses of current and potential time usage. Through this targeted reporting, the project will offer clear, evidence-based insights into the possibilities for making transfer moments more engaging, productive, and worthwhile.

TRANSFER15 contributes to the creation of safer and more vibrant neighbourhoods, reduce car dependency and emissions through increased public transit use, and foster new economic opportunities at transfer hubs with local businesses. By combining rigorous scientific research, innovative technology, and participatory policy design, the project advances multimodal mobility in a 15-minute city by enhancing its travel value with worthwhile experiences.

BIODIVER-CITY

(Building Inclusive Opportunities for DIVERsity and CITizen Well-being in urban ecosYstems)

Main Pathway: 2, Topic: 1

Urban green spaces are increasingly recognised as the "win–win solutions", able to simultaneously mitigate climate and air quality issues, enhance biodiversity, and provide co-benefits for society. Vegetation reduces ambient concentrations of pollutants (PM, O_3, NO_2, CO_2), mitigates heat stress, and provides essential habitats for wildlife. Beyond ecological functions, urban green areas support human well-being by restoring attention, reducing stress, facilitating social interaction and physical activity, and reconnecting citizens with nature. The "3-30-300" rule (minimum 3 trees visible from every home, min. 30% canopy cover in each neighbourhood, and maximum 300 meters to the nearest green space) is an emerging benchmark for healthy, green, and equitable cities. However, its link with biodiversity and measurable health outcomes remains poorly understood.

BIODIVER-CITY addresses this knowledge gap by assessing the role of urban biodiversity in improving environmental quality and citizens' well-being through One Health perspective. Specifically, the project will: (i) Measure the effects of urbanization on biodiversity in 9 European pilot cities (Lecce, Brasov, Villinus, Nice, Gaziosmanpasa in Istanbul, Poznan, Valencia, Umeå and Zagreb); (ii) Assess the link between biodiversity in urban green spaces and human well-being; (iii) Develop a digital twin decision-support platform integrating monitoring data, citizen well-being indicators, ecosystem service measures, and 3-30-300 compliance metrics; (iv) Translate findings into best practices for urban greening and ecological corridor projects to foster biodiversity and health-friendly cities.

The project combines ecological monitoring with social science approaches. Biodiversity will be assessed through repeated surveys of sentinel species (birds, bats, small mammals, pollinators, soil biota, and vegetation) and linked with long-term air quality and climatic data. A bicycle-based environmental monitoring system (BIKESENSE: bike-mounted environmental sensing equipment) will complement fixed sensors, allowing flexible, low-emission, high-resolution data collection on air pollutants, microclimate, and environmental parameters. In parallel, a citizen well-being assessment will be made using standardized questionnaires in areas with varying levels of biodiversity enhancement.

Ecosystem service quantification will be achieved based on the FlorTree modelling framework (a tree biophysical model with life-cycle assessment) that focuses on carbon balance, air pollution removal, and cooling effect by considering the optimal tree species selection for urban greening. According to the in-situ monitoring data and ecosystem service measures, the project will develop a digital twin platform of urban ecosystems. This data-driven virtual model will allow cities to simulate different greening strategies, track progress toward the 3-30-300 goal, design and test ecological corridors, and predict how biodiversity efforts will affect environmental health and human well-being. BIODIVER-CITY will provide municipalities with a Digital Twin designed to help urban planners assess the benefits of various planning scenarios for resilient, and climate-neutral urban green spaces.

To overcome these urban challenges, optimizing urban greenness has become a key policy and research priority. The EU Biodiversity Strategy for 2030 (COM(2020)380) calls for protecting and restoring nature, and urges municipalities with more than 20,000 inhabitants to develop ambitious Urban Greening Plans. In parallel, the Nature Restoration Law (Regulation (EU) 2024/1991) mandates the restoration of degraded ecosystems, emphasizing the recovery of urban ecosystems (Article 8) to enhance biodiversity, climate resilience, and human well-being. Within this policy context, the BIODIVER-CITY project aims to generate scientific evidence and practical tools to support these European objectives.

REPARK

(Parklets Otherwise: Reimagining Parking for People-Centred and Sustainable Streets)

Main Pathway: 1, Topic: 2

The traditional urban street, with its unbalanced allocation of space prioritising cars over pedestrians and the negative consequences, has prompted cities to re-allocate their streets to promote active mobility, create more vibrant and greener public spaces and improve microclimatic conditions. In response, many municipalities introduced temporary interventions, including cycle lanes, expanded pedestrian areas, and parklets, as strategies to reclaim streets for people. Besides, a decarbonized future is not possible without reducing vehicle dominance over pedestrians and fundamentally rethinking how we design and allocate space in our streets.

Parklets, which gained prominence as 'streateries' especially during the COVID-19 pandemic emerged as a guerrilla intervention that transformed on-street parking into 'pocket parks,' and evolved into a global movement. As a form of tactical urbanism, parklets enhance street vitality, support local economic activity, redefine streets as public spaces, foster social interaction, and enable longer-duration activities such as play or community gatherings. Despite their benefits, several challenges persist. First, parklets reduce available parking, creating conflicts among residents, businesses, and municipal authorities. Moreover, most of them primarily serve paying customers, potentially facilitating the privatization of public space, diverging from the original intent of reclaiming streets for public use. Additionally, many parklets are simple deck structures that lack ecological sensitivity and miss opportunities to enhance biodiversity and regulate microclimate conditions at the street scale.

To address these challenges, the proposed project seeks to investigate how diverse parklet typologies can be imagined, designed, and integrated into broader urban parking, mobility, and public space strategies. The objectives of the project include (1) shifting the understanding of parklets from interim interventions to strategic tools in parking management, (2) identifying and illustrating alternative typologies of parklets, (3) facilitating mutual learning and knowledge exchange between different urban contexts, (4) co-designing new forms of parklets and (5) ensuring the further uptake of the project's insights, transferability, and long-term impact.

Primarily, the research will focus on developing policy guidelines for integrating parklets into parking and mobility policies. The parking and parklet guidelines from the Netherlands, Slovakia and Türkiye, representing varied cases in terms of people-centred street design and parklet practices, will be comparatively analyzed alongside the literature to establish a coherent policy framework for parking management that enables the implementation of parklets. The project will continue with identifying alternative forms of parklets and compiling a visual glossary of typologies. Simultaneously, in-depth case studies will be conducted in each partner city (Delft, Bratislava and Ankara) to extract lessons, success factors, and contextual insights. These findings will be synthesised to refine both the policy framework and the glossary. Later, workshops will be organized to co-design new parklet forms, culminating in pilot implementations. The last phase will focus on facilitating knowledge transfer and capacity building for urban local authorities.

Through this approach, the project will advance knowledge on people-centred street design and provide practical guidance for reimagining streets as multifunctional, sustainable, and socially engaging public spaces. The project will follow the DNSH principle by ensuring parklet designs are sustainable, enhance biodiversity and climate resilience, and promote inclusive streetscapes.

PathAble

(PathAble: Co-creating Neuro-Inclusive door to door mobility in the 15 min city)

Main Pathway: 1, Topic: 1

Urban mobility systems still rely on normative assumptions about how people move and interact with public space. For neurodivergent individuals—particularly autistic people, with special attention to women and caregivers—these environments often become cognitively and emotionally inaccessible (Fletcher et al., 2019). Even short trips can trigger stressors such as glare, unpredictable noise, visual clutter, and crowded transfer points, deepening isolation and limiting participation. These challenges are compounded by the emotional labour of care work, which involves trip chaining, off-peak travel, and navigating with dependents. While the 15-minute city model promises proximity, it often fails to deliver legibility, calm, and safety for those whose needs fall outside neurotypical planning paradigms.

Scientific evidence (Monteiro Ribeiro, 2024; Voulgarakis, 2025; Grove & Clapham, 2024) shows that urban environments can be profoundly dysregulating for autistic individuals when not adapted to their sensory and cognitive profiles. Predictability, clarity, and reduced sensory overload are essential for navigation. Autistic women face additional systemic barriers: underdiagnosis due to gender-biased criteria and social masking, combined with caregiving responsibilities that amplify mobility complexity. PathAble addresses these intersecting vulnerabilities by advancing a feminist neuro-inclusive mobility framework that positions lived experience as a driver of innovation in door-to-door mobility design.

The project will generate new interdisciplinary knowledge on how cognitive, sensory, and emotional stressors shape mobility experiences. Rather than expecting individuals to adapt, PathAble provides tools to redesign environments for diverse needs, adopting a neurodiversity and biosocial perspective. This evidence base will inform planning frameworks that integrate feminist and climate-responsive principles, grounded in behavioural insights and participatory research. By embedding sensory accessibility, gender equity, and co-creation, PathAble moves beyond neurotypical and gender-blind paradigms to create mobility systems that are inclusive, predictable, and emotionally supportive. Designing for sensory comfort benefits everyone—creating calmer, safer, and more legible urban environments.

A key conceptual innovation is the sensory–climate–nature-based solutions (NBS) triangle, linking sensory comfort and climate resilience. Extreme weather amplifies sensory stressors—heat, glare, noise—creating barriers for neurodivergent individuals and caregivers. NBS such as shade, greening, and water elements offer dual benefits: mitigating climate impacts and reducing sensory overload, supporting emotional stability and spatial legibility.

PathAble will co-design inclusive mobility and public space solutions in three pilot cities—Barcelona, Brussels, and Sassari—each with distinct urban and climatic contexts. Through participatory processes involving autistic individuals, caregivers, planners, and transport providers, the project will translate findings into actionable tools, policy recommendations, and capacity-building resources.

PARKLAB

(Participatory Parking Transformation Budgets in Multi-City Living Labs)

Main Pathway: 1, Topic: 2

European cities are increasingly challenged by car-dominated public space, underused off-street parking opportunities, and the growing size of private vehicles—all of which exacerbate spatial, social, and environmental pressures in urban areas. At the same time, the urgent need for climate-adaptive measures to maintain liveability and resilience calls for a fundamental transformation of how urban public space is allocated and used. However, municipalities often face limited budgets and public resistance to

car-reductive measures, creating a pressing need for innovative, inclusive, and financially viable approaches to re-allocate street space.

This research proposal aims to develop and test participatory parking transformation budgets (PPTB) as a new financial policy instrument to expand the sources of income for parking revenue collection. By localizing the discussion, the revenue-collection-revenue-spending-loop as well as enabling citizens in decision-taking processes, the project seeks to strengthen public acceptance and co-responsibility for urban transformation processes. Participation is a core mechanism in the proposal, enabling co-designing and co-deciding on street space reallocation, integrating local knowledge and addressing community concerns directly.

The instrument will be explored and refined through four Urban Living Labs (see figure 1 process diagram) in Austria, the Netherlands, Slovakia, and Türkiye —each embedded in their distinct governance structures, urban scales, and policy frameworks. These labs will serve as real-life testing grounds to examine different configurations of participatory parking transformation budgets, assessing their operational feasibility, social acceptance, and policy integration potential. Comparative analysis across the labs will provide insights into the transferability and scalability of the instrument to varying urban contexts across Europe.

The project's innovative contribution lies in linking participatory governance with long-term, self-sustaining financing mechanisms for public space transformation, exploring the involvement of third-party user financiers and fees on underused private car parking lots inspired by vacancy taxes for residential properties. This constitutes a new financing and management instrument to municipalities. It also pioneers a participatory re-negotiation of urban public space allocation by combining financial, social, and environmental perspectives within a participatory framework. Ultimately, the project aims to empower cities to move beyond car dominance and toward equitable, climate-adaptive, and community-driven urban public spaces.

WeGrowCircle

(Co-creating regenerative green-social infrastructures for urban circular economies)

Main Pathway: 2, Topic: 1

European cities face interconnected challenges such as climate change, biodiversity loss, social fragmentation, and unsustainable resource use. WeGrowCircle responds by advancing the concept of regenerative green-social infrastructures (GSIs) that integrate nature, humans, built environment, and technology with transformative and transition-oriented economic approaches, such as doughnut economics, regenerative economics, and commons-based frameworks, to overcome the short-sighted and siloed practices that often characterize green and social infrastructure development, respectively. This nexus between transformative economic models and integrated green–social infrastructure represents an emerging frontier that has not sufficiently been explored, neither in research nor in practical application; a gap WeGrowCircle seeks to address.

The project uses GSIs to close local resource loops-urban farming, composting, water reuse, and sharing, turning Living Labs into nodes of circular urban economies. By embedding GSIs in community spaces, making them hubs for participation, and aligning innovations with long-term municipal planning, governance, and finance, it strengthens ecological and social resilience.

Four Living Labs serve as real-life testbeds where municipalities, universities, civil society, and SMEs co-design, prototype, and evaluate GSIs. Insights from these labs feed into a shared methodological foundation, called the Resilient Urban Commons Framework (RUCF), providing concepts, practices, methods and tools for comparison, cross-city synthesis, and identification of transferable models for

European replication. Throughout the project, research partners integrate scientific methods, community knowledge, and policy processes through a transdisciplinary co-production approach.

Crucially, WeGrowCircle does not prescribe an economic model upfront. Instead, it introduces and tests concepts, tools, and methods from diverse transformative paradigms within each Living Lab to explore which approaches best support the development and governance of GSIs and fit the socio-economic and cultural context of each city. This adaptive strategy is meant to reduce resistance and foster locally grounded systemic change.

Objectives of the project:

- Co-design and co-manage GSIs in four European cities;

- Develop a framework for planning, designing, and managing GSIs as shared urban commons (RUCF);

- Demonstrate scalable transition pathways connecting neighborhood initiatives to city-wide circular economy and climate strategies;

- Build transdisciplinary partnerships among municipalities, academia, civil society, and local enterprises to replicate successful models.

Demonstration Sites:

- Gothenburg (Sweden): Polycentric Lab connecting community farms and educational gardens, testing governance models for public land and circular food systems.

- Bucharest (Romania): UniverCity Lab revitalising under-used campus and neighborhood spaces through low-tech, green, and circular innovations co-led by academia and NGOs.

- Brussels (Belgium): Urban farm and community hub demonstrating inclusive agriculture, composting, and education within a dense city context.

- Aalborg (Denmark): Living Lab in allotment gardens exploring socio-ecological practices, ownership models, and regenerative local autonomy.

Cross-city learning will be guided by the RUCF, ensuring mutual exchange and long-term capacity building.

Expected Outcomes:

- Operational Living Labs demonstrating ecological, social, and circular co-benefits;

- A transdisciplinary toolbox and RUCF to guide planning and governance of GSIs;

- Policy recommendations and financing models for embedding GSIs into municipal strategies;

- An open-access data repository and replication toolkit contributing to the DUT Knowledge Hub and supporting broader European uptake.

Housing PED

(Housing and Positive Energy Districts for a just transition)

Main Pathway: 3, Topic: 1

Positive Energy Districts (PEDs) have long been imagined as technically-oriented solutions to minimize energy consumption and improve energy efficiency at the district scale. However, so far, the mobilization of the PED concept as a catalyst for a just transition has remained a continuous challenge. By adopting a community-led approach and the building of energy collectives, Housing PED aims to offer an impactful,

structural, and just strategy that concretely improves the housing situation of local communities and makes everyday renewable energy consumption and production practices more sustainable while avoiding gentrification and displacement. By energy collectives, we refer to community-driven alliances that jointly manage energy production and sharing, reinforcing collective ownership and equitable access to energy benefits.

Housing PED aims to develop just and feasible implementation strategies for Positive Energy Districts by placing providers of community-led and anti-speculative housing at its centre. Housing PED concretely develops strategies to unlock the significant potential of these community-led urban actors to realise a deep and sustainable transformation of cities. In line with the more recent holistic and inclusive definition of PEDs, Housing PED pursues socio-spatial, policy, and economic objectives that go beyond energy performance, advancing both energy and housing justice. Through action research, it will test and analyse community-led and anti-speculative PEDs in four low-income urban neighbourhoods in Belgium, Italy, Portugal, and Türkiye. The case studies vary in scale, context, and type of collaboration, but are all guided by an interest in community-driven energy transitions through the development of energy collectives.

UST Pathways

(Urban Sustainable Tourism Pathways)

Main Pathway: 2, Topic: 2

Many European cities face the paradox of tourism success: while tourism drives economic and cultural development, it simultaneously contributes to rising housing and food costs, environmental degradation, gentrification, waste generation, and infrastructure strain, creating urgent governance challenges. Regenerative urbanism and regenerative tourism offer promising pathways towards net-positive urban futures, by embedding circular economy principles. However, existing research has yet to address how different visitor segments contribute to these urban challenges and how their behaviour shapes the adoption of circular and sustainable tourism practices. To reach the full potential of regenerative and circular practices, a holistic understanding of how diverse visitor behaviour translates into impacts at the destination level is required.

Urban Sustainable Tourism Pathways (UST Pathways) addresses these gaps, uncovering how different visitor characteristics influence behaviour and decision-making before and during visits, and how these choices both generate varying negative impacts on host communities (e.g. rising costs of housing and food, impacts on local infrastructure and mobility systems; waste production; impacts on culture, heritage, environment) and contribute to specific benefits from tourism. It does so by focusing on five core objectives: (1) Identify and map relations between different tourism segments, behaviour (before and during visits), and impacts on destinations; (2) Assess how visitors across different segments engage with existing circular and sustainable practices; (3) Contribute to the development of a holistic impact assessment framework of tourism at destinations; (4) Integrate knowledge into destination management practice.

The project builds on six case studies in Portugal, the Netherlands, Slovakia, Slovenia, Spain and Switzerland, selected to capture a variety of urban challenges, city sizes, and stages of tourism development, including both destinations experiencing high tourism pressure, those still in the process of developing their tourism sectors, and those seeking to develop tourism in a sustainable way. Each case presents a unique situation, enabling detailed analysis of the specific urban challenge in relation to a specific urban context. Bringing these cases together allows the project to contribute to a holistic impact assessment framework that moves beyond single-dimension evaluations and captures the interconnected

effects of tourism on housing markets, local economies, social cohesion, cultural identity, environmental sustainability, and the adoption of circular economy practices.

The project is supported by a unique consortium of researchers from urban planning, tourism management, behavioural science and information technologies, alongside business and policy experts. UST-Pathways applies a mixed-methods approach, combining qualitative assessments, quantitative and participatory approaches, to holistically examine how tourism affects the quality of life and the environment, and how regenerative urbanism and regenerative tourism can be accelerated through targeted, evidence-based strategies.

UST Pathways aims to examine how different visitor segments contribute to urban tourism challenges, how these groups adopt—or fail to adopt—circular and sustainable practices that can help destinations retain and enhance the benefits of tourism, and how these insights can be integrated within a systems-thinking framework to holistically assess how visitor behaviours and practices translate into impacts at destinations.

By studying cases from the Netherlands, Portugal, Slovakia, Slovenia, Spain and Switzerland, the project connects urban planning, tourism management, behavioural sciences and information technologies to foster urban places, communities and neighbourhoods that operate within circular resource systems and enhance both human and ecological wellbeing.

BRIDGE-15

(Bridging Stakeholder Conflicts in 15-Minute City Implementation Through Virtual Co-Creation and Proximity-Based Active and Shared Mobility)

Main Pathway: 1, Topic: 1

European cities increasingly pursue 15-minute city strategies to enhance urban livability and reduce carbon emissions. However, implementation is often hindered by spatial constraints, behavioural inertia to modal shift, and intense policy contestation. Measures such as parking reallocation, shared mobility deployment, and active travel promotion often generate strong public opposition, creating governance challenges that impede sustainable urban transitions. Innovative and participatory strategies are required that combine engagement, behavioural insight, and evidence-based planning to support fair and acceptable transitions.

BRIDGE-15 responds to DUT Call 2025 by investigating how immersive communication, proximity-based shared mobility and co-creative governance can unlock fair and broadly accepted mobility transitions as well as promoting multimodal mobility. The project brings together three complementary pilots across Belgium, Germany, and the Netherlands:

The Flemish pilot (IGEMO, Donkey Republic) explores how public–private collaboration can enable seamless and accessible shared e-bike mobility in peri-urban areas. It tests how proximity, visibility, and communication influence user adoption, while developing AI-based fleet management and policy monitoring tools to improve efficiency and sustainability. The pilot generates practical insights and replicable models to help municipalities embed shared mobility into everyday transport systems. The German pilot (SMRG) develops and tests Virtual Reality (VR)-based engagement tools using their VR laboratory that let stakeholders experience various multimodal scenarios to evaluate approaches of a worthwhile travel experience. It compares communication and interactive visualisation strategies for their effects on trust, perceived fairness, policy support to promote multimodal mobility. The Dutch pilot (HZ UAS) explores how co-created behavioural engagement and institutional policy transformation can

stimulate active and public transport mobility and reduce car dependency in a campus district context. It tests parking management reforms and supportive imagination tools such as VR.

The research employs a rigorous comparative mixed-methods design integrating surveys, behavioural tracking, focus groups, spatial analysis, and experimental studies. This transnational approach enables systematic comparison across diverse governance contexts, mobility cultures, and stakeholder constellations. Hence, the project advances understanding of how spatial proximity, immersive engagement, and participatory processes interact to shape contested mobility transitions.

Expected outcomes include empirical evidence on proximity thresholds for shared mobility effectiveness, validated VR-based communication frameworks for controversial policies, transferable methodologies for participatory mobility planning, and policy recommendations for municipalities navigating radical contestation and promote multimodal and active mobility. The project contributes original theoretical knowledge on technology-mediated stakeholder engagement while generating practical tools directly applicable to European cities.

Therefore, BRIDGE-15 addresses critical knowledge gaps at the intersection of mobility transitions, participatory planning, and urban contestation. The consortium combines municipal implementation capacity (IGEMO as urban government authority), technological innovation expertise (SMRG, Donkey Republic), and applied research competencies (HZ UAS), complemented by cooperation partners including the City of Göttingen, Northeim, Municipality of Vlissingen and Sint-Katelijne-Waver. This multi-sectoral partnership ensures scientific rigor while maintaining practical policy relevance. Results will be disseminated through DUT Knowledge Hub activities, publications, policy briefs, and toolkits, maximizing European-wide impact and supporting the transition toward livable, inclusive, and low-carbon cities.

DICE

(DICE – Driving a just, Inclusive Collaborative Energy transition by implementing PED strategies in social and subsidised housing)

Main Pathway: 3, Topic: 1

This project proposal is about integrating PED components in social and subsidised hous-ing. We conduct applied research and implement innovative and viable solutions for the decarbonisation of urban areas, while ensuring a just energy transition. The project is based on three case studies in Austria, Belgium, and Slovakia, in which we support and investigate the implementation of PED components through innovative technological solu-tions, engagement methods and business models in social and subsidised housing. The case studies allow insight into a spectre of different solutions, such as cooperative busi-ness models, the potential of energy communities within the social housing sector, tech-nical solutions for energy efficient renovation, and local community and citizen engage-ment in the frame of a city quarter. Knowledge exchange and uptake of "what works" among case studies ensure dissemination and upscaling of innovative solutions. The transdisciplinary consortium involves directly social housing providers, including cities of Vienna and municipality of Forest (Brussels), Fairground cooperative Brussels, Bratislava self-governing region, and Nova Cvernovka NGO Bratislava. Academic partners provide the methodology and research capacities on technology, impact and participatory meth-ods, as well as business model calculation and PED measurement. Through citizen-driven approaches, the project promotes agency of citizens and actively contributes to the just transition towards Positive Energy Districts, strengthening both social inclusion and sus-tainable energy transition.

Objectives:

O1 Strategic Framework Development: Develop socially acceptable, technologically feasible, and financially realistic frameworks for integrating Positive Energy District (PED) components into social and

subsidised housing, and ensuring continuity of a just energy transition despite constrained public budgets.

O2 Case Study Implementation & Impact Assessment: Deploy, test, and evaluate PED approaches in the Austrian, Belgian, and Slovak case studies, generating robust evidence through systematic assessment of technical performance, social impacts, and governance conditions.

O3 Co-Creation of Solutions & Business Models: Apply advanced participatory en-gagement methods to co-create innovative technical solutions and novel business models—such as cooperative and energy-community approaches—tailored to the specific needs and constraints of social and subsidised housing.

O4 Synergies, Learning, and Upscaling: Ensure cross-case learning, knowledge ex-change, and synergy building, and translate results into transferable guidelines and upscaling pathways for other European cities and housing providers.

PEDPower

(Scalable PED Solutions for Cities Energy transition)

Main Pathway: 3, Topic: 3

Actions for climate mitigation and adaptation are urgently needed. Sustainable energy transition in cities is central for decarbonisation. The PEDPower project builds on the partners' previous Positive Energy District (PED) research and aims to answer research questions:

1. How PED elements could accelerate inclusive urban heating and cooling transition, and how to enable their replication across diverse urban contexts?

2. How do PEDs impact socio-economic conditions locally, and how to effectively integrate them to energy markets?

PEDPower envisions Positive Energy Districts as fair and inclusive ecosystems that integrate local energy markets with heating and cooling systems to accelerate urban decarbonisation and ensure access to affordable sustainable energy. By coupling electricity and thermal systems through multicommodity optimisation, leveraging renewable and low carbon technologies, and enabling IoT-driven demand response, the concept addresses the technical and non-technical challenges related to scaling of PEDs. To seek solutions for socio-economic challenges, the project introduces practical strategies and guidelines for enabling fair large-scale heating transitions and targets energy poverty by focusing on affordability in developing PED tools and solutions. Scalable and replicable across diverse urban contexts, this approach combines novel technologies and human centric approach to deliver measurable impacts in resilience, affordability, and greenhouse gas emission reduction, while fostering community engagement and sustainable energy transition.

PEDPower develops and validates PED approaches and solutions designed to accelerate cities' energy transition in its partners' countries: Finland, Germany, Czechia and Portugal. It positions PEDs as dynamic systems where renewable and low-carbon technologies, waste heat recovery, and smart IoT-enabled controls converge to deliver energy flexibility, affordability, and resilience. Firstly, the project addresses decarbonising urban heating and cooling through adaptable strategies for integrating PED elements in diverse city contexts, ensuring fair and inclusive access to sustainable and affordable heating and cooling. Secondly, it embeds PEDs into market structures by enabling local energy trading platforms, demand-response mechanisms, and multi-commodity optimisation (electricity, heating, cooling), and energy communities, to integrate the local flexibility trading to national market structures.

PEDPower combines technical innovations with cities' heating and cooling strategies, and identifies enablers to overcome barriers such as legacy infrastructure and fragmented governance. Outcomes include developing and testing technical solutions in real-life demonstrations. The city partners, with the support of researchers, will mainly focus on the replicable frameworks, and practical strategies and guidelines to scaling fair and economically viable PED solutions in their local contexts, across Europe.

PEDPower's outcomes will provide practical knowledge for local authorities to support the evidence-based design and decision-making: adaptable frameworks for PED elements supporting heating and cooling strategies, pre-feasibility studies, and socio-economic indicators for the municipal energy and heat planning; and models for utilising public-private-partnerships and policy design tool. Private sector partners will gain knowledge on how to develop their PED-relevant technologies and validate their applicability in different urban contexts. The project will broaden the companies' capacity to integrate their solutions to improve heating and cooling and local energy markets. Researchers will develop among others novel digital solutions for PEDs and for buildings' and districts' energy data management and optimisation systems to integrate those to broader energy systems.

Inmotion

(An advanced Intersectional Mobility Assessment)

Main Pathway: 1, Topic: 1

IN-MOTION: Advancing Intersectional Mobility Assessment for Inclusive Urban Future

The Intersectional Mobility Assessment Toolkit (IMAT) is the core innovation of the IN-MOTION project and addresses entrenched mobility challenges while fostering inclusive, user-centred multimodal mobility systems across Europe. IMAT's primary objective is to systematically diagnose mobility inequities and identify disadvantaged groups through the application of qualitative, participatory tools. By advancing this toolkit, the project can deliver transformative change for underserved communities and set a new standard in equitable mobility planning.

IMAT's methodology is grounded in a rigorous, intersectional analysis of how overlapping social identities and structural disadvantages—including gender, age, socio-economic status, and disability—create unique mobility barriers. To capture these complex dynamics, the toolkit employs methods such as commented walks and co-creation workshops, directly engaging affected communities to gather their lived experiences and perspectives. This participatory approach ensures that solutions are co-developed with those most impacted, promoting ownership and sustainability of outcomes.

IMAT will be piloted across diverse European urban contexts, including Klagenfurt (AT), Fürth (DE), and locations in Utrecht (NL). These pilots will demonstrate the toolkit's replicability and adaptability to varying local conditions, providing robust evidence of its effectiveness and scalability.

IMAT will be central to activities within Urban Living Labs, where local teams will co-design process-driven, mixed-methods social programmes. The toolkit's diagnostic capabilities will inform dynamic network analyses that measure accessible proximity to urban functions and services, tailored to diverse user capabilities. This integration enables the development of targeted pilot actions—such as practical, tactical, and place-based interventions—and the testing of alternative mobility solutions. Example interventions include establishing "school streets," enhancing multimodal hubs with accessible features, and simulating demand-responsive services for complex care-related trip chaining, with the overarching goal of improving self-determined mobility for minoritized and vulnerable groups.

A validated IMAT will be a key deliverable of the IN-MOTION project, directly supporting the development of an Inclusive Mobility Policy Blueprint. These policy outputs will provide actionable guidance for

embedding intersectional planning principles and lived experiences into municipal governance, thereby strengthening strategic frameworks such as Sustainable Urban Mobility Plans (SUMPs) and Climate City Contracts (CCCs). By leveraging IMAT, the project will drive a just urban transition across Europe through scalable, human-centred, and empathy-driven approaches.

Just15Minutes

(Just15Minutes: Door-to-Door Travel Experiences of Care- and Age-Diverse Groups for an Inclusive 15-Minute City)

Main Pathway: 1, Topic: 1

European cities face urgent tasks of transforming their mobility systems to meet the goals of the European Green Deal, the UN 2030 Agenda, and the Paris Agreement. The 15-minute city concept together with seamless public transport advances these objectives by promoting proximity-based, climate-neutral neighborhoods that foster active mobility and social inclusion. However, despite ambitious policy frameworks, urban transport systems struggle with fragmented intermodal integration and often fail to address the diverse needs of citizens, particularly children, older adults, and caregivers. These groups, collectively called care- and age-diverse users, face barriers such as unsafe or inaccessible infrastructure, high cognitive and physical effort, and time constraints, limiting their mobility and well-being. Furthermore, current transport systems rarely consider travel time and its potential to be meaningful, restorative, and socially valuable.

Just15Minutes responds to these challenges by extending the 15-minute city framework through the concept of Worthwhile Travel Time (WTT), reconceptualizing travel time not merely as time to be minimized, but as time that contributes to health, well-being, and quality of life. The project investigates what makes travel time worthwhile for care- and age-diverse user groups throughout the entire intermodal door-to-door journey with public transport, including first- and last-mile connections, stations, and in-vehicle environments. Based on the findings, specific solutions and interventions (e.g. design/ gamification ideas, hub layouts, services, optimisation algorithms, etc.) will be developed and validated.

The project follows six interconnected objectives: (1) examining the WTT framework for care- and age-diverse groups; (2) collecting qualitative and quantitative data of their intermodal journeys and experiences; (3) testing interventions to improve WTT for these groups in three living labs & one virtual lab, concerning walkability, bike-sharing, catchment area, station environment and vehicle design; (4) developing optimisation models that balance efficiency, inclusivity, and WTT in intermodal routing; (5) synthesizing findings into a European Toolkit to enhance WTT for care- and age-diverse user groups; and (6) ensuring continuous and co-creative stakeholder engagement across all project phases to guarantee validity, feasibility, and impact.

Stakeholder participation is a central pillar of Just15Minutes. Municipalities, transport operators, NGOs, and user representatives are integrated throughout all work packages, to validate indicators (T3.3), co-create virtual mobility scenarios (T5.1.4.) & visionary, inclusive mobility concepts (T5.3) and collaboratively weigh and prioritize factors for modelling and policy application (T5.4). This iterative engagement ensures outcomes reflecting real-world relevance and that underserved user groups are able to communicate their needs.

Methodologically, Just15Minutes combines qualitative and quantitative research with advanced digital tools. Virtual/AI-assisted methods will be used to co-create and test design options before implementation, while participatory modelling will help identify and resolve potential conflicts between user needs. When trade-offs arise, such as between safety, playfulness, and efficiency, conflict analysis and democratic resolution frameworks will be introduced. The project's innovations include: (i) systematic

study of WTT for care- and age-diverse user groups; (ii) novel digital co-design and modelling tools for inclusive transport planning; (iii) tailor-made conflict-resolution frameworks to resolve diverging mobility needs; and (iv) the development of transferable tools and guidelines through the European toolkit.

By embedding the perspectives of care- and age-diverse citizens into intermodal planning and WTT, Just15Minutes supports the creation of inclusive, sustainable, and healthy 15-minute cities in Europe.

TrustFormation

(Transforming Urban Mobility Sentiments For Minimising Contestation)

Main Pathway: 1, Topic: 3

Ambitious urban mobility strategies often fail when they lack political support or face strong opposition. This challenge has intensified with the rise of digital platforms, which amplify polarising voices, reinforce echo chambers and accelerate the spread of misinformation. Because mobility policies directly shape urban space and affect the daily lives of residents, they have become a focal point of increasingly polarised public debate. Urban mobility transitions involve complex trade-offs between personal freedom, environmental objectives, and collective well-being. While vigorous public discussion is a cornerstone of democratic governance, recent years have shown that misinformation can distort debate, fuel radical opposition, and obstruct necessary policy action. In many cities, even the expectation of backlash leads to political caution or paralysis, reinforcing a cycle of inaction and escalating contestation. Therefore, there is an urgent need to better understand mis-information dynamics and their impact on mobility policymaking, and to develop approaches that rebuild trust, counter polarisation, and support constructive engagement.

TrustFormation responds to this challenge by analysing the underlying motives and mechanisms that drive radical contestation of mobility measures and by creating practical, evidence-based tools for policymakers. The project combines behavioural science, systems modelling, digital communication analysis, and participatory governance to enable cities to anticipate contestation, design more inclusive debate processes, and strengthen public trust. The project follows a three-pillar structure:

Pillar 1: Understanding Contestation: TrustFormation will identify and model influence clusters and response patterns shaping public reactions to mobility policies. It will develop a Response Typology grounded in social milieus and based on a representative transnational survey in Austria, Finland, and Poland. Together, these inputs will produce Key Result KR1: Behaviour Model & Digital Twin Population, embedded in a system-dynamics framework to virtually test and calibrate population responses to proposed measures.

Pillar 2: Developing Strategies and Tools: Building on the Digital Twin, the project will generate Key Result KR2: Response Assessment Tool, designed to help policymakers understand uncertainties, disagreement patterns, and likely contestation dynamics around specific policy measures. The tool will translate controversial interventions into quantitative causal models (“theories of change”) and simulate preventive engagement strategies to identify the most promising approaches.

Pillar 3: Evaluating Engagement Strategies: TrustFormation will design and run targeted experiments from strictly hypothetical to Living Lab experiments (depending on the risk of sparking real protest) in Austria, Finland, and Poland — using the City of Toruń in Poland as a real-world application site — to test participation formats and communication designs tailored to different response types. These experiments will validate recommended engagement strategies and support the creation of Key Result KR3: Mobility Transformation Toolset, a practical and adaptable package of communication guidelines, participation techniques, and updated tools.

The project delivers a comprehensive set of practical, transferable tools and methodologies that help cities communicate policy benefits credibly, strengthen trust, and design effective, context-sensitive participation processes. Its international partnership integrates Austrian, Finnish, and Polish expertise, and expands its impact beyond the project through strategic outreach and active engagement in DUT Hub activities, ensuring comparative insights and enabling broad applicability across diverse European contexts.

TrustFormation ultimately aims to break self-reinforcing cycles of contestation and enable the successful implementation of transformative mobility policies.

ThermoPED

(User-Centered Heating and Cooling Solutions for PEDs)

Main Pathway: 3, Topic: 3

Positive Energy Districts (PEDs) are central to Europe's transition toward climate-neutral cities, yet the decarbonization of heating and cooling remains one of the most complex barriers to their realization. Urban areas still depend on fragmented thermal networks, limited cross-sector coordination, and insufficient integration of renewable and waste-heat resources. Achieving PED goals requires integrated situational awareness, data-driven optimization, and decision support that spans buildings, districts, and multiple energy vectors. ThermoPED addresses these challenges through three major pillars:

- A Cross-Sectoral Framework for PED Heating and Cooling Modeling,
- A Co-Created Suite of PED Heating and Cooling Solutions,
- A User-Centered Platform for Integrated Heating and Cooling.

The Cross-Sectoral Framework for PED Heating and Cooling Modeling provides the foundation for understanding PED thermal transitions by identifying key stakeholders, barriers, and enabling conditions, and by defining stakeholder-centric Key Performance Indicators (KPIs) across energy, environmental, social, and economic dimensions. It integrates multi-source data covering renewable generation, waste-heat recovery, passive design, mobility interactions, and building operations.

Building on this foundation, ThermoPED develops a Co-Created Suite of PED Heating and Cooling Solutions that provides advanced, data-driven capabilities for thermal demand forecasting, heating and cooling optimisation, renewable and waste-heat utilization, passive cooling potential, operational flexibility, and electricity–thermal sector coupling. Developed through iterative co-creation with municipalities and citizens, the Solutions ensure that technical advances remain aligned with urban needs, affordability considerations, and user comfort.

Developed through the same co-creation process, the User-Centered Platform for Integrated Heating and Cooling consolidates all Solutions into a unified, interoperable decision-support environment featuring role-specific dashboards and intuitive interfaces. The Platform manages dynamic, multidirectional data flows, connects building-level and district-level Solutions, and presents actionable insights tailored to planners, utilities, policymakers, and communities. It supports planning, monitoring, optimization, and long-term strategy development for inclusive, low-carbon heating and cooling within PEDs.

ThermoPED will be validated using real data from Aalborg University and Veolia and demonstrated in two European municipalities, Valladolid and Rzeszów, showcasing the Platform's scalability, replicability, and relevance across diverse climatic, regulatory, and socio-economic contexts. These validations will highlight ThermoPED's capacity to strengthen the PED transition pathway by enabling cities to design equitable, efficient, and resilient thermal systems.

Through active participation in the DUT Knowledge Hub, ThermoPED will contribute to long-term community building and knowledge exchange across European cities, researchers, and innovation actors. By delivering the Cross-Sectoral Framework for PED Heating and Cooling Modeling, a co-created Suite of PED Solutions, and a User-Centered Platform, ThermoPED equips stakeholders with the technical and organizational capabilities needed to accelerate climate-neutral heating and cooling strategies and to advance the next generation of PEDs across Europe.

UrbEnS

(Urban Energy Synergies)

Main Pathway: 3, Topic: 3

Initial Situation

Across Europe, cities face increasing pressure to expand electric mobility while meeting climate-neutrality targets. High-power charging (HPC) infrastructure will soon become standard in urban districts, driven by growing EV adoption and the need for fast and convenient charging near homes, workplaces, and mobility hubs. However, traditional charger installations often conflict with dense urban environments due to noise emissions, heat generation, grid limitations, and limited public space. At the same time, municipalities seek integrated energy solutions that contribute to Positive Energy Districts (PEDs) and support efficient, low-carbon heating and cooling systems.

Problem Statement and Motivation

Current HPC deployments typically operate as isolated mobility components, missing the opportunity to use their inherent energy flows to support wider district-level sustainability. Waste heat from modern chargers remains unused, despite offering valuable thermal potential for district heating and cooling networks. Cities also lack decision-support tools, data models, and planning methodologies to evaluate how charging hubs can become integrated elements of urban energy systems. This leads to slow, fragmented deployment and public resistance to chargers in residential areas. (Municipal) partners across Austria, Germany, Sweden, Finland, and Romania highlight the urgent need for scalable planning frameworks, digital twins, and multi-sector simulation tools that connect mobility, energy, and urban development.

Objectives and Innovation

UrbEnS aims to transform HPC infrastructure into an active contributor to sustainable district energy systems.

The project introduces three interconnected innovation pillars:

1. Adaptive Thermal Co-Optimization Control – A predictive, AI-based control approach coordinating real-time interaction between chargers, heat pumps, and district heating or cooling networks.

2. Bidirectional Energy and Information Interface – Unified communication and control interfaces enabling coordinated operation of thermal and electrical components across urban districts.

3. Holistic Digital Twin Model for Optimization – A multi-domain simulation environment for planning, forecasting, and evaluating energy-mobility synergies under real-world conditions.

These innovations will be validated in 4 Virtual UCs (TRL4-5) and in a minimum of 1 Real-World UC (TRL6-7). For virtual studies, high emphasis is put on detailed input data from existing or planned real-world UC sites. UCs will be in Austria, Germany, Sweden, Finland, and Romania, allowing evaluating across different climates, grid structures, urban morphologies, and policy frameworks.

Expected Results and Insights

UrbEnS will deliver practical planning tools, reference models, and operational concepts that allow cities to integrate HPC infrastructure into PED-aligned energy strategies. Expected outcomes include validated co-optimization strategies that reduce noise, waste heat, and grid stress; digital twin environments enabling scenario analysis and future-proof district design; and transferable models showing how HPC hubs can improve energy efficiency, increase renewable energy utilization, and expand EV charging possibilities in urban areas. By comparing results across 5 European UCs, the project will generate robust and scalable guidelines for different municipal contexts. Ultimately, UrbEnS enables cities to expand e-mobility while improving the overall performance of their urban energy systems, supporting the development of quiet, efficient, and climate-positive neighbourhoods. The resulting methodologies and insights will be designed to be fully scalable and transferable and will form a solid baseline for future large-scale developments or fully integrated follow-up projects.

FAMILYflow

(Enhancing Multimodal Travel with Children: Improving Experiences and Overcoming Car Dependence)

Main Pathway: 1, Topic: 1

In the Global North the arrival of a child is a key life event that often triggers a move from urban to suburban or rural areas, and/or the purchase of a car to meet increased mobility demands and care responsibilities. This transition contributes to rising carbon emissions and entrenched car dependency. Despite policy efforts to promote multimodality and shared transport solutions, these strategies frequently fail to meet the realities of families.

Families face distinct challenges when combining care, work, and travel. Shared mobility options are rarely designed for parents with children, and public transport often lacks accessibility, reliability, and integration required to meet family needs. Travelling with children involves complex trip chains, safety concerns, and time constraints from childcare, work, and household duties, highlighting the relevance of the 15-minute city concept for convenient and sustainable mobility. While the birth of a child can present a "window of opportunity" to foster sustainable travel habits, it more often leads to increased car ownership and use. However, some families remain car-free, and little is known about them.

At the same time, conventional mobility planning continues to rely on aggregate traffic models that prioritise efficiency over social realities, overlooking the differentiated needs and constraints of families. As a result, they remain underrepresented in data and decision-making, leading to outcomes that fail to reflect their lived realities.

FAMILYflow seeks to reduce car dependency among families by leveraging the "windows of opportunity" presented by parenthood to foster multimodal mobility practices. The project identifies social and spatial drivers of car dependence, examines the lived experiences of both car-dependent and (potentially) car-free families, and explores how mobility practices evolve in different contexts. In doing so, the project applies the principle of epistemic justice, recognizing and valuing the experiences of car-free and carless parents and children often underrepresented in mobility research and planning. Drawing on these insights of families, FAMILYflow focuses on understanding perceptions of "worthwhile" travel and enhancing multimodal travel in line with the 15-minute city concept, reducing subjective travel burdens where full adherence is not possible.

Therefore, the project will begin with an analysis of car dependence and multimodal mobility infrastructure (WP2) to identify and select car-dependent neighborhoods within four distinct case study areas. These neighborhoods will serve as urban living labs in each participating country, where the following steps will be carried out:

- WP3 examines how families navigate everyday mobility, identifying constraints, motivations, and opportunities for multimodal travel.

- WP4 engages families and stakeholders in participatory co-creation to develop and refine mobility solutions.

- WP5 tests and evaluates behavioural, spatial, and mobility interventions for feasibility and scalability.

Throughout WP2–WP5, a comprehensive synthesis of findings (WP6) will assess long-term impacts using an agent-based model and directly inform the development of two practical toolboxes—one for families and one for stakeholders—offering actionable guidance to promote less car-dependent mobility.

Ultimately, FAMILYflow will deliver an integrated framework for inclusive, family-oriented mobility planning, bridging the gap between lived experience and technical modelling. By embedding the needs of families into transport decision-making, the project will contribute to more equitable, resilient, and sustainable suburban and rural mobility systems—paving the way for less car-dependent lifestyles across Europe.

WORTH-CITY

("Worthwhile Multimodality: Integrating Travel Experience and Behavioural Realism into Human-centred 15-minute City Planning" (WORTH-CITY))

Main Pathway: 1, Topic: 1

Recent mobility research shows that traditional supplier-oriented transport planning—focused on minimising travel time—fails to capture the realities of user behaviour. Empirical evidence demonstrates that travellers assess travel not by absolute time but through subjective perceptions shaped by their experiences. The Worthwhile Travel Time (WTT) framework, aligned with Prospect Theory, highlights that travel can generate positive value and that travellers respond to changes relative to personal reference points. Yet current planning practice lacks robust tools to incorporate travel experience into multimodal planning, spatial design, and appraisal. This project fills this gap by developing a new conceptual, empirical, and analytical framework for embedding travel experience into the core of multimodal mobility policy.

The project aims to deepen understanding of meaningful, enjoyable, and worthwhile travel; establish a Prospect Theory–based behavioural framework; and translate these insights into multimodal planning, appraisal, and co-created spatial solutions. First, it advances the theoretical foundations of WTT by applying Prospect Theory to travellers' responses across walking, waiting, transfer, and in-vehicle stages. Second, it introduces an integrated data-driven approach that combines large-scale participatory mapping (PPGIS), a 2,000-respondent SP survey, and multimodal operational data through IoMobility's digital platform, enabling high-resolution analysis of travel experience across entire journey chains. Third, the project extends the WTT framework to multimodal door-to-door mobility with an explicit Diversity, Equity, and Inclusion (DEI) lens to capture the needs of vulnerable and underrepresented groups. Fourth, analytical insights are translated into co-created neighbourhood anchor hubs through participatory design, improving last-mile routes, transfer environments, and local public spaces. Fifth, the project develops a new WTT-based appraisal and policy framework that addresses limitations of conventional travel-time-saving models and shows how experience-based values can inform more realistic investment decisions. Finally, the project integrates behavioural insights from Prospect Theory and WTT into multimodal transport demand estimation and planning, enabling models to reflect how travellers perceive and respond to full journey chains. This allows for more realistic predictions of mode choice, travel behaviour, and accessibility outcomes, supporting planners in designing more equitable, user-centred multimodal mobility strategies.

A multinational consortium from Korea, Germany, Denmark and Slovakia brings together leading expertise in behavioural modelling, WTT research, participatory methods, spatial analysis, digital analytics and policy evaluation. Four living labs provide real-world environments in which concepts, models, design solutions and policy scenarios are tested and refined in collaboration with municipalities, transport agencies, private providers and civil society. The shared IoMobility platform supports cross-country comparison and co-creation through interactive visualisation of travel behaviour, accessibility and transfer conditions.

The project will deliver new behavioural models, datasets, appraisal methods and place-making strategies that enable cities to design and evaluate multimodal systems in line with real user experiences. By embedding Prospect Theory and WTT into mainstream planning and appraisal, it contributes directly to the DUT 15-Minute City Transition Pathway and wider European objectives on climate neutrality, resilience and social inclusion, and offers a transferable framework for urban mobility policies in Europe, Korea and beyond.

UPGRADE

(Upgrade urban parking policy by activating off-street parking options as game changer for car independent lifestyles in the 15mC.)

Main Pathway: 1, Topic: 2

UPGRADE addresses a key challenge for delivering the 15-Minute City (15mC): the way off-street and on-street parking is provided, managed, and integrated into urban mobility and spatial planning. Parking strongly affects travel behaviour, car ownership, public space quality, and the feasibility of compact, walkable neighbourhoods. Yet most European cities still allocate much space and financial resources to parking, especially in new developments, while facing high residential parking pressure on-street, but frequent underuse of existing off-street facilities. Current parking policies are not always based on robust evidence, and face major political challenges.

The project aims to rethink parking supply and management so that European cities can reduce car dependency, repurpose street space, and urban development in line with 15mC principles. UPGRADE has four core objectives: (1) reducing off-street parking demand and supply in both new and existing developments; (2) enabling shifts from on-street to off-street parking to free street space for other uses; (3) testing more flexible, shared and multi-functional use of existing private and public off-street parking; and (4) integrating these approaches into SUMPs, land-use plans, and parking regulations.

The project combines research- and innovation-oriented approaches through comparative analysis, market research, feasibility studies, co-creation processes, and city-led pilots. It brings together municipalities, research institutions, parking operators, housing associations and citizens from six EU countries each with their own national frameworks and legislation for parking. Case studies and pilot actions in Krakow, Lyon, Breda, Sint-Niklaas, Wroclaw and other associated cities will test innovative parking models such as shared use of private garages, reduced parking standards for new developments, and integrated off-street/on-street management packages.

Expected results include: (1) a full evidence base on off-street parking management and its reform, including comparisons between countries; (2) tested models for shifting demand from on-street to existing off-street parking; (3) guidance for designing and implementing maximum parking standards and; (4) policy recommendations addressing regulatory, financial and institutional barriers; (5) transferable tools for integrated parking strategies, based on experiences from ParkPAD, Park4SUMP, NXTLVL Parking and other EU initiatives; and (6) capacity-building materials, training and knowledge products for DUT's Knowledge Hub.

UPGRADE fully adheres to the Do No Significant Harm (DNSH) principle and supports the DUT 15mC Transition Pathway by researching and testing ways to improve public space, support climate goals, lower mobility costs, and enhance accessibility. Through international cooperation and strong involvement of practitioners, the project will help European cities reduce the dominance of parking in their areas and to transition towards 15-minute cities and neighbourhoods.

NightScapes

(NightScapes – Measuring Walkability and Safety in 15-Minute Cities After Dark)

Main Pathway: 1, Topic: 1

Urban strategies for climate-neutral and resilient cities increasingly adopt the 15-minute city model, emphasizing accessibility, proximity and sustainable mobility. However, most planning and research efforts focus on daytime mobility, neglecting the night-time dimension where urban life, services and mobility continue with distinct dynamics, risks and opportunities. Sensitive groups such as women, elderly citizens, youth and shift workers often face unsafe conditions, limited public transport and barriers to accessing essential services within the night-time economy. These inequalities translate into spatial segregation, missed opportunities, and reduced or unequal participation in night-time economic and social life. Without addressing the after-dark dimension, the 15-minute city remains incomplete.

The main objective of NightScapes project is to extend the 15-minute city into a fully operational 24-hour urban model by ensuring that neighbourhoods remain walkable, safe, inclusive, and vibrant after dark. The project aims to: (i) generate a comparative evidence base on night-time mobility conditions and perceptions; (ii) develop the Nighttime 15mC Index to quantify inclusiveness, safety and accessibility after dark; (iii) identify and document best practices for improving night-time walkability; and (iv) co-design actionable local roadmaps with stakeholders to guide urban interventions and policy integration for a city that remains fully functional at all times.

The project frames the 24-hour model of the 15-minutes city around safe, well-furnished (lighting) and continuous walkable routes that link residential areas with late-opening services and night public transport to extend reach beyond the neighbourhood. This approach creates connected night-time activity hubs ("night centres"), where venues and services remain accessible by foot or transit, supported by secure first/last-mile connections. Empirical evidence is generated through participatory night-time audits, perception surveys, travel diaries, and integration of multi-source datasets on lighting, pedestrian flows and incident reports, producing a comparative spatio-temporal dataset across diverse urban contexts. This evidence informs the development of the Nighttime 15mC Index, a composite indicator quantifying inclusiveness, safety, and accessibility after dark. In parallel, a catalogue of effective measures is developed to inform cities about successful actions improving night-time safety, comfort and walkability for different sensitive user groups. Building on the evidence base and the best practices, local roadmaps for night-time mobility improvements are co-designed with stakeholders in 4 pilot cities, namely Bari (IT), Cluj-Napoca (RO), Hamburg (DE) and Kadıköy (TR), guiding actionable interventions and supporting night-time policy integration into Sustainable Urban Mobility Plans (SUMPs) and broader urban transition pathways.

The project outcomes will strengthen decision-making, enhance resilience and equity in the night-time economy, including culture, hospitality, logistics, and healthcare and provide transferable tools for cities to prioritize investments that improve night-time safety, accessibility, and sustainability. Based on this evidence, the project provides guidance on how to encourage sustainable modes of night-time travel.

HOMEPEDS

(Home-Oriented Models for Equitable Positive Energy Districts in Social housing)

Main Pathway: 3, Topic: 1

HOMEPEDS (Home-Oriented Models for Equitable Positive Energy Districts in Social housing) addresses climate neutrality in Europe's social housing sector (20-30% of housing stock in high-share countries) while tackling energy poverty affecting millions of vulnerable residents. Through comparative research in five pilot cities across four European countries representing diverse contexts (SE, DK, NL, PL), the project generates new knowledge and develops novel analytical frameworks, including conceptual models for financing and governance, to understand how housing providers and municipalities can integrate equitable PED approaches into their strategic planning. Unlike conventional PED projects prioritizing technical optimization, HOMEPEDS integrates just transition principles as foundational, embedding equity assessment into technical design, financing, and governance. Through socio-technical research combining deep building renovations, 4th-generation district heating, and resident-governed energy communities, the pilots serve as living labs to investigate pathways for achieving 70-85% GHG emission reductions and 30-40% household energy cost reductions. The project analyses critical implementation barriers, including split-incentive problems and regulatory misalignments, through comparative transnational research across four distinct housing governance systems. HOMEPEDS generates critical new knowledge and methods, including an open-source socio-economic scenario modelling and decision-support toolbox to test hypotheses, thematic reports on implementation pathways, conceptual frameworks for resident-led governance, and a rigorous analysis of financing instruments adapted to social housing, culminating in evidence-based policy recommendations. Through intensive DUT Knowledge Hub engagement and targeted dissemination, the project's research will be shared to inform the strategic planning of a significant network of housing providers across our partner cities and beyond, with a preliminary confirmed lower-bound of over 330,000 dwellings. By investigating how climate action can improve the material conditions of low-income residents, HOMEPEDS aims to build support for ambitious climate policy while providing the analytical foundations and conceptual frameworks essential for achieving EU 2050 climate goals.

15' SMARTRIDE

(The 15-Minute Worthwhile Ride: How Robot-Shuttles Can Reshape Urban Accessibility)

Main Pathway: 1, Topic: 1

The 15-minute City (15mC) envisions urban life where transport and urban planning are seamlessly integrated to support proximity-based living. By promoting walkable, mixed-use neighbourhoods connected through efficient transit, it seeks to reduce car dependence while enhancing accessibility, equity, and overall quality of life. However, implementation remains challenging. Traditional transit systems operate on fixed lines and schedules, which limit active-mode connectivity to areas near high-efficiency corridors. In low-density or underserved areas, achieving the 15mC objective is difficult. Flexible, demand-responsive shuttle services can bridge this gap by creating new multimodal hubs and expanding access to active mobility options.

Complementing accessibility, the concept of Worthwhile Travel Time (WTT) recognises that travel is experienced differently by users. Integrating WTT into the 15mC framework shifts the focus from minimizing travel time to enhancing the quality, purpose, and inclusivity of mobility. Demand-responsive shuttles, including Robot-shuttles, can deliver travel experiences that are efficient, meaningful, and carbon-friendly, helping cities evolve from purely spatial models to human-centred mobility systems.

SMARTRIDE develops a modelling, simulation, and optimisation framework to support the stepwise deployment of optimal and resilient Robot-shuttle services. At the global scale, the project addresses fleet sizing, stop locations, and phased investments to maximise 15mC reach under the WTT perspective. At the local scale, it examines stop design, integration into urban environments, the creation of mobility hubs, and the impact on traffic. The main case study is Munich (DE), with a replication study in Suwon (KR). Co-design and co-creation workshops with stakeholders and end users will ensure that service concepts meet local needs.

SMARTRIDE will deliver actionable recommendations for implementing Robot-shuttle services in European cities and provide generalisable knowledge for transformative urban mobility interventions, supporting more liveable, inclusive, and human-centred cities.

OPEN-UP

(Optimising Parking to Enable New Urban Possibilities)

Main Pathway: 1, Topic: 2

Urban street space is increasingly constrained, with on-street parking occupying, in most cases, more than 20% of the street profile. At the same time, there is a growing social, economic, and climate-driven need to diversify how this space is used, transforming streets into greener, safer, more accessible, and healthier environments. OPEN-UP brings together 10 organisations from diverse fields—universities, local administrations, associations, and companies—to develop a combined methodology that includes agreement models and scalable, replicable guidelines and recommendations for returning valuable street space to citizens. This will be achieved through co-creation activities in up to five demonstration sites located in Portugal, Türkiye, Korea, Austria, and Spain.

OPEN-UP builds on data-driven, demand-responsive parking strategies to improve accessibility and reclaim public space as part of broader urban transitions. The project aims to enhance liveability by developing integrated and transferable models that combine regulatory frameworks for all kerbside and parking uses—including delivery operations, emergency access, and parking for people with disabilities—with real-world pilot implementation in five demonstration sites with specific combined characteristics. Its foundations include an in-depth analysis of governance models, a catalogue of current street-use patterns by social and geographical context, and the definition of a data management framework aligned with standards such as the Curb Data Specification (CDS) and the Alliance for Parking Data Standards (APDS). The European Parking Association plays in the project a key role in standardisation efforts across the demonstration sites. The project also introduces push-and-pull measures designed to discourage car dependency and the proliferation of large vehicles, while promoting multimodal and shared transport alternatives.

The working methodology follows a "scale by design" approach, in which the definition of outcomes from the demonstration sites is shaped early on within a scalable framework. This involves continuous qualitative and quantitative feedback intended to reinforce the project's guidelines, principles, and recommendations—for kerbside use, minimum quotas, incentive mechanisms for behaviour change, and the implementation of public-private partnerships in real scenarios via SUMP/SULP tools. One of the demonstration sites, Las Palmas (Spain), acts as a replicator in which selected technologies and methodologies developed by the project will be applied and validated before the project's end, boosting impact and scalability. This includes the creation of a funding strategy report to support uptake beyond the project framework.

To achieve its overall objective, OPEN-UP addresses five specific objectives aligned with the "Reimagining Parking" topic of the Driving Urban Transitions partnership:

a) To define ground-based parking policies (including measures addressing the trend toward larger vehicles) for integration into planning tools;

b) To develop strategies for reallocating parking spaces and identifying alternative uses for on-street space;

c) To define recommendations and guidelines for Public-Private Partnerships;

d) To demonstrate the use of digital sensing and data monitoring to better manage parking usage; and

e) To discourage car dependency and promote public transport and active mobility.

OPEN-UP will provide cities with practical, data-driven tools and scalable methodologies to reallocate street space more efficiently and equitably. By integrating regulatory frameworks, pilot demonstrations, and co-creation with citizens, the project will accelerate the transition toward greener, safer, and more accessible urban environments.

NeurodiverCity

(NeurodiverCity: Co-creating multimodal mobility solutions with neurodivergent citizens using innovative methodological pathways to change)

Main Pathway: 1, Topic: 1

Building on neurodivergent travel experiences, NeurodiverCity attends to the challenge of planning, testing and implementing inclusive transportation systems. While progress has been achieved in terms of physical accessibility, current mobility systems do not satisfactorily include the needs of neurodivergent citizens. Yet they should be attentive to a wide variety of people, including those with autism, ADHD and other cognitive processing differences – who altogether may include 10-20% of the world's population (Goldberg 2023). Additionally, neurodiversity limits individual mobility by car or bike, increasing the reliance on public transport, and highlighting the importance of high-quality inclusive multimodal mobility planning. So far, neither the 15-minute city concept nor the mobility transitions agenda have been developed with a neurodiverse society in mind. Heeding to the requirements of neurodivergent citizens goes beyond focusing on specialised design solutions for a specific target group. Their perspectives are crucial to understand how to best ensure accessibility, participation and integration of a widest range of citizens on the move.

NeurodiverCity attends to three main aims: (1) to build analytical and practical frameworks for planning multi-modal travel, (2) develop concepts and methods to investigate travel experiences of people with various expressions of neurodiversity and (3) to prepare, test and implement a comprehensive set of tools, strategies and recommendations in which neurodivergent needs and perspectives will inform design for multimodality. At the heart of the project is a commitment to co-creation: Neurodivergent citizens take equal part from the very beginning, shaping processes and outcomes of all components of the project.

An increased sensitivity to lived travel experience reveals exclusions that are inherent to existing and planned infrastructures. The project's transdisciplinary consortium builds on its established expertise in mobility studies, urban studies, psychology, sociology and social welfare, joining forces with public administrations and advocacy groups in the search for mobility systems in tune with the concept of a neurodiverse society. Together, we identify the most effective methods for understanding multimodal travel and collaboratively design improvements that can be integrated into consultation and planning processes. This experimental and co-creative Living Lab approach ensures that solutions reflect lived experiences, strengthen self-advocacy and amplify neurodivergent voices.

The outcomes are planned to have immediate and long-term impact, and include (a) frameworks for neurodivergence-sensitive multimodality planning co-created with neurodivergent stakeholders; (b) Neuroscope, an innovative brain-wave related plug-in to extent our comprehensive multimodal methods base for participatory research in the urban sector; (c) tested strategies for improving communication and consultation processes leading to neurodivergence-friendly mobility transitions on the policy level; and (d) evidence-based guidelines and formats for hybrid and digital participation, derived from continuous co-creation and systematic user-testing of participation platforms and AR- visualisation tools.

The project provides stakeholders with practical knowledge on how digital tools can support inclusive mobility planning processes. Results include a curated list of potential technical improvements for open-source implementation, allowing for future enhancement of participation tools, enabling scaling up of existing technologies and development of new ones. Thus, the project brings positive effects to European societies as a whole through updated universal design principles, generating meaningful toolkits, road maps and actionable knowledge for an expanded definition of multimodal mobility in the 15-minute city.

ECO-PARC

(Enabling Circularity Optimization via Procurement for Adaptable and Resilient Cities)

Main Pathway: 2, Topic: 3

The ECO-PARC - Enabling Circularity Optimization via Procurement for Adaptable and Resilient Cities - project will leverage the knowledge and tools from an international consortium of Eco-Industrial Parks (EIPs), city partners, small and medium enterprises and research institutions in Europe, North Africa and North America to develop public-procurement practices in support of nature positive and circular urban transitions. Partners from Sweden, Denmark, France, Switzerland, Turkey, Portugal, Tunisia and Canada will develop a framework for cities and EIPs to further integrate nature positivity and circularity into their development strategies and public-procurement processes. The project directly responds to CUE3: Public procurement to foster urban greening and circularity by researching nature positive and circular public procurement practices that can stimulate sustainable local value chains, eco-design and resource recovery, while enhancing biodiversity, Nature Based Solutions (NBS) and local economies. Contributions will also be made to CUE1: Resilient green and social infrastructure and PED3: PEDs in urban heating and cooling by examining how EIPs could provide green and socially inclusive city infrastructure and circular heating and cooling solutions.

The EU aims to become a circular economy leader by 2030 with the Circular Economy Act (CEA) coming into force in 2026. Municipalities are critical to fulfil the promises of the CEA as important and concentrated resources flows such as materials, chemicals, water and energy are mostly consumed in urban areas. Public procurement is an important and untapped tool to support more green and circular production and consumption practices in municipalities. USD $13 trillion was spent on public procurement worldwide in 2019, representing 15% of global greenhouse gas emissions (Boston Consulting Group & World Economic Forum, 2022; World Bank, 2021). Furthermore, green public procurement can enhance economic performance and foster socio-economic benefits, bolstering the rational for implementing circular public procurement practices to further reap sustainability gains (Ortega Carrasco et al., 2025).

EIPs are ideal to examine enabling conditions and practices needed for circular economies to emerge in urban settings, since they are aligned with circular processes and viewed as "a hands-on way to bring the European Commission's Circular Economy Action Plan to life" (Konon, 2025). Therefore, the project will leverage circular operations and procurement practices in EIPs to develop recommendations for circular public procurement practices. It will do so by examining the enabling conditions for existing and potential

circularity in EIPs governance structures, infrastructure and purchasing practices to assess their transferability to urban settings, such as commercial, institutional and residential areas, and derive recommendations for cities to adopt more green and circular public procurement practices. Case studies conducted in a broad range of contexts will allow for deriving generally applicable circular public procurement recommendations. For instance, Kalundberg Symbiosis in Denmark and the Eskişehir Organize Sanayi Bölgesi (Eskişehir Organized Industrial Zone, EOSB) in Turkey are mature EIPs, while the Tera8 Ecopark in Canada and the Umeå Eco Industrial Park in Sweden are currently being planned. The city of Amadora in Portugal will focus on how their public procurement practices can support better business models. Ultimately, the project will establish an international network of researchers and practitioners from EIPs, municipalities, businesses and research institutes across eight countries to develop green and circular public procurement practices in support of circular urban transitions.

GreenGap

(GreenGap: Closing the Implementation Gap in Urban Nature-Based Solutions)

Main Pathway: 2, Topic: 1

European cities face increasing risks from climate change, including heatwaves, water shortages, and flooding. Nature-based solutions (NBS) offer a promising response, delivering multiple co-benefits such as climate mitigation, improved public health, and enhanced urban biodiversity. Yet uptake of NBS remains limited—not due to technical barriers, but because of fragmented governance, unclear responsibilities, and insufficient financing mechanisms. These "invisible barriers" prevent cities from moving from planning to implementation.

Schoolyards represent a widely distributed yet underused urban asset. By redesigning them with NBS—vegetation, permeable surfaces, shading, and cooling elements—GreenGap transforms these everyday spaces into climate-resilient, biodiverse, educational, and socially vibrant environments. Outside school hours, schoolyards serve as community spaces that promote physical and spiritual well-being and strengthen social cohesion, contributing to just and inclusive urban transitions.

GreenGap is an innovation-oriented project focused on implementing and testing solutions in real-world contexts. It aims to develop and validate scalable, modular NBS designs for schoolyards, co-create governance and financing models, and apply advanced digital tools to support decision-making. A key innovation is the integration of AR/VR technologies and digital twin modelling to create an interactive, end-user-driven design process. KTH will build a digital twin of school environments incorporating NBS, linking virtual models to real-world conditions and enabling exploration of "what-if" scenarios. This digitally integrated framework connects multiple modelling tools for knowledge exchange among technical experts and uses VR to facilitate clear communication and engaging interactions with non-professionals. The approach creates a continuous loop between design, construction, and occupancy feedback, ensuring adaptive improvement and sustained stakeholder engagement. Together, these tools enable child-centered, participatory design processes where stakeholders can visualize, test, and refine spatial configurations before implementation.

The project will deliver modular NBS designs for schoolyards, decision-support tools integrated with AR/VR, and governance and financing models tailored to municipal needs. Policy recommendations and capacity-building resources will support long-term institutional change. These outputs will be co-created and validated through living labs in Sweden and Spain, with schoolyards in Stockholm and Barcelona serving as testbeds for innovation.

GreenGap brings together partners from Sweden, Italy, and Spain, forming a multidisciplinary team of researchers, municipal representatives, a landscape architect, and a technology company. Sweden

contributes expertise in policy design, urban resilience, and NBS performance, while Spain provides leadership in digital decision-support systems, financial modelling, and social innovation. Through Spanish partners, GreenGap combines the academic excellence of La Salle with the market-driven innovation of ARCbcn. Collaboration between the project partners enhances knowledge transfer between Nordic and Mediterranean contexts, demonstrating how modular NBS can adapt to distinct climatic, cultural, and governance settings.

The long-term impact includes advancing sustainable urban development through NBS that improve biodiversity, air quality, and reduce the urban heat island effect while providing educational and social ecosystem services. It will foster institutional change in how municipalities plan, finance, and manage green and social infrastructure, increase adoption of NBS in educational environments, empower communities through participatory design, and strengthen collaboration across sectors and cities to build a European network of NBS practitioners.

UnlockOurSpace

(Unlocking Urban Potential through Participatory Tools for Fair Reallocation of Parking Space)

Main Pathway: 1, Topic: 2

UnlockOurSpace tackles a central challenge for achieving 15-minute cities: the dominance of on-street parking and its long-lasting impact on urban space, mobility behaviour and public acceptance of change. As highlighted in the call text, parking often occupies 10–20% of street space and shapes urban development for decades, reinforcing car dependency and constraining opportunities to create healthy, accessible and people-centred neighbourhoods as well as green spaces to adapt cities to climate change. Many cities aim to rebalance the use of street space, yet lack integrated frameworks that combine fairness, evidence-based assessment and inclusive decision-making. As a result, parking reforms often face public resistance, equity concerns, and difficulties in embedding them within broader mobility and land-use strategies.

UnlockOurSpace responds to these challenges by developing an integrated, fairness-driven approach to transforming parking policies and kerbside management. The project's overarching goal is to enable cities to reallocate parking space in a fair, transparent and socially supported way, reducing car dependency while improving accessibility, quality of life and public trust in urban transitions.

To achieve this, the project pursues five main goals:

1. Develop fairness-based space allocation standards that define how street space—including parking—can be distributed equitably across population groups and urban functions. These standards draw on minimum mobility needs, accessibility considerations, climate adaptation requirements and socio-spatial justice principles, offering cities a coherent framework for planning fair transitions.

2. Integrate fairness principles into spatial modelling and prescriptive digital twins, enabling cities to explore different parking and kerbside scenarios. These tools will assess behavioural responses, accessibility impacts, shifts from on-street to off-street parking, and options for diversifying private garages, providing clear and comprehensible evidence for policy design.

3. Co-design a participatory process and communication framework that helps cities translate scientific evidence into accessible dialogue with residents, businesses and stakeholders. Tailored narratives, visuals and engagement formats will support transparent decision-making and increase acceptance of parking reforms.

4. Test, validate and refine the standards, models and participatory methods in three Living Labs—Almere (NL), Klagenfurt (AT) and Battalgazi (TR)—representing different regulatory, socio-cultural and

spatial conditions. These pilots will explore fair parking strategies, dynamic kerbside management, alternatives to minimum parking requirements and pathways for shifting parking to existing off-street facilities.

5. Produce transferable guidance for fair parking policies and support broad uptake through strong collaboration with the DUT Knowledge Hub, Follower Cities and city networks. This will ensure scalability and enable other European cities to implement integrated, fairness-oriented parking strategies.

Together, these innovations will equip cities with the evidence, tools and participatory processes needed to rebalance scarce urban space, align parking reforms with wider mobility and proximity goals, and create more equitable, inclusive and sustainable neighbourhoods. UnlockOurSpace ultimately supports European cities in transforming parking from a barrier into an enabler of fair and resilient urban mobility transitions.

ImPEDact

(Positive Impacts of PEDs on Local Energy Markets)

Main Pathway: 3, Topic: 2

The ImPEDact project addresses the critical challenge of grid congestion, which has become a major bottleneck to the energy transition, threatening climate targets, energy security, and affordability across Europe. Growing electricity demand—driven by increasing consumption from electric cooling, heating, vehicles, and data centers—is being met by the rapid growth of variable renewable sources, leading to capacity and flexibility bottlenecks in transmission and distribution grids. Furthermore, existing financial arrangements, such as net-metering, often lack incentives for decentralized solar PV installations to match the actual needs of the electricity system, resulting in 'feed-in' grid congestion.

ImPEDact is designed to explore the transformative potential of Positive Energy Districts (PEDs) and Renewable Energy Communities (RECs) in mitigating this congestion and enhancing local energy markets. The core approach involves assessing how PED development, which drives the shift from centralized to localized renewable sources, can improve alignment between grid capacity and aggregated user profiles (Load Profiles).

The project explores:

1. The market effects of decentralized generation in areas experiencing different levels of grid congestion.

2. The effects of PEDs on seasonal grid balancing and grid congestion.

3. The socio-economic impact on local communities, including job creation and behavioural aspects.

By leveraging the flexibility of PEDs through controllable loads (like heating and bi-directional EV charging) and local/embedded generation (like rooftop solar PV), ImPEDact aims to minimize the need to transport electricity through the distribution grid.

The project's goals center on developing the evidence base and frameworks necessary to effectively integrate PEDs into the wider energy system, ensuring positive socio-economic and grid resilience outcomes. It focuses on investigating the transformative impact of Positive Energy Districts (PEDs) on grid congestion, local energy markets, and socio-economic outcomes across Europe. The proposal outlines five core objectives, including assessing PED designs for optimized energy efficiency, integrating PEDs into national markets, and analyzing their socio-economic effects on communities. To achieve these goals, the project involves an international consortium utilizing six different Living Labs across

Switzerland, Portugal, the Netherlands, Denmark, Austria, and Sweden, and features seven distinct Work Packages ranging from impact analysis to communication and knowledge hub contributions.

ImPEDact advances beyond the state-of-the-art by studying the introduction of time shift signals next to price signals to steer power consumption and conversion of surplus electricity into other carriers for longer-term, seasonal storage (such as converting PV electricity into heat for winter using heat pumps and ATES underground storage systems). Furthermore, the project introduces a focus on grid support options and incentives specifically for Low Voltage (LV) distribution networks, recognizing the dual role of PEDs as local energy balancers and contributors to the wider grid.

The expected outputs include evidence and recommendations on optimizing energy efficiency, balancing market levels, and assessing PEDs as energy balancing platforms. This approach will offer valuable insights and guidance for lowering immediate grid congestion impact, offering tools needed to address traditional and emerging energy security risks.

S³L²OGR

(Smart, social and Sustainable Last-mile Logistic Governance and Regulation)

Main Pathway: 1, Topic: 1

Smart, Social and Sustainable Last-mile Logistic Governance and Regulation (S³L²OGR) addresses the dual nature of urban logistics, which acts as a lifeline for 15-minute cities while simultaneously posing risks to their sustainability through congestion, emissions, safety risks, and inefficient curbside use. These challenges are intensified by the rapid growth of parcel and on-demand deliveries, driving higher emissions and worker stress while straining passenger mobility and parking systems. A further challenge lies in rising packaging waste and the uncoordinated spread of parcel pick-up infrastructure. Addressing these intertwined issues requires new regulatory and governance approaches that balance efficiency, accessibility, and circularity.

S³L²OGR develops a comprehensive Regulatory and Governance Toolkit for Sustainable Last-mile Logistics, equipping city authorities with evidence-based legal instruments, fiscal policies, contractual templates and governance models to regulate logistics and curbside management, as well as supporting business models. The project supports the EU Urban Mobility Framework and Sustainable Urban Mobility Plan objectives by promoting safer, cleaner, and more accessible logistics systems; and advances fair working conditions in line with the European Pillar of Social Rights and the Sustainable and Smart Mobility Strategy. Its toolkit will guide cities in designing regulatory, fiscal, and spatial measures for circular, low-emission urban logistics.

S³L²OGR adopts a multidisciplinary and co-creative approach integrating law, transport and logistics planning, urban policy, and economics. Through comparative legal mapping and stakeholder engagement, the consortium will identify gaps, best practices, and city competences across Europe. Co-design labs with municipalities, logistics companies, workers, residents, and civil society groups will generate innovative governance protocols, regulatory measures, and model ordinances to:

a) promote a green modal shift in urban logistics; b) optimise drop density and bundled logistics; c) ensure equitable access to logistics; d) improve working conditions and reduce fatigue-related risks; and e) embed circular principles such as deposit-return systems.

Business model innovation and piloting will ensure that the proposed policy and regulatory designs are co-created, feasible, and embedded in collaborative governance frameworks, and in sustainable business models in the industry. Case studies on construction logistics, parcel deliveries, and on-demand services test adaptability across diverse supply chains in urban contexts.

S³L²OGR will pilot selected innovations in living-labs to test feasibility, gather data and refine proposed measures. The Governance Toolkit will include model policy templates, legal design guidance, and evaluation standards, enabling replication and adaptation across cities.

The project directly supports the 2025 DUT 15-Minute City Transition Pathway, contributing to Track 1 ("Improving travellers' multimodal experience") by alligning logistics systems and human-centred mobility systems and reducing delivery-related travel stress; and to Track 2 ("Urban parking policy, including smaller vehicles") by reforming curbside management and promoting cargo-bike logistics. It also advances Circular Urban Economy Topic 3 by examining how public procurement, taxation, and packaging regulation can foster circular and resilient supply chains. Through collaboration among universities and cities in Belgium, the Netherlands, Germany, Poland, Croatia, and Spain, S³L²OGR will deliver Europe's first comparative framework with actionable and adaptive solutions for sustainable last-mile logistics governance. Its outcomes will empower municipalities to design socially fair, environmentally sound, and economically efficient urban logistics systems—anchoring the Smart, Social, and Sustainable triad of logistics within the 15-minute city.

AGORA

(Agentive Greening for Organizing Resilient Areas)

Main Pathway: 2, Topic: 1

AGORA proposes a new governance framework for participatory urban greening, designed to empower citizens and strengthen municipal capacity in managing green infrastructure. Across Europe, cities face mounting pressure to green their urban environments in response to climate change, biodiversity loss, and growing citizen demand. There are clear incentives to add green infrastructure as they contribute to the overall resilience of cities and their people. However, there remain many barriers as well. A major issue for municipalities is that increased urban greening brings more maintenance work and changes the knowledge and skills necessary to conduct it. An issue for citizens is that, as a result, greening efforts fall short of their expectations and they don't feel considered, listened nor valued.

We propose then to address those issues by involving more those citizens who want to lend a hand, who contact their municipality wanting to support greening efforts and improve their neighbourhood. With AGORA, we are developing a new set of tools to develop municipal greening participation strategies towards more agency to involve groups of citizens and to build municipal capacity to coordinate efforts locally. To that end, we aim to create eventually a system of Urban Living Labs (ULL) where each ULL gathers a group of involved citizens living in the same neighbourhood and semi-public spaces belonging either to the municipality or institutional partners such as schools or retirement homes. What becomes of the spaces managed by ULLs is uncertain and open to serendipity.

Our aim is to replicate and adapt successful participatory greening projects from Saint-Gilles in Mulhouse and to develop this framework of ULLs. From there we evaluate what structures or changes are necessary within public administrations to empower ULLs sufficiently while managing the associated risks (i.e. legal or health-related risks, conflicts, or choices by ULLs that go against municipal policy). In addition, we are evaluating what environmental impacts greening projects have in dense urban areas, particularly in terms of their potential to mitigate heat islands. With this data backing urban greening, we aim to deliver both the data-based arguments and a replicable framework that municipalities and communities may be lacking to further develop greening projects.

Our consortium is composed of the municipality of Mulhouse and the Universities of Lorraine and Bordeaux in France, the Centre for Economic and Social Research in Poland, and is led by the municipality of Saint-Gilles in Belgium. We are joined by diverse cooperation partners, namely AVITEM, a

French public cooperation agency acting on climate adaptation and ecological transition in Mediterranean cities and regions, two other Brussels municipalities (Woluwe-Saint-Pierre and Forest), the regional participation service of Brussels (Perspective.brussels), Apis Bruoc Sella, Réseau Habitat, CAFA, Kick, Mulhouse Agglomération, and the German Federal Association for Sustainability.

CE-LEBRATE

(CE-LEBRATE: Circular Event-driven Local Economies & BRAnding for Tourism Enhancement)

Main Pathway: 2, Topic: 2

The project explores how large-scale civic events such as Klimafolkemødet in Middelfart (Denmark), Corpus Cristi Procession in Łowicz (Poland) and Fluxus Festival (Lithuania) can act as catalysts for circular tourism transitions. The project investigates how local and regional authorities, businesses, NGOs and residents can co-create new models of tourism that regenerate rather than deplete resources — socially, environmentally, and economically. Moreover, we have included the Ukrainian context.

Tourism is one of Europe's most dynamic urban sectors, but also one of the most resource-intensive. As climate awareness grows, new forms of travel, stay and participation are emerging — rooted in community, learning and circularity. The project proposes a transnational framework for circular event tourism, combining research and innovation through three living labs in Denmark, Poland, and Lithuania.

The Danish case focuses on Klimafolkemødet in Middelfart — a nationally recognized climate democracy festival attracting more than 40,000 visitors annually. Here, circular practices are tested through local material loops, low-impact mobility, and social inclusion models. The Polish case explores how circular tourism can support small cities like Łowicz in strengthening and diversifying local economies, while the Lithuanian case integrates tourism into regional climate neutrality roadmaps. The Lithuanian case centres on Kaunas, a post-industrial regional city undergoing rapid cultural transformation since its European Capital of Culture 2022 program, the ways to develop large-scale tourist events into a timely opportunity of circular tourist models from the ground up will be explored. Similarly to Łowicz case, the project will help Kaunas to transition from one-off cultural programming to long-term regenerative tourism policy balancing heritage preservation with contemporary re-use, integrating local communities as co-creators of cultural and economic value.

In addition, the project's results will inform the design of post-war sustainable tourism strategies for cities in the Lviv metropolitan area through collaboration with Lviv Polytechnic, supporting the recovery of this highly sensitive yet strategically significant economic sector. In the context of the Lviv metropolitan area, the project's outcomes may be transferred not only to the city of Lviv itself but also to a set of surrounding urban centres that historically hosted cultural, festival or craft-based events and are now seeking to rebuild their local economies and urban identities. Potential candidate cities that may be considered during the project include Stryi, a key regional hub with the capacity to host cultural and economic events; Zhovkva, with its exceptional Renaissance heritage suitable for narrative-based tourism products; and Boryslav, a post-industrial city with opportunities for cultural transformation and public-space revitalisation. These centres—diverse yet comparable in scale and functional structure to the cases studied in Poland and Lithuania—represent realistic options for exploring the transferability and adaptation of circular event tourism practices developed within the project. The final selection of cities will be made in consultation with Lviv Polytechnic and local stakeholders, ensuring relevance for the recovery of this sensitive yet strategically important sector.

The project combines design-based research, urban planning, circular economy modelling and citizen science. Expected outcomes include new policy tools, guidelines for circular events and cross-sector partnerships that can inspire European regions to embed circularity in tourism and event strategies. By

linking climate engagement and circular economy practices, the project contributes to CUE topic 2: Sustainable tourism – circular benefits and challenges and promotes inclusive, regenerative transitions across Europe.

Reprocity

(Reprocity - Rethinking Procurement in Cities: Circular and Socially Just Procurement for Urban Transformation)

Main Pathway: 2, Topic: 3

Reprocity: Rethinking Procurement in Cities strengthens municipal capacity to use public procurement as a strategic driver of circular, nature-positive and socially just urban transformation. Building on the proven SymbioCity approach for integrated and sustainable urban governance, the project develops and validates a SymbioCity Circular and Just Procurement Model through Urban Living Labs in Karlstad (SE), Kocaeli (TR) and Timișoara (RO).

Municipalities, research institutes and civil-society partners will co-design, test and evaluate procurement models that embed circularity, urban greening, inclusion and long-term value into real procurement processes. Pilot tenders in areas such as urban greening/NBS, circular construction, public space and service delivery will demonstrate how procurement can reduce resource use, strengthen biodiversity, stimulate market innovation and generate social and community benefits.

The project tackles four systemic barriers: fragmented governance, lack of operational tools and capacity, weak market incentives for circular innovation, and missing links between procurement and strategic urban planning. Innovation lies in shifting procurement from an administrative function to a governance and learning process embedded in whole-of-municipality systems. The model integrates lifecycle and circular-economy criteria, social value, biodiversity and community participation.

Reprocity directly addresses DUT CUE Topic 3 by:

• stimulating circular business models through innovation-friendly procedures and supplier dialogues;

• integrating circular, green and socially just requirements into procurement;

• linking procurement to strategic urban development, biodiversity and climate objectives;

• fostering cross-sector collaboration between municipalities, researchers, SMEs and civil society.

Expected results include:

• a validated SymbioCity Circular and Just Procurement Toolkit (model, templates, criteria, best-practice examples);

• a cross-country evidence base on procurement frameworks and barriers;

• documented Living Lab pilots showing how circularity, inclusion and urban greening can be embedded in tenders;

• national replication strategies, peer-learning and capacity-building programmes;

• contributions to the DUT Knowledge Hub and dissemination through the global SymbioCity network.

By operationalising circularity, social justice and nature-based solutions in everyday procurement, the project accelerates the transition to circular and socially just cities, with deliverables disseminated via the DUT Knowledge Hub and the global SymbioCity network.

The consortium consists of the following partners:

• Sweden – SALAR International (SALAR Int)

Coordinator; SymbioCity expert; replication – SME

• Sweden – RISE Research Institutes of Sweden (RISE)

Lead research partner – RPO

• Sweden – Karlstad Municipality (KK)

Living Lab host – LA

• Sweden – Compare Foundation (CO)

Innovation platform – NPO

• Türkiye – Directorate for EU Affairs (DEUA)

Turkish coordinator; replication – NA

• Türkiye – Kocaeli Metropolitan Municipality (KMM)

Living Lab host – LA

• Türkiye – Gebze Technical University (GTU)

Turkish research partner – RPO

• Romania – Asociatia Centrul Cultural PLAI (PLAI)

Romanian coordinator; Living Lab lead with public administration – NPO

• Romania – Association for Urban Transition (ATU)

Romanian research partner; replication – RPO

LA - Local Authority, NA - National Authority, NPO - Non-profit organisation, RPO - Research performing organisation, SME - Small Medium Enterprise.

CASUAL GREEN

(CASUAL GREEN - Model and functional solutions for vertical green systems in European cities to enhance biodiversity and adapt to climate change)

Main Pathway: 2, Topic: 1

Across Europe, cities face a rapidly changing climate that reshapes the rhythms of everyday life. Heatwaves last longer, sealed surfaces accumulate warmth far into the night, and densely built neighbourhoods struggle to regenerate even minimal ecological functions. Many urban areas have become places where traditional, horizontal green solutions can no longer respond effectively. Legnica in Poland is one of the clearest examples: a city where decades of post-war development produced vast hard surfaces, limited open soil and tightly packed residential districts. Today, this compact and heavily sealed urban fabric amplifies the urban heat island, leaving little room for new parks or street greenery and making residents acutely vulnerable to rising temperatures.

CASUAL GREEN emerges as a response to this spatial and climatic impasse. The project reimagines the unused vertical surfaces of buildings – façades, courtyard walls, blind elevations – as a new ecological interface and a missing third dimension of green-blue infrastructure. Vertical greenery systems (VGS) offer a chance to cool streets, soften thermal discomfort, create habitat niches and restore fragments of biodiversity precisely where horizontal space has been exhausted. Yet despite growing interest, VGS

research in Europe remains fragmented, site-specific and methodologically inconsistent, making it difficult for cities to integrate such solutions into their planning practices.

To address this gap, CASUAL GREEN brings together three distinct climatic and urban contexts: Legnica (temperate and densely sealed), Piteå in Sweden (sub-arctic, with long winters and short vegetation periods) and Málaga in Spain (Mediterranean, drought-prone and exposed to extreme heat). In Legnica and Piteå, the project establishes Urban Living Labs in which different types of vertical greenery from climbing façades to modular systems – are co-designed, installed and monitored in real conditions. Local NGOs and community partners play a central role, anchoring the interventions in lived experience and ensuring that the project grows close to everyday urban life. Málaga acts as an analytical and governance hub, translating the collected evidence into planning tools, suitability maps, procurement criteria and transferable guidelines for European cities.

CASUAL GREEN builds a harmonised indicator framework that connects microclimate regulation, biodiversity benefits, circularity of materials and water, social comfort and spatial feasibility. Through environmental modelling, microclimate and hydrological measurements, biodiversity assessments, circularity analyses, behavioural observations, participatory methods and GIS-based mapping, the project creates the first cross-climatic evidence base for vertical greenery in Europe. This comprehensive approach allows cities to understand not only how VGS function, but where, under what conditions and with what long-term benefits they can be realistically implemented.

A national PED-aligned extension in Poland enriches this perspective by exploring how vertical greenery may help alleviate urban heat in dense districts where conventional greenery cannot be introduced. This component remains fully within national funding rules and does not impose additional obligations on international partners, while strengthening the project's understanding of microclimatic processes in space-constrained environments.

Ultimately, CASUAL GREEN transforms neglected vertical surfaces into active ecological organisms that cool, filter, support biodiversity and reconnect residents with nature. By integrating science, design, governance and community engagement, the project offers European cities a set of scalable, evidence-based tools to face rising temperatures, shrinking ecological space and accelerating climate challenges.

LastMileRobotLinkVRU

(Last Mile Shared Urban Mobile Robots Service providing an Inclusive, Safe, and Sustainable Multimodal Door-to-Door Link to Vulnerable Road Users)

Main Pathway: 1, Topic: 1

How to connect people from public-transport stops to their final destination? Only with the introduction of shared e-scooters and bike-share systems from 2019 onwards, municipalities began to address the "last mile" problem of public transportation beyond the provision of bike stands for privately owned bicycles and cycle lanes.

Regardless of how efficient and attractive public transportation itself may be, the ability to bridge the "last mile" gap is key to whether a person chooses public transport or reverts to the private car, with clear implications for CO_2 emissions, particulate pollution, congestion, and land use for parking. So, what happens after passengers step off the bus or train? How do they reach their front door, the super-market, or the doctor's office? Municipalities have celebrated shared e-scooters and bike-sharing systems as the long-awaited answer to the "last mile". Yet we must recognize that besides rarely substituting car trips and therefore hardly contributing environmentally, e-scooters only reach a fraction of the population. Approximately two-thirds of e-scooter users are under 40, while those 50 % of the EU population above the median age of 44.7 years are currently left without comparable inclusive last-mile

options. For older adults, e-scooters pose safety risks rather than benefits, since abandoned e-scooters create serious tripping hazards for elderly and visually impaired pedestrians. Furthermore, wet leaves and uneven pavements turn sidewalks into danger zones. And while the elderly must carry groceries or rely on walkers, lifting such devices onto public transport remains an ordeal. It seems, as if no one has thought of those 50% of the population who simply do not fit the e-scooter lifestyle. Where are the rental stations for shared smart trolleys at the grocery stores or shared walkers at public transport stations? Lifting such devices onto public transport remains an ordeal. There is, quite simply, no offer for the needy elderly with their diverse handicaps to overcome the last mile.

This project proposes a novel approach: A fleet of autonomous, lightweight mobile robots designed to provide safe, inclusive, and sustainable last-mile connections for pedestrians on sidewalks free of hazardous obstacles. A fleet management similar to a taxi dispatch center would optimize resources and waiting time for the users efficiently. With autonomous navigation, the robots could not only wait at public transport hubs but also drive directly to the doorstep, pick up passengers at home (or any requested location), take them safely to their destination, and immediately proceed to the next service call. Such a resource efficient solution would combine the positive flexibility of e-scooters – namely, that they can be parked almost anywhere – with the flip side that improperly parked e-scooters become hazards for other people.

While navigating, the robots could detect environmental hazards with their sensors, with AI algorithms identifying them as objects such as e-scooters or twigs, and share this information across the fleet to support dynamic digital mapping and maintenance processes. This is exactly what the engaged community in Aarhus is looking for. To date, the identification of such hazards has largely depended on how actively individual citizens report them through apps like Hamburg's "Melde-Michel". Complementary service robots could then perform cleaning functions, such as removing fallen leaves or twigs, thereby enhancing safety for all pedestrians.

By integrating autonomous sidewalk mobility, inclusive service design, and real-time environmental awareness, this LastMileRobotLinkVRU proposal envisions a scalable and socially responsible contribution to sustainable urban mobility to serve the needy – bringing last mile multimodal connection to those who need it most.

VeloCOM

(Value-Sensitive Communication for Sustainable Mobility)

Main Pathway: 1, Topic: 3

The concept of the 15-minute city aims to create sustainable and liveable urban environments by ensuring that essential services are located within short distances from residential areas. Cycling plays a central role in achieving this vision because it enables people to travel longer distances quickly compared to walking, while also promoting health, reducing CO_2 emissions, and supporting sustainable mobility. Despite these benefits, cycling promotion often provokes polarised debates. Mobility policies are frequently perceived as threats to established norms, with drivers fearing restrictions on their freedom and pedestrians expressing concerns about safety. These conflicts indicate that attitudes toward mobility are shaped not only by practical considerations but also by underlying values and identities, which vary across population groups.

Research in moral and environmental psychology, particularly Moral Foundations Theory (MFT), shows that core moral intuitions—such as care, fairness, loyalty, authority, purity, and liberty—strongly influence political attitudes and lifestyle choices, including support for sustainable mobility. Although MFT has been applied to environmental behaviour, it has not yet been systematically inte-grated into

European mobility policy or cycling promotion. Current communication strategies often fail to address these value dimensions, which contributes to resistance and contestation when reallocating street space or implementing cycling infrastructure.

This project seeks to close this gap by examining how moral foundations influence public opinion on mobility policies and cycling promotion. It aims to develop inclusive, value-sensitive communication that resonate with diverse population groups and foster constructive dialogue. The research identifies moral foundations relevant to mobility across populations, analyses how current communication acti-vates these foundations, and creates practical tools for planners and municipalities to improve both communication effectiveness and project approaches.

The methodology combines a literature review, policy and communication analyses on international to local levels, and representative surveys to map moral foundations and their impact on attitudes toward cycling and supporting mobility measures. Based on these findings, the project develops an online toolbox containing narratives with text modules, templates, and project approaches tailored to differ-ent moral perspectives. The toolbox is tested in pilot cities and refined for practical application. By integrating sociological insights into mobility planning, the project provides actionable guidance for policymakers and practitioners, reduce polarisation and societal conflict, and maximise the social, environmental, and health benefits of cycling as part of sustainable urban mobility and 15-minute-cities.

The project delivers scientific evidence on moral foundations in the population and provides methodol-ogies for analysing communication (strategies). Public authorities gain tools for more targeted and inclusive communication, leading to reduced polarisation and greater success in implementing mobility policies and cycling promotion. Urban governments benefit from improved understanding of value-driven attitudes, resulting in more liveable cities. Civil society experiences less conflict over mobility issues and greater acceptance of sustainable transport, contributing to health promotion through cy-cling. Research organisations advance the application of MFT in mobility studies and develop new methodologies, strengthening the role of value-based approaches in mobility research. Overall, the project supports sustainability goals, fosters constructive public discourse, and accelerates the transi-tion toward inclusive and effective mobility planning.

SROIs4PEDs

(Social Return on Investments for Positive Energy Districts: Making energy communities financially viable and socially measurable through integrated municipal planning tools)

Main Pathway: 3, Topic: 2

Local energy systems hold significant potential to deliver cost-effective and resilient infrastructure by harnessing distributed energy resources. Yet, despite a decade of research and pilot projects, Positive Energy Districts (PEDs) remain rare in practice due to persistent barriers in business models, legislation, and municipal administration. This project, SROIs for PEDs, addresses these challenges by integrating practitioner-driven planning processes with socio-economic evaluation tools to create scalable frameworks for PED implementation across Europe.

The consortium combines the Positive Energy Planning Process (PEPP), the ElectriCITY Model (ECM), and Social Return on Investment (SROI) methodology to assess and compare the social, environmental, and economic impacts of PEDs. By positioning these approaches at the core of PED development, the project moves beyond traditional economic evaluations to make complex interactions—such as the links between energy efficiency, affordability, and community well-being—transparent and actionable for municipalities, district system operators (DSOs), and citizens. Demonstration sites in Hammarby Sjöstad (Sweden),

Vienna's Klimadörfl energy community (Austria), and Cornellà del Terri with Diputació de Girona will serve as testbeds, enabling comparative analysis across diverse regulatory and climatic contexts.

Innovation lies in broadening the energy community concept to encompass energy efficiency communities, creating tangible economic value through collective building improvements, joint procurement, and participation in flexibility markets. This approach addresses a critical market failure: in many parts of Europea, current market and regulatory conditions make investments in peer-to-peer energy trading at loss. By placing collective efficiency gains, at the core of the community goals, the ECM generates multiple revenue streams and cost savings, fostering a market demand for energy communities facilitated by education, collaboration and support. This is done through ElectriCITY's process that is administered in physical community meetings and digital collaboration between the meetings (ElectiCITY & LocalLife).

Expected outputs include quantified socio-economic effects (e.g., 10% more jobs, 30–50% energy cost savings, enhanced resident engagement), validated business models for financially viable energy communities, and recommendations for integrating PEDs into broader energy markets. Data-driven visualization tools will integrate technical, social, and economic indicators, enabling scenario modelling and decision support for municipalities and DSOs. The project's dissemination strategy combines academic publications, practitioner workshops, training materials, and real-time establishment of new energy communities, ensuring immediate impact and long-term replication.

International collaboration is central: Sweden contributes operational PED frameworks, Austria provides expertise in SROI and cooperative governance, and Spain adds advanced modelling and Mediterranean energy system perspectives. Together, the consortium develops transferable methodologies that identify universal success factors while accommodating local adaptation. By systematically applying SROI across multiple PEDs, the project makes social values visible and comparable, strengthening the DUT Knowledge Hub and accelerating Europe's transition to climate-neutral cities.

Ultimately, SROIs for PEDs demonstrates that energy communities can be both financially sustainable and socially enriching, shifting the narrative from energy transition as sacrifice to energy transition as opportunity. The project delivers actionable tools, validated models, and international guidelines that enable municipalities to integrate PEDs into mainstream urban energy planning, transforming them from niche experiments into standard components of Europe's sustainable future.

CoGrow

(CoGrow – Co-creating Green and Resilient Opportunities with Youth: Envisioning Green and Social Infrastructure through Urban Agriculture)

Main Pathway: 2, Topic: 1

CoGrow aims to co-develop a comprehensive framework for the inclusion of young people in urban agriculture (UA) as both green and social infrastructure. Recognising the dual ecological and social potential of UA, we will apply Nature-Based Thinking (NBT), Participatory Action Research (PAR), and co-creation methods to investigate and generate pathways for meaningful youth engagement. The project will focus on five European cities: Barcelona (Spain), Heumen (Netherlands), Ljubljana (Slovenia), Malmö (Sweden), and Palermo (Italy), as case studies. We will involve young people directly in the research process to generate locally grounded insights into how participation is shaped by ecological, social, cultural, and spatial contexts. CoGrow pursues four interrelated objectives: (O1) to examine how UA initiatives function as green and social infrastructures and how they currently engage youth; (O2) to explore, with young people, the ideal forms of UA green-social infrastructure, including the social functions and challenges perceived by youth; (O3) to expand the evidence base on the reciprocal

relationships between youth participation and social-ecological functions of UA, such as biodiversity enhancement, environmental stewardship, recreation, and community building; and (O4) to co-develop a comprehensive, evidence-based framework that identifies pathways for youth engagement, fostering environmental stewardship and connection to nature.

UA initiatives can simultaneously deliver ecological benefits, foster social cohesion, and enhance community resilience. While youth engagement in UA has been shown to promote critical consciousness, caring relationships, and environmental stewardship, participation remains uneven, largely project-based, and often focused on younger children (less than 15 years old), leaving older youth underrepresented. Consequently, the potential of UA to reconnect young people with nature, their communities, and each other remains underexplored, and systematic integration into urban green and social infrastructure is limited. CoGrow addresses this gap by adopting an NBT perspective, which integrates social, natural, and organizational dimensions in nature-based interventions. NBT emphasises the nexus between nature, the organizations managing natural spaces, and the communities engaging with them, providing a transdisciplinary lens for assessing the interactions that shape UA initiatives. Despite increasing recognition of NBT and participatory governance models, few projects have operationalized these principles specifically with and for young people. By combining Participatory Action Research (PAR) and co-creation methods, CoGrow will identify both visible and hidden barriers to youth participation, while co-generating solutions that are context-sensitive and youth-driven. Evidence suggests that PAR can enhance NBT's core relationships by deepening community–nature connections through lifeworld perspectives, creating 'free spaces' for democratic engagement across the community–organization nexus, and grounding nature–organization relationships in place-based, youth-informed values and practices.

By integrating participatory, co-creative, and transdisciplinary approaches, CoGrow will generate actionable, research-based insights to inform the design, governance, and implementation of inclusive UA initiatives across diverse European urban contexts. The project will provide both theoretical contributions to Nature-based Thinking and practical guidance for policymakers, educators, and community organizations seeking to engage youth in socially and ecologically resilient urban environments. CoGrow will position young people not only as participants but as co-creators of green and social infrastructure, advancing our understanding of how urban agriculture can foster sustainable, inclusive, and resilient cities.

ToURBAN – Tourism for Urban Regeneration

(Co-Creating Regenerative Tourism for Urban Resilience and Inclusive Place Development in Vulnerable Socio-Economic Contexts)

Main Pathway: 2, Topic: 2

The aim of this transdisciplinary project is to explore how regenerative tourism can act as a catalyst for inclusive development in socio-economically vulnerable urban areas. These areas face intersecting challenges - social exclusion, environmental degradation, and limited access to cultural and recreational resources - while rarely benefiting from tourism-related revenues.

The project introduces regenerative tourism models that go beyond sustainability by actively restoring and enhancing social, ecological, cultural, and economic systems. It emphasizes systems thinking, circular resource flows, and place-based strategies that strengthen local identity and resilience. ToURBAN builds on the principle of equitable distribution of tourism benefits, viewing tourism as a means to redistribute resources and expand opportunities within cities and neighbourhoods.

The project adopts an expanded view of the tourist, following MacCannell's (1989) notion of tourism as a quest for authenticity involving movement away from everyday routines toward other temporalities and spatialities. This perspective broadens tourism practices beyond conventional leisure travel to include visiting friends and relatives, day trips, and intra-urban tourism, where residents engage in tourism-like experiences within their own city. These forms are vital to local dynamics and can reinforce community values, heritage, relationships, and economies.

We adopt a research-oriented approach, bridging strategic and applied research to produce knowledge, analyse data, and develop tools for stakeholders and policymakers. The project pursues three interlinked goals:

- Design and validate regenerative tourism models and strategies for inclusive tourism through systems thinking and co-creation.
- Develop evidence-based policy recommendations for integrating regenerative tourism into urban strategies and business models.
- Advance methodologies for enhancing urban Living Labs as participatory research and innovation platforms in tourism development.

Operationally, the project will establish Living Labs (Voytenko et al., 2015) in four socio-economically vulnerable areas in European cities - Cergy (Paris Region), Huedin (Cluj County), Coimbra, and Gothenburg - with Gothenburg as lead. These labs will serve as co-creation platforms involving residents, visitors, SMEs, DMOs, municipalities, housing organizations, NGOs, and researchers. Through participatory processes, we will co-develop scalable, context-sensitive models for regenerative tourism that embed circular economy principles, strengthen local identity, and foster community-driven entrepreneurship.

The project combines expertise in tourism studies, urban governance, cultural heritage, business innovation, and participatory design. This integration ensures regenerative tourism is treated not as a sectoral activity but as a catalyst for systemic urban transformation. By embedding circular economy principles and inclusive placemaking into tourism development, ToURBAN moves beyond traditional sustainability toward models that actively restore ecological and social systems.

Building on insights from previous European research and innovation programs – such as URBiNAT (nature-based solutions and citizen engagement), CREATOUR (creative tourism and cultural mapping), TiMS (inclusive tourism in multicultural societies), and CU (digitalization and social inclusion) – the project introduces a conceptual and methodological leap. Through Living Labs in four European cities, ToURBAN will co-create and test scalable models for regenerative tourism, delivering policy recommendations, circular business strategies, and participatory tools that strengthen local identity, foster social cohesion, and support community-driven entrepreneurship. These outputs will inform urban strategies across Europe, contributing to climate-neutral, inclusive, and resilient cities.

IST-BUILD

(Integration of Innovative Solar Technologies with AI-Driven Smart Monitoring for Sustainable Buildings and Districts)

Main Pathway: 3, Topic: 3

The IST-BUILD project-Integration of Innovative Solar Technologies with AI-Driven Smart Monitoring for Sustainable Buildings and Districts–addresses one of the most current pressing urban challenges: integrating Positive Energy Districts (PEDs) into sustainable urban heating and cooling strategies. This initiative aims to decarbonise buildings sector, responsible for nearly 40% of global energy consumption

and a significant portion of greenhouse gas emissions. By focusing on critical areas, IST-BUILD directly contributes to minimising both environmental impacts and promoting sustainable urban development. Given that buildings impact energy-related CO2 emissions worldwide, the contributions of IST-BUILD to transform urban energy usage and management align with the vital flow toward climate neutrality and achievement of global sustainability objectives.

IST-BUILD aims to transform buildings from passive energy consumers into intelligent, active nodes within PED-based urban heating and cooling networks, enabling a holistic shift toward climate-neutral, resilient, and resource-efficient urban systems. Addressing PED Topic 3, the PEDs in Urban Heating and Cooling Strategies, IST-BUILD aim to integrate advanced hybrid Photovoltaic/Thermal(PV/T) solar technologies with a next-generation Artificial Intelligence (AI) platform designed to optimise multi-energy flows at both building and district levels.

Technological core of the IST-BUILD project lies in novel next-generation PV/T configurations, capable of generating both electrical and thermal energy, specifically optimized for thermal integration within PEDs urban areas, to produce a net surplus of energy over their consumption. The PV/T solutions are designed for versatile use in building environment,multifunctional installation on facades, green roofs, and shading elements to enhance energy harvesting, supporting low-carbon heating and cooling supply.

To promote renewable-based urban heating and cooling strategies, aligned with PED Topic 3, IST-BUILD introduces a powerful AI-driven digital twin platform to continuously monitor buildings and energy systems, forecast energy flow changes, and coordinate production, storage, and consumption across multiple buildings. By leveraging real-time data, machine learning, and predictive analytics, it optimises electricity and heat generation, lowers operational costs, ensures comfort, and prevents system failures before they occur. The digital twin incorporates BIM models and GIS data, providing a spatially aware representation of the district that aids in planning, decision-making, and adaptive thermal strategies.

Integrating advanced PV/T technologies and smart digital control, IST-BUILD aims to transform buildings from passive consumers into proactive, flexible, and collaborative energy contributors. Demonstrations in real pilot sites serve as major components of PEDs,by assessing their performance across diverse climatic and regulatory conditions. These pilots act as real-world platforms for testing and refining, ensuring they are tailored to tackle specific urban challenges and stakeholders’needs.

Beyond technological innovation, IST-BUILD is structured to support stakeholder engagement, knowledge exchange, and capacity building. Co-creative workshops, design toolkits, and training materials will empower public authorities, industry professionals, and communities with essential knowledge and skills to confidently adopt and replicate IST-BUILD PV/T solutions.

IST-BUILD aims to speed up the implementation of inclusive, climate-resilient PEDs adopting a comprehensive framework that merges technological, digital, and socio-political aspects. This integration focuses on solar innovation, smart energy management, participatory urban design, and community involvement. Utilising these interconnected components, IST-BUILD actively contributes to significant initiatives, including the European Green Deal, Net Zero 2050 and SDGs 7, 9 and 11

EMPATHY

(Empowering Multimodal Mobility Planning with AI-based Traffic Simulations of Human-Centered Journeys)

Main Pathway: 1, Topic: 1

The successful transition from car-centric mobility habits and infrastructure to multimodal mobility alternatives in 15-minute cities (15mC) will depend on a common vision shared by citizens and planners.

On the one hand, concepts of multimodal urban mobility are likely to highly diverse across different individuals. Pedestrians, cyclists, and motorists might have potentially competing needs and requirements that must be coherently represented for effective urban and traffic planning. On the other hand, public feedback must be integrated into the constraints of existing and planned infrastructure as well as safety and legal requirements. Thus, the co-design of public spaces and mobility solutions for 15mC require technologies that can synthesize public opinion and planning constraints as well as generate viable compromises to secure the public adoption of 15mCs.

EMPATHY will rely on expert analyses (WP 2) and crowdsourced recordings of multimodal journey experiences (WP 3) to develop an urban simulation and citizen engagement platform (WP 4) that will facilitate effective and transparent discourse between diverse stakeholder groups of 15mCs. Multimodal journey experiences of citizen stakeholders will be implicitly recorded, which will provide training data for predictive modeling and generative AI to respective create data-driven analytics for participatory design as well as render immersive VR simulations to provoke discussions of representative "what-if" scenarios. Agent-based AI will elicit and moderate human feedback as well as document emerging visions of 15mCs.

The cities of Białystok (Poland) and Chemnitz (Germany) will serve as representative pilot contexts for EMPATHY. Both municipalities are medium-sized car-centric cities that have embedded the 15mC principles into their strategic urban development frameworks. In Białystok, the 15mC is substantially integrated in the 'Sustainable Urban Mobility Plan for the Białystok Functional Area until 2035' (SUMP 2035), which is identified as the second highest priority measure for achieving the main objective of sustainable mobility. In Chemnitz, the 15mC is implicitly anchored in several future tasks in the "Integrated Urban Development Concept 2035" (INSEK 2035), e.g. in the areas of "Chemnitz Paths" and "Chemnitz Arterial Roads". The overarching goal of both strategies (INSEK and SUMP 2035) is to establish an urban transport network and connections that are environmentally sustainable, suitable for various modes of transport, safe and comfortable, and adapted to the diverse needs and perspectives of different transport users within a 15-minute city.

To sum, EMPATHY will deliver insights on how citizens perceive public spaces, mobility, and infrastructure. Methods will be developed that are citizen-oriented, time- and cost-efficient, and support ongoing co-participation of all urban planning stakeholders. By identifying determinants of subjective traffic safety and well-being in public spaces, EMPATHY will support the co-creative planning for shared spaces to support multimodal and sustainable urban mobility that will be accepted by diverse stakeholders.

FAIRSPACE

(Managing Parking Pressure from Supersized Urban Vehicles: Fair Space Allocation and Regulation in Cities)

Main Pathway: 1, Topic: 2

European cities face a paradox: while policies increasingly promote proximity-based, low-carbon mobility, private vehicles continue to grow in size and weight (Laveneziana et al. 2024). This trend – described as "carspreading" (T&E 2025), "supersizing" (Gottesfeld 2025) or "mobesity" (Brand 2024) – poses major challenges for climate goals, safety, spatial justice and liveability. In Europe, the average car grows by 1 cm every two years (T&E 2025), and SUVs now account for nearly half of new registrations (Cheshmehzangi et al. 2025). Larger vehicles emit 20–25% more CO_2, cause exponentially more road damage, and significantly increase risks for pedestrians and cyclists (Edwards & Leonard 2022; Goodman et al. 2025), due to vehicle size forms and weight per se, but also different characteristics of the drivers (Haustein, Humpe & Gössling 2022). Their growing footprint crowds out space for walking, cycling, street life and nature-based uses, raising significant justice concerns.

Supersizing is not only a matter of consumer preference. It is actively shaped by supply structures, profit models, marketing, taxation, company-car policies and regulatory gaps, all of which reinforce car dependency (Mattioli et al. 2020; Markard et al. 2023). For example, in Germany the number of SUV models rose by 291% between 2013 and 2023, while the offer of small cars declined by 24% (KBA 2023). Regulatory frameworks have often failed to react – minimum parking requirements, uniform parking fees, and permissive vehicle classifications indirectly incentivise large vehicles and privilege automobility in already contested urban space.

Only recently have cities begun to respond. For example, Paris, Lyon, Zurich and Koblenz have introduced differentiated parking fees based on vehicle size or weight. These first attempts reveal strong implementation challenges, political contestation and knowledge gaps concerning impacts, fairness and acceptance. Given that parking occupies 10–20% of street space and locks cities into long-term spatial choices, understanding which instruments work, for whom, and under what conditions is crucial for achieving sustainable and socially just mobility transitions. There is an urgent need to learn about the impacts and perception of different strategies of reacting to 'mobesity', and what hinders their implementation, and to support cities in developing optimal solutions tailored to their specificity.

At the same time, a counter-trend is emerging: small and ultra-light modes (e.g. microcars, microvans, e-tricycles, cargo bikes). These vehicles align with 15-minute city objectives and reduce energy and spatial demands, but they also create new challenges. Ambiguous classifications, lack of dedicated parking solutions, and conflicts over limited space in shared areas undermine their public perception and policy support. Instead of adapting regulations to new forms of mobility, many cities rely on outdated rules designed around cars, further entrenching inequalities in access to space and safety (Gibson et al. 2022).

This project addresses how vehicle supersizing challenges urban sustainability, social justice and spatial governance. We will examine the drivers behind increasing vehicle size, map the distribution of its impacts, and co-design socially just, feasible and context-sensitive policy responses. These will include reforms to parking regulation, curbside management, and vehicle-based differentiation in costs and incentives, supporting cities in reducing car dependency and reallocating space towards sustainable mobility. By combining data analysis, policy evaluation, spatial modelling and participatory co-creation, the project will generate actionable evidence and tools enabling municipalities to manage the rise of "mobesity" while empowering the downsizing alternatives essential for climate-neutral, liveable and fair urban futures.