

SmartUrbanity

Empowering Cities

Engaging Citizens



Advancing 15-Minute Cities through
Collaborative and Smart Urban
Solutions



Driving Urban
Transitions



Co-funded by
the European Union

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SmartUrbanity: Empowering Cities, Engaging Citizens

1. Urban centers worldwide are at a critical crossroads. Cities face mounting pressures from traffic congestion, air pollution, social fragmentation, and unequal access to essential services. Traditional top-down urban planning approaches have often failed to address the diverse, evolving needs of residents, particularly marginalized communities. In response to these challenges, SmartUrbanity emerges as a transformative European initiative that reimagines how cities can be designed, experienced, and governed—placing citizens at the heart of urban transformation through innovative digital tools and collaborative decision-making.
2. The 15-minute city concept, pioneered by Carlos Moreno in 2020, offers a compelling vision for urban living: neighborhoods where residents can access all essential services—work, healthcare, education, shopping, and recreation—within a 15-minute walk or bike ride from their homes. SmartUrbanity addresses this critique by ensuring that the 15-minute city concept is implemented inclusively, using granular data and citizen participation to capture the nuanced realities of diverse urban populations.
3. Smart urban planning in the SmartUrbanity framework transcends traditional technology-driven approaches. Rather than deploying technology for its own sake, the project integrates cutting-edge digital solutions—including machine learning algorithms, agent-based models, and real-time data analytics—with deep community engagement to create truly responsive urban environments. This human-centered approach ensures that technological innovation serves people's needs rather than imposing predetermined solutions.



4. SmartUrbanity brings together cities, researchers, technology companies, and citizens to work as partners. This teamwork helps cities become stronger, more flexible, and better prepared for future challenges. It also makes sure decisions are fair, open, and based on real needs. Through easy-to-use data platforms, community workshops, and clear decision-making processes, people can share ideas and help design solutions that fit their everyday lives. By listening to different voices and encouraging collaboration, SmartUrbanity aims to turn cities into safe, green, and lively places where everyone feels included and has equal access to opportunities.

The Urban Challenge

1. Traffic congestion is one of the most visible problems in modern cities. As more people rely on cars, roads become jammed during rush hours. Commuters waste hours each day stuck in traffic instead of working or spending time with family. This congestion hurts the economy and makes city life stressful and unpleasant. The problem is worst in cities with poor public transport, where people have no choice but to drive. In addition to lost productivity, traffic jams contribute to increased air pollution and greenhouse gas emissions, worsening environmental conditions. Noise pollution from idling vehicles also affects residents' health and well-being.
2. Car-dependent cities create serious environmental problems, especially high CO₂ emissions and poor air quality. Private vehicles are the biggest source of carbon emissions in urban areas. The pollution from cars harms public health, particularly for children, elderly people, and those with breathing problems. In addition to air pollution, car dependency contributes to noise pollution, which can lead to stress, sleep disturbances, and cardiovascular issues. The constant demand for fuel also accelerates the depletion of non-renewable resources, increasing global reliance on fossil fuels.
3. The biggest challenge may be accessibility—whether people can reach the places they need to go. Many city residents, especially in outer areas, struggle to get to jobs, schools, healthcare, and shops using public transport or active travel. This problem hits hardest for low-income families, people with disabilities, elderly residents, and minority communities who may not own cars.



SmartUrbanity Vision

1. SmartUrbanity envisions cities where everyone can easily reach the places, they need within 15 minutes by walking, cycling, or using public transport. We believe that urban planning should put people first, not cars. Our vision is to create neighborhoods where residents can access jobs, schools, healthcare, shops, and parks quickly and safely, regardless of their income, age, or physical abilities. By using digital tools and citizen input, we want to break down the barriers that prevent people from living active, connected lives in their communities. This means transforming urban spaces into inclusive, safe, and vibrant environments where every resident feels they belong and can thrive.
2. To achieve this vision, SmartUrbanity brings together citizens, city officials, businesses, and researchers to work as partners in reshaping urban life. We provide digital platforms that let residents share their experiences and ideas while giving policymakers the data and tools they need to make smart decisions. Through our approach, cities can understand what people really need, test different solutions, and create policies based on real evidence rather than assumptions. We imagine a future where urban development responds to community voices, where technology serves people rather than replacing them, and where sustainable, community-focused living becomes the norm. SmartUrbanity is not just about building better cities—it's about building cities that adapt to their residents and improve quality of life for everyone.
3. SmartUrbanity also believes that learning and sharing ideas are important for making cities better. We help people understand how their daily choices—like how they travel or use energy—affect the city. Through easy-to-use tools, fun events, and group activities, we encourage everyone to get involved and learn more. When people know more, they feel more connected and ready to help shape their neighborhoods. Our goal is to build cities that are not only smart and green, but also friendly and welcoming for everyone. We want people to feel proud of where they live and confident that their voices matter. Together, we can build places that work well for everyone, now and in the future.



SmartUrbanity: Empowering Cities, Engaging Citizens				
SmartUrbanity Consortium				
Partners	Organization	Type of organization	Country / Funding agency	Contact Person
Project Coordinator (Main Applicant)	UNIVERSITA' DEGLI STUDI DI ROMA LA SAPIENZA (Sapienza)	University	Italy/ <u>MIMIT</u>	Guido Gentile
Project Partner 2 (Co-Applicant)	MOVESION S.R.L. (Movesion)	<u>SME</u>	Italy/ <u>MIMIT</u>	Melissa Berutti Bergotto
Project Partner 3 (Co-Applicant)	CTLUP SRL (CTLup)	<u>SME</u>	Italy/ <u>MIMIT</u>	Luca Persia
Project Partner 4 (Cooperation P.)	MUNICIPIO XII ROMA CAPITALE (MXII)	Municipality	Italy	Francesca Severi
Project Partner 5 (Cooperation P.)	CONSULTA CITTADINA SICUREZZA STRADALE, MOBILITA' DOLCE e SOSTENIBILITA' (RRSC)	Public Institution	Italy	Enzina Fasano
Project Partner 6 (Co-Applicant)	HUN-REN SZAMITASTECHNIKAI ES AUTOMATIZALASI KUTATOINTEZET (SZTAKI)	Research Institute	Hungary/ <u>N KFIH</u>	Domokos Esztergár-Kiss
Project Partner 7 (Co-Applicant)	KARLSRUHE INSTITUTE OF TECHNOLOGY (KIT)	University	Germany/ <u>D LR</u>	Martin Kagerbauer
Project Partner 8 (Cooperation P.)	KARLSRUHER VERKEHRSVERBUND (KVV)	Transport Authority	Germany	Olaf Strotkötter
Project Partner 9 (Cooperation P.)	STADT KARLSRUHE – Civil Planning Office (STADT KARLSRUHE)	Municipality	Germany	Heike Dederer
Project Partner 10 (Co-Applicant)	EGE UNIVERSITY (EGE)	University	Türkiye/ <u>TU BİTAK</u>	Taylan Günay
Project Partner 11 (Cooperation P.)	IZMIR BUYUKSEHIR BELEDIYESI (IMM)	Municipality	Türkiye	Hamidreza Yazdani
Project Partner 12 (Co-Applicant)	Zurich University of Applied Sciences (ZHAW)	University	Switzerland /Innosuisse	Michail Makridis
Project Partner 13 (Cooperation P.)	PostAuto AG (PostAuto)	Special Statutory Corporation	Switzerland	Tobias Hänggi
Project Partner 14 (Co-Applicant)	Ecole Nationale des Travaux Publics de l'Etat (ENTPE)	University	France/ <u>AN R</u>	Isabel Cunha
Project Partner 15 (Cooperation P.)	Métropole de Lyon (MGL)	Municipality	France	Benoît Demongeot
Project Partner 16 (Cooperation P.)	École Nationale Supérieure d'Arts et Métiers (ENSAM)	University	France	Tatiana Reyes Carrillo

Lead Partners

Lead Partner

01

Sapienza University of Rome

Project Coordinator | Italy

Leading administrative and financial coordination with deep expertise in transportation engineering, urban mobility modeling, and digital platform development. Sapienza develops the core WebGIS technology for both the Accessibility Analysis and Decision Support System platforms.

- Administrative and financial project management
- Accessibility Analysis (AA) Platform Development
- Model Implementation and Data Collection

Lead Partner

02

Movesion S.R.L.

Digital Solutions Development Lead | Italy

Leading the Development of Digital Solutions (WP3) and Rome Use Case implementation. Specializing in platform development with proven expertise in mobility tracking and citizen engagement applications. Develops the core Citizen Engagement App, leveraging successful frameworks from previous urban mobility projects.

- Citizen Engagement App development
- Machine learning algorithms for trip detection
- Rome pilot site coordination and beta testing

Lead Partners

L e a d P a r t n e r

03

CTLup SRL

Technical Coordinator | Italy

Leading Planning, Pilot Implementation and Evaluation (WP4) and serving as Technical Coordinator for the entire project. Coordinates pilot design and execution across all five European cities, ensuring solution validation and comprehensive impact evaluation aligned with diverse urban contexts.

- Technical project coordination and oversight
- Multi-city pilot implementation management
- Solution validation and impact assessment

L e a d P a r t n e r

04

SZTAKI

Co-Applicant | Hungary

Leading Hungarian research institution specializing in participatory framework development and iterative improvement. Under the direction of Dr. Domokos Esztergár-Kiss, SZTAKI employs agile methodologies and policy tracking systems to refine SmartUrbanity's solutions based on user feedback.

- Framework development through workshops
- Iterative refinement using rapid prototyping
- Policy tracking system for monitoring implementation and transparency

Lead Partners

Lead Partner

05

Karlsruhe Institute of Technology (KIT)

Research Lead | Germany

Leading Research and Analysis and the Karlsruhe Use Case, utilizing mobiTopp/logiTopp agent-based models to identify conditions for achieving 15-minute city goals, covering both passenger and freight transport.

- mobiTopp agent-based modeling (passenger & freight)
- Online knowledge repository development
- Research and analysis coordination

Lead Partner

06

Ege University

İzmir Use Case Leader | Türkiye

Leading the İzmir Use Case and gamification toolkit development, addressing pedestrian safety near urban highways, optimizing logistics, and promoting walkability through gaming strategies and stakeholder engagement events.

- Gamification toolkit and engagement events
- Pedestrian safety and accessibility analysis
- Urban logistics and last-mile delivery

Lead Partners

L e a d P a r t n e r

07

ZHAW Zurich University of Applied Sciences

DRT Extension | Switzerland

Leading the Greater Zurich Area Use Case in partnership with PostAuto, developing MATSim-based agent-based models to optimize demand-responsive transport integration with conventional public transport, particularly for rural and suburban areas.

- DRT-public transport integration strategies
- Dissemination and knowledge sharing
- Data handling and GDPR compliance

L e a d P a r t n e r

08

École Nationale des Travaux Publics de l'État (ENTPE)

Engagement Lead | France

Leading Policy Recommendations & Strategy Optimization and the Lyon Use Case, specializing in policy analysis, accessibility research, and HAI-enhanced decision-making for active mobility promotion.

- Roadmaps and guidelines development
- Policy assessment and analysis
- User experience research

Pilot Cities



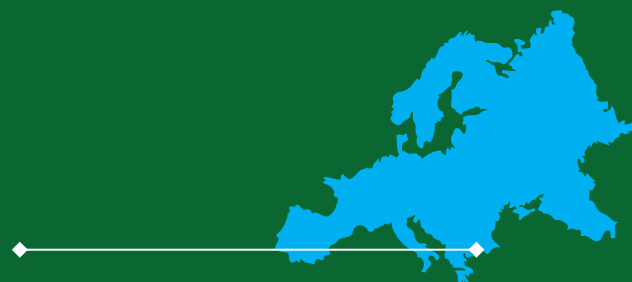
Rome, Italy

Leader: Movesion
Area km²: 73
Citizen: 140K



Karlsruhe, Germany

Leader: KIT
Area km²: 173
Citizen: 300K



İzmir, Türkiye

Leader: EGE
Area km²: 800
Citizen: 2.9M



Lyon, France

Leader: ENTPE
Area km²: 538
Citizen: 1.4M



Zürich Greater Area
Switzerland

Leader: ZHAW
Area km²: 991
Citizen: 1.5M

By the Numbers

Cost

Project Total
Costs €2.99 M



Timeline

Start: Jan 2025
End: Dec 2027



Partners

16 Partners



Milestones

8 Milestones



Work Packages

7 Work Packages



Pilot Cities

6 Pilot Cities



SmartUrbanity Impacts

SmartUrbanity helps communities how their cities are planned and developed. Through easy-to-use mobile apps, residents can share their opinions, report problems in their neighborhoods, and suggest ways to make their areas better. The project aims to get more people involved in city planning – targeting 10% more community participation and building trust between citizens and local government (reaching 70%). By giving people simple digital tools to express their needs and ideas, SmartUrbanity creates stronger communities where everyone's voice matters and people feel more connected to their neighborhoods.

The project focuses on making cities cleaner and healthier by encouraging people to walk, bike, and use public transportation more. SmartUrbanity aims to reduce air pollution and emissions by 20%, create 15% more safe walking and cycling routes, and lower noise levels by 20%. When fewer people rely on cars for every trip, cities become less congested, the air becomes cleaner, and neighborhoods become more pleasant places to live. This shift toward sustainable transportation directly improves public health and creates a better environment for everyone, especially children and elderly residents.

SmartUrbanity brings economic benefits to cities, businesses, and residents alike. The project helps cities save money (targeting 10% cost reduction) while attracting new investments and creating jobs (15% increase). City officials and urban planners get access to practical digital tools that help them make better decisions based on real data from their communities. Businesses find new opportunities to develop innovative services that support sustainable city living.

SmartUrbanity also helps people feel more connected and included. The project makes sure everyone can join in, no matter their age, background, or digital skills, by using easy-to-understand apps and tools. It shares clear updates about city projects so people know what's happening and can trust the process. SmartUrbanity also organizes community events and training sessions to teach digital skills, making it easier for more people to take part in decisions about their neighborhoods. By encouraging open communication and teamwork between residents, city officials, and local businesses, SmartUrbanity creates fairer, friendlier cities where everyone's ideas matter and people feel proud of their community.



The Digital Toolkit

1. **Citizen Engagement App.** This mobile application brings citizens into an active engagement process, encouraging their contribution to urban development. Users can share insights on issues such as the lack of neighborhood amenities, safety, accessibility, and security concerns (e.g., poorly lit streets, speeding of vehicles, and high-risk areas for bicycle theft), as well as suggestions for sustainable improvements like additional Public Transport (PT) options and bike paths. The app allows for the tracking of daily travels, inviting users to reflect on the purpose, safety, accessibility, and emotional impact of trips, thereby fostering a data-rich understanding of urban mobility. It includes features for unregistered reporting. People can also vote on ideas shared by others. The app sends alerts about changes in the neighborhood. It helps city planners understand what people really need. Users can upload photos to show problems. They can also mark places they like or avoid. The app is easy to use and works on most smartphones.
2. **Accessibility Analysis (AA) Platform.** Accessible via any web browser, this dynamic WebGIS platform serves both the community and policymakers by visualizing aggregated citizen data on urban transport issues. It features interactive maps and lists enriched with community input, allowing users to prioritize issues through upvotes and downvotes. The platform also offers detailed heatmaps focused on accessibility and road safety, equipped with powerful filters for demographic-specific analysis and urban planning. These filters enable the customization of heatmaps and KPIs to reflect various modes and dynamic population groups (e.g., a female student walking), based on user-selected characteristics (e.g., gender, student status, disabilities, caregiver role, income). This approach enhances the understanding of diverse realities and supports informed decision-making through automated data analysis. Additionally, the platform fosters community engagement in sustainable urban development through a participatory digital forum, where members can suggest and vote on solutions for reported issues.



The Digital Toolkit

3. **Decision Support System (DSS) Platform.** An extension of the AA Platform, this system is designed to help policymakers evaluate potential urban mobility interventions. It utilizes robust Agent-Based travel demand Models (AGMs) and machine learning (ML), integrating simulators and AI tools that process data from the Citizen Engagement App. Policymakers can use interactive maps to monitor infrastructure, analyze mobility patterns, and devise responsive mobility policies based on community feedback. These policies consider factors such as demographic impacts, costs, urgency, projected outcomes, and equity, with an emphasis on the needs of disadvantaged groups. Here, policymakers can share their proposals for urban interventions, gather input, and refine strategies before finalizing decisions, thereby promoting transparency, and encouraging community involvement. The platform makes it easier to understand how people move around the city. It helps leaders see which areas need better transport options. Citizens can also see what changes are being planned and give their opinions. This way, decisions are made with more care and fairness. The system helps everyone work together to build a better city.
4. **Gamification.** By integrating game-like mechanics into urban data collection, SmartUrbanity transforms data sharing into an engaging experience. Its innovative dual scoring system fosters engagement and a sense of belonging. Green Points are awarded for sharing trip-related data and underscore eco-friendly choices, offering more points for sustainable trips. These can be redeemed for cultural and sports incentives, encouraging further participation. Yellow Points focus on community building, rewarding location-based contributions and participation in event campaigns, thus enabling users to support selected community projects with their points. The inclusion of a badge system celebrates personal achievements (e.g., recognizing the first 100 km cycled) and encourages participation in event campaigns inspired by mobile gaming. This promotes both individual and group activities, such as recording a trip to a favorite park or joining a local mapping session. This comprehensive approach not only fosters community involvement but also strengthens collective efforts, merging personal achievements with the broader goal of enhancing community well-being and unity



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**THANK
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