Sustainable Water Management Doctoral Programme (Water4All)

Title of the PhD Project	A Model for Sustainable Development: Urban Management Strategies
Acronym	MOSDEM
Research Fields of the Project	Sustainable Urban Planning, Urban Management
Keywords	Strategic Planning, Sustainability, Urban Management
Host Institution, Department and Campus Location	İstanbul Technical University, Taşkışla Campus Istanbul Türkiye
PhD Awarding Institution and Graduate Programme	Graduate School, Department of Urban and Regional Planning.
Name and Affiliation of Main Supervisor	Assoc. Prof. Dr. Kerem Yavuz Arslanlı Istanbul Technical University
Name and Affiliation of Co-Supervisors	NA
Research Environment and Infrastructure	
Scientific Context of the Project	The project, "A Model for Sustainable Development: Urban Management Strategies," delves into the scientific context of fostering sustainable urban development. In response to the escalating challenges posed by rapid urbanization, the research aims to construct a comprehensive model that integrates effective urban management strategies. The scientific framework emphasizes the urgent need for sustainability in the face of environmental, social, and economic pressures. The project underscores

	the interdisciplinary nature of sustainable urban development, acknowledging the intricate interplay between various factors such as infrastructure, social equity, and environmental conservation. By incorporating cutting-edge research in urban planning, environmental science, and social sciences, the model aspires to provide a holistic approach to urban management. Key elements of the scientific context include the exploration of innovative technologies, community engagement methods, and policy interventions that collectively contribute to a resilient urban ecosystem. The project recognizes the significance of balancing economic growth with ecological preservation and social inclusivity. Ultimately, the scientific context of this project aligns with the global imperative to create livable and sustainable urban environments. The research aims to contribute valuable insights and practical solutions for policymakers, urban planners, and stakeholders involved in shaping the future of cities.
Brief Workplan	The four-year work plan for the project, "A Model for Sustainable Development: Urban Management Strategies," strategically unfolds across distinct phases to ensure a comprehensive and impactful approach to sustainable urban development. In the foundational Year 1, the project establishes its groundwork. The inception phase involves team formation, literature review, and setting specific research objectives. Simultaneously, stakeholder engagement begins, emphasizing collaboration with local communities, government bodies, and academic partners. The goal is to initiate a dialogue that informs the subsequent phases of the project. Year 2 focuses on technological integration and pilot implementation. Technological solutions such as IoT devices and data analytics platforms are developed and integrated into the urban management model. A carefully selected pilot area undergoes the initial implementation, serving as a testing ground to assess the feasibility and effectiveness of the integrated technologies. Feedback from this phase is crucial for refining the model for broader applicability. Scaling and optimization characterize Year 3, as the project expands to additional urban areas. The lessons learned from the pilot phase inform the optimization process, ensuring adaptability to diverse urban contexts. Continuous monitoring and feedback mechanisms are established to facilitate ongoing adjustments, emphasizing a dynamic and responsive model. In the final year, the project shifts towards comprehensive evaluation, documentation, and dissemination. A thorough evaluation assesses the model's impact on various sustainability indicators. Findings are documented and synthesized into a comprehensive report. The results are disseminated through academic publications, conferences, and policy briefs, contributing to the wider knowledge base on sustainable urban development.

	Additionally, knowledge transfer mechanisms, such as guidelines and toolkits, are developed to facilitate the application of the model beyond the project's scope. Overall, the work plan strategically combines research, technology development, community engagement, and scalability, ensuring a holistic and adaptable model for sustainable urban development. The iterative nature of the plan allows for continuous refinement and improvement, aligning with the dynamic nature of urban environments and the evolving needs of diverse stakeholders.
Innovative Aspects of the Project	The project on "A Model for Sustainable Development: Urban Management Strategies" introduces a range of innovative aspects to revolutionize urban development. Employing an integrated systems approach, the project leverages advanced technologies such as data analytics, IoT, and artificial intelligence to create a dynamic and responsive model. Community-centric design is a key focus, ensuring the active involvement of local communities in the planning process, fostering a sense of ownership and cultural relevance. Resilience planning is another innovative feature, acknowledging and addressing the increasing vulnerability of urban areas to environmental challenges. The project incorporates adaptive strategies and infrastructure that can withstand shocks, enhancing the overall sustainability of urban environments. Policy integration is emphasized, recognizing the need for cohesive and aligned policies across sectors to drive sustainable development effectively. Data-driven decision-making is integral, utilizing big data and analytics to inform urban management strategies, ensuring evidence-based interventions that respond to evolving urban dynamics. Circular economy principles are also integrated, promoting resource efficiency and waste reduction within urban systems. In summary, the project's innovation lies in its holistic approach, blending technology, community engagement, resilience planning, policy integration, data-driven decision-making, and circular economy principles to forge a sustainable and resilient model for urban development.
Training Opportunities of the Project	
Interdisciplinary Aspects	Urban Economics and Urban Management

Intersectoral Mobility **☒ Short Visit** **☐ Secondment**	TBD
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International Academic Secondment	TBD

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