

31st IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)
Virtual Presentations - 31st IAA SYMPOSIUM ON SPACE AND SOCIETY (VP)

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SPACE FOR URBAN PLANNING: TEAM PROJECT CONCLUSIONS FROM THE SPACE STUDIES PROGRAM

Abstract

During the summer of 2019, a team of thirty professionals and students with different backgrounds and nationalities worked on the above project at the International Space University (ISU). The project aimed to study, identify and analyze the feasibility of introducing space technologies and related spin-offs to support local or national authorities in defining new strategies and processes for urban planning and development. This is a multidimensional topic that involves multiple actors, from policy makers to engineers and citizens. Urban planning and development is becoming an issue worldwide as projections estimate that more than 70 percent of the world's population will live in cities by 2050, and to date there are already more than 40 megacities. This not only impacts the pollution and congestion within cities, but also affects the surrounding areas. For example, agricultural and farming land will need to increase their production to meet the rising demands of the cities. This will bring degradation of land, pristine environments, ecosystems and a depletion of natural resources. Given these factors, we consider our project to be very relevant to urban planning processes. We suggest a broad range of solutions for local and national leaders to prepare cities for the challenges of the future that will employ space applications and technologies to address the problems caused by urbanization. Due to the high complexity of the problems identified, the team focused on a few specific aspects that were central to the United Nations 17 Sustainable Development Goals for the 2030 agenda. These included the utilization of land and its resources, access to clean water, effective transportation networks and energy consumption. Alongside this, the social, economic and environmental factors of the various solutions identified were also considered. As a result, the team came up with realistic as well as visionary solutions and formulated recommendations for urban planners to achieve a more sustainable future for our global society. During the presentation, the main findings will be displayed in the form of twelve actionable guidelines providing a framework for enhancing the design, development and implementation of urban projects, by leveraging space data and technology to design inclusive, integrated, and resilient cities.