

Smart Sustainable Cities



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UNU-IAS Institute for the Advanced Study of Sustainability



#### Unlocking Cities of the Future: The Road to Smart Sustainable Cities

Approximately 50% of the global population live in cities. By 2050, this figure is expected to increase to 66%<sup>1</sup>. This exponential increase in urban population will aggravate the complexities of the social fabric in cities, and makes charting a path to sustainability a very urgent task.

Currently, the urban ecosystem is experiencing turmoil with increased urbanization, pollution, overcrowding, climate change, outdated infrastructures, etc. These challenges greatly hinder growth within the urban domain.

In view of the above, cities are increasingly embarking on the journey towards "smart sustainable cities" (SSC) to mitigate urbanization problems. Urban stakeholders are actively developing strategies and institutional policies directed towards the goal of becoming "smart" and "sustainable" to manage resources more efficiently, while addressing socio-economic development challenges and reducing inequalities.

As urban population increases, economic growth and development can only be sustainable if humans are able to better manage resources, reduce waste and improve access to information and communication technologies (ICTs). In view of this, the concepts of "circular economy" and "information and knowledge society" should be at the centre of smart sustainable city transitions.

As such, the urban planning sphere must incorporate a holistic view of the "smart sustainable city" to achieve success with smart sustainable city transitions. Additionally, while advancing on the global smart sustainable city dream, it is noted that issues including knowledge gaps, limited finances, lack of coordination among state actors, absence of monitoring tools, and unfavourable climatic conditions, prevent urban stakeholders from developing sustainably and integrating effective design and technologies.

In order to help cities close these gaps and overcome limitations, the United for Smart Sustainable Cities (U4SSC) initiative was established in May 2016.

Since then, U4SSC has been exploring the various disciplinary areas of the dynamic smart sustainable city ecosystem and developing integrative frameworks, guidelines and strategies that can be used by local governments to envision smart sustainable city initiatives and implement the 2030 Agenda for Sustainable Development (Sustainable Development Goals)<sup>2</sup> and the New Urban Agenda<sup>3</sup>.

<sup>&</sup>lt;sup>1</sup> United Nations. World Urbanization Prospects. Retrieved from https://esa.un.org/unpd/wup/publications/files/ wup2014-highlights.pdf

<sup>&</sup>lt;sup>2</sup> Transforming our world: The 2030 agenda for Sustainable Development. Retrieved from https://sustainablede velopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web. pdf

<sup>&</sup>lt;sup>3</sup> Quito Declaration on Sustainable Cities and Human Settlements for All. Retrieved from http://habitat3.org/%20 wp-content/uploads/NUA-English.pdf

## United for Smart Sustainable Cities

The ITU and the UNECE launched the "United for Smart Sustainable Cities" (U4SSC) in response to SDG 11: "Make cities and human settlements inclusive, safe, resilient and sustainable" in May 2016.

United for Smart Sustainable Cities (U4SSC) is a global smart sustainable city initiative which provides an international platform for information exchange, knowledge sharing and partnership building, with the aim of formulating strategic guidance to achieve the Sustainable Development Goals (SDGs), and implement the New Urban Agenda and other international agreements. Along with ITU and UNECE, 14 other United Nations agencies, programmes, funds and secretariats including the Secretariat of the Convention on Biological Diversity (CBD), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), the United Nations Commission for Africa (UNECA), the Economic Commission for Latin America and the Caribbean (ECLAC), the Secretariat of the United Nations Convention to Combat Desertification (UNCCD), the United Nations Human Settlements Programme (UN-Habitat), the United Nations Environment Programme (UNEP), the United Nations Environment Programme Finance Initiative (UNEP-FI), the Secretariat of the United Nations Framework Convention for Climate Change (UNFCCC), the United Nations Industrial Development Organization (UNIDO), the United Nations University-Institute for the Advanced Study of Sustainability (UNU-IAS), the World Meteorological Organization (WMO) and World Trade Organization (WTO), support this initiative.

U4SSC

Part of the work of the U4SSC focuses on accelerating job creation by enabling new business opportunities. The U4SSC also aims to encourage the creation of small and medium-sized enterprises (SMEs) in smart sustainable cities through the adoption of appropriate policies and inclusion of innovative technologies including Internet of Things (IoT), blockchain, and artificial intelligence (AI).

### The key objectives of the U4SSC are:

- To generate guidelines, policies and frameworks for the integration of ICTs into urban operations, based on the SDGs, international standards and urban key performance indicators (KPIs).
- To help streamline smart sustainable city action plans, and establish best practices with feasible targets that urban development stakeholders are encouraged to meet.

U4SSC is conducting work inter-alia on strategies for circular cities, blockchain in cities, artificial intelligence in urban areas, financing mechanisms for smart sustainable city projects, methodologies for small- and medium-sized cities, etc.

U4SSC brings together leaders in their respective fields, including senior policymakers, industry leaders, private sector stakeholders, city representatives, international organizations, academic and research institutes, and non-governmental organizations.

The U4SSC is led by two Co-Chairmen, Mr Nasser Al Marzouqi (United Arab Emirates) and Ms Gloria Placer (Spain). Mr Paolo Gemma (Huawei) and Ms Victoria Sukenik (Argentina) serve as the Vice-Chairmen. The activities of U4SSC are carried out by designated leaders in charge of coordinating the completion of several deliverables. ITU and UNECE serve as the joint secretariat for this initiative.

# Key Performance Indicators for Smart Sustainable Cities

The overall smart sustainable city planning process involves in-depth study of the concept and development of feasible action plans. As the smart sustainable city wave gains momentum, urban stakeholders are increasingly realizing the importance of being able to measure the progress and performance of their smart sustainable city activities and strategies.

By building on these requirements, ITU and UNECE developed an extensive list of key performance indicators (KPIs) together with FAO, WMO, UNIDO, CBD, UN-Women, UNECA, ECLAC, UNCCD, WTO, UN-Habitat, UNEP, UNEP-FI, UNFCCC and UNU-IAS. These bodies form the Advisory Board of the initiative.

These KPIs are being implemented in over 50 cities worldwide in order to provide city leaders with a distinctive monitoring tool to assess the extent of their city's smartness and sustainability and trace the success of their smart city journeys.

Building on the work conducted by these 16 United Nations entities, the first Global Smart Sustainable City Index is being developed. This index is expected to contain a set of baselines and guidelines, which will help monitor progress on SDGs at the city level and provide a set of indicators to measure the progress achieved in transitioning to a smart sustainable city.





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