

Recommendations of the 2nd International Conference for “Smart Cities 4.0”

Following the conclusion of the Second International Conference on the Fourth Generation of Smart Cities, organized by the German University in Cairo in collaboration with the German International University in the New Administrative Capital, the University of Stuttgart, and the National Center for Housing and Building Research, a committee of senior officials and experts was formed. This committee was tasked with issuing a set of recommendations based on 105 research papers presented by 16 countries worldwide, in addition to the discussions held during the conference. These recommendations resulted in six key outcomes to be implemented, with the overarching aim of encompassing the attention of city planners toward both future smart cities and the transformation of existing cities into smart cities.

Regarding the future development of smart cities, it is imperative to consider a range of engineering, environmental, and health standards that ensure a better quality of life for citizens in their daily lives. This includes providing smart transportation systems that efficiently facilitate people's mobility, reduce environmental pollution, minimize noise in urban areas, and decrease traffic accidents. Effective urban planning, based on predetermined guidelines and standards, is essential to manage population density, avoid land use conflicts, and allocate the necessary green spaces to maintain a clean environment that enhances the quality of life. When selecting locations for new smart cities, they should be strategically positioned away from existing cities to prevent future merging and overloading of existing urban facilities and to maintain proper population distribution.

As for the transformation of existing cities into smart cities, it is crucial to establish an integrated team of experts in relevant fields. This team should analyze the current situations of these communities individually, gather comprehensive data on their problems, and create a holistic strategy for a transformative leap in these communities. This strategy should outline the technological and financial requirements for implementation, ensuring quick action and accountability. Legal professionals should be consulted to draft laws and regulations obliging all relevant parties to adhere to these plans and implementation stages.

The conference resulted in the formulation of several recommendations related to smart cities, which can be summarized as follows:

1. Sustainability and Environmental Care:

Prioritize planning elements that contribute to sustainability and environmental protection. Encourage the use of green technology, renewable energy, and low-impact infrastructure to reduce environmental effects such as pollution and noise, fostering a healthy urban environment. Optimal land use planning for fourth-generation cities is crucial. Efficient resource management, enabled by smart technology, and including circular economy principles, should aim to reduce energy and water consumption and minimize waste to ensure sustainability and reduce waste.

2. Safety and Public Health:

Prioritize the development of smart cities and improvement of the quality of life in existing cities. Use smart technology to enhance public health problem-solving, such as disease monitoring, improving response times to emergencies, and facilitating access to healthcare.

3. Data Privacy and Security:

Continue to provide technical and legislative solutions for data privacy and security issues. Implement strict measures to protect citizens' data privacy and ensure cybersecurity, as it is vital for building societal trust, especially in smart cities.

4. Education, Scientific Research, and Capacity Building:

Focus on education and workforce development. Universities should continue to offer curricula that provide the necessary knowledge and skills to prepare graduates with advanced technical awareness in line with smart city plans. Promote collaboration between educational institutions and industries to enhance workforce capabilities. Collaboration between public and private sectors, as well as local communities, is essential to ensure the success of smart cities. This requires effective coordination among city planners, architects, engineers, and decision-makers, with citizens as a key element in smart cities. Encourage community engagement.

5. Identity Preservation

Concerning existing cities and their transformation into smart cities, it is crucial to preserve the culture and identity of each city during urban development. This includes respecting historical and cultural elements in architectural design and urban planning to safeguard cultural heritage.

6. Legislation

It is recommended to consider the role of policies and regulatory frameworks. Policies should be balanced, supporting innovation while also preserving the rights and interests of citizens. Pilot project could be implemented to test the solutions technical and administratively to examine their effects before nationwide policy rollout. Effective legislative laws and regulations should be established to provide support and facilitate the application of technology in smart cities.

In conclusion, these recommendations aim to contribute to the development of existing and future smart cities, with the main goal of improving the quality of life for citizens, enabling access to smart services, and providing means to solve hindrances or challenges through appropriate technology. Achieving a high quality of life in cities requires comprehensive coordination and joint efforts. It is essential to promote community discussions and reviews of the recommendations mentioned above concerning smart city development strategies.