

DOI 10.36074/logos-12.08.2022.03

## THE IMPLEMENTATION FEATURES OF THE SMART CITY CONCEPT IN KYIV AND VIENNA

ORCID ID: 0000-0002-8295-7820

Tkach Solomiia

PhD in Economics, Senior Researcher, Senior Researcher of Department of Spatial Development of Ukraine at Dolishniy Institute of Regional Research  
*National Academy of Science of Ukraine*

*UKRAINE*

In today's turbulent conditions, the optimization of urban development processes acquires special value. Among the multitude of urban planning concepts, the concept of smart cities has shown good practical results, which is aimed at ensuring the effective integration of digital, physical and human systems in the artificial environment for the sake of a sustainable, prosperous future for citizens.

The capitals of Ukraine (Kyiv) and Austria (Vienna) seek to develop within the framework of the concept of a smart city. Vienna started implementing this concept in 2011, and Kyiv - in 2015. Accordingly, strategic documents were developed. In 2014, the Smart City Vienna framework strategy was adopted in Vienna, which in 2019 and 2022 was updated, and will be implemented by 2050 [1]. In particular, the latest strategy updates were aimed at: integration of the new key objective «Climate neutrality by 2040» and a Vienna «greenhouse gas budget» adaptation of the individual goals to the new key goal; specification in the area of adaptation to climate change and stronger focus on implementation in all target areas [2] This strategy is accompanied by many other concepts and strategies of the city (the city development plan, a dedicated energy program, or the «Digital Agenda»). The topics «Smart solutions for the urban habitat of the 21st century» and «Smart production in the city» are also essential elements of the city strategy «Vienna 2030 - Economy & Innovation» [2]. In recent years, Vienna has made significant progress in implementing the concept of a smart city.

The Kyiv Smart City 2020 Concept is being implemented in the city. It includes the following main directions: (Kyiv Smart Card, smart street, e-democracy, Public Budget, e-commerce, appointment with a doctor, children registration in the pre-school education institutions (kindergartens), single account of a Kyiv citizen, "Open Data" website, pets register, etc.); transport infrastructure (e-ticket, single-use QR ticket for public transport, etc.); environment (Kyiv water and air quality research, Kyiv geo-spatial plan to predict the construction growth, etc.); education (IT and urban technology training courses for children and elderly citizens, etc.); municipal security (comprehensive municipal video surveillance system, emergency warning system, facial recognition function); identification and support of innovative urbanistic ideas (hackathons (Uber Smart Mobility, STEM, etc.)). [3].

In the Smart City Index 2021 world ranking of smart cities, Kyiv and Vienna improved their positions compared to last year [4]. Thus, Vienna took 11th place among the 118 cities studied (25th place in 2020), and Kyiv – 82nd (98th in 2020) (Table 1). In particular, according to the Human Development Index (HDI), Vienna entered group 2 (second HDI quartile), and Kyiv – 3 (third HDI quartile). In the rating are two pillars for which perceptions from residents are solicited: The Structures pillar referring to the existing infrastructure of the cities, and the Technology pillar describing the technological provisions and services available to the inhabitants.

They are both evaluated over five key areas: health and safety, mobility, activities, opportunities, and governance.

Table 1

### Kyiv and Vienna in the Smart City Index 2021

	Kyiv	Vienna
Population	2.990.000	1.930.000
GNI per capita (PPP \$)	13.216	56.197
Smart city ranking	82	11
Smart city rating	CCC	BBB
Factor ratings:		
- Structures	CC	A
- Technologies	CCC	BB
Groups	3	2

Source: [4]

As the analysis in Vienna showed, quite high indicators (more than 70) for the following indicators in the «Structures» group: basic sanitation meets the needs of the poorest areas, recycling services are satisfactory, medical services provision is satisfactory, cultural activities (shows, bars, and museums) are satisfactory, public transport is satisfactory, green spaces are satisfactory, lifelong learning opportunities are provided by local institutions. In Kyiv, in this group, most indicators are lower than those in Vienna. Only two values exceeded 70: employment finding services are readily available and cultural activities (shows, bars, and museums) are satisfactory. On the other hand, the situation was the opposite in the «Technology» group. In particular, quite high indicators (over 70) in Kyiv were: online scheduling and ticket sales has made public transport easier to use, online purchasing of tickets to shows and museums has made it easier to attend, online access to job listings has made it easier to find work, the current internet speed and reliability meet connectivity needs, processing Identification Documents online has reduced waiting times. In Vienna it was only: online scheduling and ticket sales has made public transport easier to use, online purchasing of tickets to shows and museums has made it easier to attend, online access to job listings has made it easier to find work.

There is also a difference between cities regarding priority areas, which survey respondents perceived as the most urgent for their city. In Kyiv, there are corruption, road congestion, air pollution, affordable housing and basic amenities. In Vienna, there are affordable housing, unemployment, road congestion, security and air pollution.

Thus, Kyiv and Vienna are on the same path of implementing the smart city concept. At the same time, in Vienna, compared to Kyiv, this process takes place much more dynamically, is more complex, and responds to new challenges of the time, in particular environmental ones, are more quickly. Both cities have seen significant positive developments in the past year, which have allowed them to improve their positions among other smart cities in the world.

### References:

- [1] Smart Climate City Strategy Vienna – our way to becoming a model climate city (n.d.). Smart City. Stadt Wien Retrieved from <https://smartcity.wien.gv.at/en/strategy/#top>
- [2] What made Vienna a Smart City (n.d.) Vienna info. Retrieved from <https://www.wien.info/en/all-of-vienna/smart-city-vienna/smart-city-strategy-359132>
- [3] Kyiv Smart City (n.d.) Retrieved from [https://kyivcity.gov.ua/news/u\\_stolitsi\\_zapustili\\_noviy\\_zastosunok\\_miskikh\\_servisiv\\_kiv\\_tsifrovij/](https://kyivcity.gov.ua/news/u_stolitsi_zapustili_noviy_zastosunok_miskikh_servisiv_kiv_tsifrovij/)
- [4] Smart City Index 2021 (n.d.) IMD organization. Retrieved from <https://www.imd.org/smart-city-observatory/home/>