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The importance of urbanization in the process of shaping the "ubiquitous city" on the example of Songdo International Business District, South Korea

Abstract

Both the smart city and U-city concepts were created as a response to the challenges related to the increasing level of urbanization and the further development of the latest technologies. These so-called smart cities are designed to use information and communication technologies (ICTs) to improve operational efficiency, make information available to the public, provide better government services and increase the overall level of well-being of citizens. In this article the author will analyze the development of the "smart city" concept, and then present her conclusions and observations based on the example of the South Korean city of Songdo, which is currently one of the most progressive business centers of the ubiquitous city type. Subsequently she will answer two main research questions: 1. What distinguishes a ubiquitous city from a standard smart city project? 2. What are the obstacles, challenges, and incentives for further development in the implementation of the above concept in South Korea? Two main research methods will be used in the article – a comparative method, helpful in identifying visible links between similar phenomena and entities, and a content analysis method, based on a literature review on the topics covered in the work, including issues related to the city of Songdo.

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Znaczenie urbanizacji w procesie kształtowania „ubiquitous city" na przykładzie Songdo International Business District, Korea Południowa

Abstrakt

Zarówno koncepcja *smart city*, jak i *U-city* powstała jako odpowiedź na wyzwania związane z rosnącym poziomem urbanizacji oraz dalszym rozwojem najnowszych technologii. Te tak zwane inteligentne miasta z założenia mają wykorzystywać technologie informacyjno-komunikacyjne (ICT) w celu poprawy wydajności operacyjnej, udostępniania informacji społeczeństwu, zapewnienia lepszej jakości usług publicznych i podniesienia ogólnego poziomu dobrobytu wśród obywateli. Autorka w niniejszym artykule przeanalizuje proces postępującej urbanizacji, a następnie przedstawi swoje wnioski oraz spostrzeżenia, opierając się na przykładzie południowokoreańskiego miasta Songdo, będącego obecnie jednym z najbardziej postępowych ośrodków biznesowych typu *ubiquitous city*. W dalszej kolejności odpowie na dwa główne pytania badawcze: 1. Co odróżnia *ubiquitous city* od standardowego projektu *smart city*? 2. Jakie są przeszkody, wyzwania oraz bodźce do dalszego rozwoju w procesie wdrażania powyższej koncepcji w Korei Południowej? W artykule zastosowane zostaną dwie główne metody badawcze – metoda porównawcza, pomocna w identyfikacji widocznych powiązań między podobnymi zjawiskami i podmiotami, oraz metoda analizy treści, oparta na przeglądzie literatury dotyczącej poruszanej w pracy tematyki, w tym zagadnień związanych z miastem Songdo.

Słowa kluczowe: ubiquitous city, miasto inteligentne, Korea Południowa, Songdo, globalizacja, urbanizacja

Kody klasyfikacji JEL: F62, F63, F64, R11, R14

With rapid globalization, urbanization has become an important as well as complex social and economic process. It involves, after all, transforming former rural areas into urban residential developments, and shifting at the same time the spatial distribution of the population in these areas. Subsequently, this process changes not only the demographic structure of society but also its social fabric, gradually evolving the predominant jobs and professions, lifestyles, culture, and behaviors. The given form of urbanization arises primarily from spatial planning, but also from public and private investments. It is in towns and cities precisely, where information

is exchanged, business thrives, and various investments are pursued, that people can enjoy better-quality services (UN DESA, 2019: 12).

For over two decades, there have been considerable changes in how the further development of countries and their communities is perceived. The growth of cities, especially in the 20th and 21st century, has most of all been impacted by the increased industrialization and population boom, caused by both the relatively higher living standards and the drop in mortality rates. This has led to internal migrations, especially for those who were unable or unwilling to take up work in rural areas and thus decided to emigrate to cities. The concept of a new city has its origins in the British attempt at addressing the industrial and post-industrial challenges which have appeared hand in hand with the revolution. However, it was only in South Korea, in the 1960s, that cities which were in line with the concept of new urban hubs were first established. Today, they are promoted through two political objectives: (1) construction to satisfy national and regional development purposes; and (2) construction to solve problems in large cities (MOLIT, 2017).

The figures provided by the European Commission show that the urbanization index went over 50% as soon as in 2015 (EC, 2022). However, one should indicate that this figure is calculated using national definitions of urban areas, which differ depending on the country examined. If one applies the global and commonly accepted definition of cities and residential areas which uses uniform and consistent data concerning population, it turns out that the world is substantially more urbanized compared to previous reports. A billion more lived in Asian cities in the 2010 s compared to 1990, which is an increase of around 40%. In Africa, Latin America and the Caribbean, the urban population has, in turn, more or less doubled (EC, 2022). The most recent study carried out by the European Commission's Joint Research Centre shows that around 75% of the global population currently live in urban areas (EC, 2022). Here, it is worth noting that there is a tendency to increase the area inhabited. While other parts of the world see the urban population grow faster or at the same speed as the urban areas, Europe and North America see the reverse. This means that more land than before is used to accommodate new citizens. The reasons for this lie in different trends which currently persist in these regions. Partially, Europe has historically been substantially more urbanized than other regions. Another cause may be differing urbanization models on the Old Continent. On average, the European network of cities is denser than in other parts of the world; medium-sized cities dominate. For comparison, within only 25 years, construction in African urban areas has almost doubled, whereas in Asia it grew by 65%, and in Latin America or the Caribbean – by over a third (EC, 2022).

The influence of urbanization on the development of smart cities

Urbanization in the wide sense is a complex process. The way in which this concept is perceived undergoes continuous transformation, which is why the term is not uniform, and its further interpretation depends on the environment in which it is analyzed. For a better understanding, one would need to view it as both a process and a state. As for the former, it is dynamic, i.e., it influences the changes undergone by societies and environments in which these communities function. Urbanization as a state is, in turn, related to a result of this process. In this case, it concerns the number and nature of urban areas (Szymańska & Biegańska, 2011: 14).

Based on the definition and sources of urbanization provided by the United Nations in their annual reports, one may point to three fundamental categories impacting the further development of this process. Here, it is worth noting, however, that the contribution of each factor differs from state to state, depending on such things as demographic changes, spatial planning policies, and local definitions of urban space, as well as the physical environment and other specific circumstances persisting in the given area (UN DESA, 2019: 12).

The first factor is the natural growth of the urban population, given the higher number of births compared to deaths in urban areas, especially in less developed countries. This is primarily impacted by the fertility rate which bears on the number of births, life expectancy at birth, and distribution of population by age. Even though birth rates in urban areas are relatively lower compared to rural areas – this being caused largely by the greater awareness of and access to more effective family planning methods – death rates are also lower in these areas, which is why there is still a growing tendency for the population (Bandyopadhyay, Green, 2018: 486).

Another aspect which should be taken into account is the significance of migration, both internal – usually involving the population relocating to more urban areas – and external – the influx of people from other countries. Given that most migrants are young people of working age, the distribution by age in immigration areas and emigration will be vulnerable to any quantitative changes (Bylander, 2013). This is to mean that migration tends to raise the average age of people in their areas of origin, at the same time decreasing the average age of people in the areas of destination.

Yet another factor which should be accounted for is reclassification of villages as towns. This is manifested in extending urban areas by incorporating the neighboring localities and their populations, heretofore classified as rural. This results in the

further development of cities and a more expeditious urbanization in general (UN DESA, 2019: 12).

The rapid concentration of people in urban areas, often impossible to control, leads to ever more cumbersome daily life, which in turn makes people leave their places of residence more often. Finally, this leads to suburbanization, i.e., the increase of the population in suburban and periurban areas, as well as to counterurbanization – this involves urban residents moving to the rural areas, leading to a lower density of population in the urban centers (Czarnecki, 2018: 54). What is visible here, is a shift or, in other words, redistribution of people down the settlement hierarchy, i.e., from metropolitan areas and main urban hubs towards towns and peripheries (Grzeszczak, 1996: 13). Here, it is worth noting that the economic aspects are, at this stage, of less meaning. The comfort and change of lifestyle for the better is the determinant. Nonetheless, it is a phenomenon most often seen in rich, highly developed societies which enjoy a relatively stable financial situation.

The establishment of the so-called smart city, i.e., a concept of city development which would solve the emerging difficulties derived from too fast and poorly adapted a development program for already urbanized areas, was supposed to address these processes. With the growing standard of living, public debate comes to voice the need to raise the standards in rational urban space management (Nambu & Ishibashi, 2002: 176). The functioning of a smart city is therefore based on using software systems, server infrastructure and network infrastructure at the same time, with a view to better connecting seven critical elements of municipal infrastructure and services: municipal administration, public safety, education, real estate, health, public services, and transportation (Do Livramento Gonçalves et al., 2021: 3). All of these challenges cannot be faced with legacy technologies; the growing urbanization and digitization has forced the urban society to develop a new dimension in which cities should function. This fundamentally ideally functioning city should be based on adequate design and participation of the business sector, represented by the respective groups of people.

Smart city as a means of addressing global problems

For over two decades, there have been significant changes in how the further development of countries and their communities is perceived. At this stage, the concept of a smart city plays a key role (Baraniewicz-Kotasińska, 2017: 30). This form of city development is based on advanced technologies and innovation used in order to make services and urban planning more efficient. In other words, a smart city in any form

is an urban hub managed in real time using sensors and software which exploit substantial datasets concerning inhabitants and their environment (Peyrard & Gelézeau, 2020: 503). The end goal is minimizing total costs and resources used by the urban population (The Welding Institute, 2023). Here, it is worth mentioning that the smart city is not only limited to the use of technology itself, but also involves other determinants of sustainable city development. It involves, among others, a conscious growth of human capital, education, social capital, and environmental issues.

Smart city is inextricably linked to the idea of sustainable development which, as outlined in Our Common Future: Report of the World Commission on Environment and Development, envisages "development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 14). Both state-level decision-makers and representatives of the local authorities face the challenge of meeting their end of electoral promises, and at the same time fulfilling their obligations to ensure the safe and rational development of the respective areas. The government is further responsible for administering and managing these areas through cooperation with various stakeholders – both state enterprises and private businesses.

In further analyzing the meaning of smart city, one should note that it is, in the end, often overused both in literature and in public debate. Sometimes people classify as smart cities those cities which might be using, or have started to use, the newest technologies, but fail to account for issues of broadly understood cooperation and learning oriented towards a more efficient urban problem-solving (Korenik, 2017: 166). In order to distinguish the classical model of the city from the smart city, it is worth taking a look at the key parameters and features which set out that new form. The basic components which are most often raised in discussion include smart economy, smart energy, smart governance, smart living, smart mobility, and smart people; with all of the above constituents not being necessary in order to satisfy classification as a "smart city" (Yang, Elisa & Eliot, 2018: 91). Smart cities may differ as to these elements in number and impact, depending on the development project adopted for each respective area.

- Smart Economy refers to the use of digital technologies to develop added-value economic systems, with more effective environmental management.
- Smart Energy involves maintaining a balance between energy production and consumption in the given area, so that there is less energy dependency on the main grid.
- Smart Governance is a system of government services, the further development of which is based on transparency and engagement. This subsequently contributes to a better access to news and government information among local communities.

- Smart Living is based on improving the quality of living by promoting health, safety, and a better general well-being among people.
- Smart Mobility involves a continuous improvement of the movement and transportation system, at the same time making it more efficient, convenient, and safe, as well as ensuring environmental protection.
- Smart People is, in other words, investment in social and human capital – a city striving towards the continuous improvement of knowledge, skills and the environment, and combating social and economic inequalities (Giffinger et al., 2007: 12).

However, the smart city components listed hereinabove are not exhaustive. With rapid urbanization, the features of smart cities also incorporate new aspects, such as those pertaining to smart buildings, health, citizens, and many others.

Boyd Cohen, urban strategist helping communities, cities and companies to strive towards a smart, innovative and low-emission economy, distinguishes between three generations of smart cities, i.e., three separate stages of how the cities have been adopting and implementing the achievements in development and technology, translating management of technological companies onto management of municipal authorities and, finally, management of citizens (Cohen, 2015). The generations are as follows:

Smart City 1.0 (technology driven) is the first iteration of a smart city, characterized by technology providers, most often companies in the ICT sector, introducing solutions which often find no justification for further applications, i.e., they are not always needed by the cities and the communities living in them. Therefore, they encourage the adoption of their solutions in the areas neither equipped nor ready to properly understand the technological solutions introduced. These solutions also have no real impact on the citizens' quality of living. One example of this kind of a city is Songdo, South Korea, still under construction. Songdo is the world's largest private development project, envisaged to be a modern business ubiquitous-city hub, able to compete with other Asian megacities such as Hong Kong, Singapore, or Shanghai.

Smart City 2.0 (technology enabled, city-led) is a stage where the cities themselves are in the hotseat of managing the city – not the technology providers. This is to mean that it is the local decision-makers precisely who set out the further strategy for developing their cities by implementing smart technologies and other innovations. At this stage, city administrators are increasingly focused on technological solutions which allow improving the quality of living. Most extant smart cities may be classified under this stage.

Smart City 3.0 (citizen co-creation) is, in turn, based on equality and social integration. Here, cities give their citizens new opportunities for communication and therefore more effective cooperation with the representatives of local authorities (Rudewicz, 2019: 210). The cities provide conditions which are favorable for local

efforts and start-ups. These services have the potential not only to optimize untapped resources, but to increase the quality of living for all residents. This is to mean that technology, which is still important and sometimes essential, does not constitute the paramount factor in further developing the city. It is supposed to be not merely a determinant, but an effective tool to improve the urban standards adopted so far. Examples include Vienna, which slowly moves from Smart City 2.0 towards a more pro-citizen approach. It has accounted for its citizens as investors in local projects for the construction of solar power plants, and allowed their active commitment in issues related to solving residential problems (Cohen, 2015).

In analyzing the development of the smart city as a concept, however, one should bear in mind its broad sense, which may be further divided. Though it is the most popular name for highly advanced areas, it refers nonetheless to a number of respective varieties of knowledge- and innovation-based cities. There are two sub-types: smart city being a city of smart solutions and intelligent city, i.e., a city of smart people; there are as well such categories as *aerotropolis* (city of aerial connections), digital city, eco-city, future city, ubiquitous city, and sustainable city. Elżbieta Węcławowicz-Bilska underlines that this list is not closed, and each category mentioned hereinabove has its own distinct criteria (Węcławowicz-Bilska, 2017: 55). Even though these subcategories exist, there is no doubt that the basis for the functioning of all those cities is, still, brand-new technology which at least partially deals with the problems presented before those who live in highly urbanized areas.

The concept of a smart city is difficult to define in a single word, as the conditions of development and objectives of the respective countries across the world differ from area to area and subject matter to subject matter analyzed. Summing up, the form in which smart cities develop does not have to be either fixed or uniform. Local strategies may involve a single, fixed concept, or envisage that the concept is changed and adapted in line with the trends and needs of the local communities which, without a doubt, will also differ from case to case, merely by the virtue of the communities' features, cultural aspects as well as other determinants.

Ubiquitous city as a new form of smart city

Smart cities are becoming increasingly important, and their further development is inevitable. What is more, in most cases, they are desired on both the local and the national level. Smart cities, as already specified, may address the most serious challenges of the 21st century, including overpopulation, disproportion, and environment protection. The development of new technologies and the arising opportunities

now mean that this concept also includes an even newer form of futuristic high-tech cities (Bukowski, 2015: 169). The foundation of ubiquitous cities, or U-cities, is that the user may access the network regardless of where they are; they do not even have to know that such a network exists. The objective for those behind the project is maximizing the quality of life and the region's value by introducing innovation in every single aspect of how the city functions. The key role lies in combining technologically advanced infrastructure and ubiquitous IT services. The U-city therefore has the smart form of urban function which manages and optimizes various situations related to the (wired and wireless) urban communication network (Jang & Suh, 2010: 263).

The fundamental difference between a U-city and a smart city is that the former, in its basic form, may be implemented only in completely new urban establishments. This means that its gradual use may be rendered difficult until all the public utility resources and areas are completed. The idea of a smart city, in turn, may be implemented both in already urbanized areas, as well as in cities which are only being developed, which means that their residents may enjoy the facilities and amenities provided despite the new solutions still not being there. Furthermore, as for smart cities, the focus is primarily on the social infrastructure (i.e., the human and social capital) as well as the broadly understood technological functionality. U-city is focused, in turn, on technology itself and connected infrastructure based on a ubiquitous network. In this case, the overarching objective is the computerization of the city, expressed in implementing technologies for efficiency. Smart city aims at establishing urban intelligence, i.e., making technology more available to the general public. Last but not least, what also sets apart these two models, is the way in which the problems that the citizens of those cities are faced with are solved. Where a U-city acts in line with ready-made, pre-approved procedures, a smart city diagnoses the problem case by case and only then suggests a solution based on the data obtained in the analysis (Lim, Edelenbos & Giano, 2019: 6).

In South Korea, in the preliminary stage of development of the new form of the city, the focus was mainly on social infrastructure in the public sector, and not the services used by the citizens in daily life. What is key here, is that additional categories of cities are distinguished here, going beyond the basic form of U-city: U-town and U-space.

In line with Korean guidelines, the broadly understood U-city is most often perceived as a public good which covers an area of over 1.65M square meters. The foundations include basic urban infrastructure, ICT infrastructure and e-administration; private services are not of primary concern (TEKES-Finnode-Finpro, 2011: 12). The U-town, in turn, refers to multi-functional private resources developed and completely provided by the private sector. The difference is that the scale of this is much lower

in an extant city, and this should contribute to making younger the aging population of the given area. U-space is a limited fragment of a larger urban area – a street, school zone or congress center (TEKES-Finnode-Finpro, 2011: 12).

Currently, we also see a trend where the U-city must evolve from a state-owned area, or in other words, from a collective area towards the sphere oriented at "citizen-friendly ubiquitous service," where average citizens are able to use and derive tangible benefits from it (Lee & Lim, 2010). A U-city envisages ubiquitous data processing between urban components, which involves computer chips or sensors that therefore become the basic units of such cities. The aforementioned sensors (or sensor networks) are in communication with wired or wireless computer equipment built in the respective constituents of the cities, including people, buildings, infrastructure, and various elements of urban space (Lee et al., 2008: 149).

The Korean decision-makers have decided to take a step further in their vision of a modern and technologically advanced city. In order for the projects to succeed, it was necessary to differentiate between ubiquitous cities, so that they addressed the local needs. The Korean Ministry of Land, Transport and Maritime Affairs delineates three subtypes of U-cities: Existing City, New City, and New Town. Existing City involves making a U-city from an extant city, so that the services typical for this category of highly technologically advanced areas may be provided. New Town is the construction a ubiquitous micro-town within the bounds of a larger urban area. New City, in turn, involves building an entirely new U-city from scratch, with the minimum area of over 1,600,000 square meters. To pursue the objective of a faster and thus smoother implementation of the aforementioned concepts of development, the Korean government has designated pilot cities for each type: Busan for Existing City, Incheon Songdo for New City and Mapo (Seoul) for New Town (TEKES-Finnode-Finpro, 2011: 6).

The differences between smart cities and U-cities are summarized in Table 1.

Table 1. Comparative description of smart city and U-city

	Smart city	U-city
Area	New cities or modernized extant cities	Most often cities built from scratch
Subject of interest	Social potential and technological functionality	Network-based technology and infrastructure
Objective	Ensuring wider access to technology for the general public	Computerizing the city and improving its efficiency
Problem solution	Ongoing analysis of arising problems and development of individual solutions	Use of ready-made, pre-approved procedures and solutions
Risk of investment	Relatively low	High
Target group	Incorporation of as large a user group as possible	Most efficient, most quickly technologically developing groups

Source: own elaboration.

Case study: Songdo International Business District, South Korea

Songdo is a project for a modern high-tech city which has changed its form throughout the years. Its origins date back to the plan drafted in 1988 by President Roh Tae-Woo (노태우). This concept involved building two million flats within five years. For this plan to end in success, it was necessary to build and further develop a new area to live in which would soothe the political and economic tensions between the Korean conglomerates (or chaebols, 재벌), the government and workers. The result of this strategy was, back in the 1980 s, the blueprint for Songdo as a standard "new city" (*Songdo sin dosi*; 송도신도시). Just like many modern cities across the globe, it was developed to address the ongoing urban problems. Despite initial successes in gaining investors, this project was still relatively unstable; the Asian 1997 crisis further had its impact on halting any construction plans.

It is worth underlining that the city has since its initial stages of development tried to ensure the funds and resources to educate the most talented people. The center of these efforts is Songdo Global University Campus, the objective of which is to create the right environment for foreign residents, as well as to attract undergraduate and graduate programs from renowned universities across the world. For this purpose, the campus erected educational and research buildings as well as residence houses and flats for, among others, international professors. Furthermore, students can avail themselves of various amenities such as an auditorium, library, gym, and boarding house (Yeon, 2013). Thanks to these efforts, young Koreans were supposed to gain access to education based on Western models and standards. Finally, this was meant to raise the competences of the future management throughout the whole country, and thereby drive the competitiveness of Korean companies in the international market.

Currently, it may seem that South Korea is much more dependent on the corporate logic of capitalism than other developmental aspects. Such conglomerates as Samsung, LG or Naver, the impact of which exceeds the domestic market, get actively engaged in the construction industry and technological services, thereby driving the introduction of further systems of control and more efficient profit on one's own activities, be it in Songdo or in other regions of the country. One example of this is, say, the decision of Samsung Biologics, i.e., the biotechnological branch of the Korean Samsung group, to build a second campus in the city (The Korea Times, 2022). Dominik Bartmański, with his team (2023), indicates here the "general greatness" of this city, allowing its citizens to reach a theoretically higher social status. This, in turn,

corresponds to an explicit cultural feature of the Southern Korean society, which on the one hand seeks relative individualism, and on the other hand submits itself to the external influence and expectations. Therefore, one may say that by functioning in the given environment, society indirectly accepts the aforementioned uniformity which serves greater spatial clarity, effectively supervised by the respective groups.

Despite further works on the city, there have been growing discrepancies between the planning, construction, and significance of Songdo, also with respect to the Leadership in Energy and Environmental Design (LEED) certification for sustainable and efficient buildings. The city will likely have 118 buildings with such certification, though this remains a thing of the future. Despite numerous plans and funds invested in the process of bringing this ubiquitous city to life, its actual establishment is still at the stage of early planning. For example, less than 50% of the whole developmental design of Songdo had been completed by 2014. However, if we account for the actual economic operations and services – not only land and construction – the real share is less than 30%. The situation in 2020 seemed to be analogous to that of the past years, with around 85% of land being remediated, whereas less than 50% of planned construction works had actually been completed (Peyrard & Gelézeau, 2020: 501). The pandemic and the subsequent economic downturn also had its impact and delayed the works on extending the city.

The discrepancy between planning and actual implementation of the project arose because the development of such an ambitiously and sophisticatedly planned city involves a varied dynamic of action, different actors, problems, and delays which are attributed case by case to respective undeveloped plots of land. Therefore, there are marked discrepancies between how the place is marketed and how it is being extended, which is why the smart objects are not fully used or available. Songdo, as a new developing city, is an area where perceptions and ideas of its further development collide. It is characterized by fallow land neighboring brand new gardens and towers which, in the worst-case scenario, turn into ruin before completion and official commission.

Summary

Coming back to the terminology used in this paper, it seems right to state that there is no consensus on the definition of a smart city, U-city, or the subcategories thereof. Depending on who examines the topic, the terms may be used interchangeably, for example, with such terms as "digital city," "ubiquitous city" or "a U-type city." What binds all these terms together is the integration of ICT on all scales of existence to improve economic and management efficiency and thereby raise the quality of life

for the citizens. Answering research question one, about what really distinguishes the U-city from other forms of smart cities, one should in particular point to strategies of solving potential conflicts which are developed top-down and in advance, as a result of which there is no need to look for the solutions as the problems arise. What is also important is the target group of those projects. Doubtlessly, smart cities much more greatly contribute to social inclusion. As regards research question two, one should mention the excessive marketing of Songdo and inconsistent construction plans which differ from plot to plot within the administrative boundaries of the city. The problem is also that the city comes to life as a completely new establishment, and therefore its full capabilities will be available only after all the strategic facilities, i.e., those which ensure the fundamental operations of its residents, are developed.

To sum up, Songdo is a high-tech futuristic city, the basis for the functioning of which is supposed to be sustainable development achieved by combining technological progress with the urban principles of an efficient and environment-friendly lifestyle. By tapping into the potential of its basic service, consisting in high-level education (especially at higher education institutions), the city may handle the challenges related to insufficient employment faced by other cities striving to be U-cities. This is especially important if one takes into account the demographic figures in Asia, where statistics show many new agglomerations were unable to maintain a high enough population. In order for states to maintain a high level of social service, a certain anticipated critical mass of citizens must be achieved (Chohan, 2014). This is, among other things, related to the change in relocation trends, including the aforementioned phenomena of suburbanization or counterurbanization. Songdo, however, takes on this challenge by attracting the desired type of residents, i.e., young people aspiring to raise their professional competences.

The fundamental problem which the residents of Songdo may face will most likely be high cost of living. Given that almost all areas of daily life are dependent on the system which is based on the newest and thus one of the most expensive of technologies, life there may turn out to be much more expensive compared to less modernized cities. Therefore, I wish to risk the statement that in the future, this area will be unofficially out of reach of average citizens, who will be either unable to relocate to so expensive a city or unwilling (or unable) to use the facilities offered by a U-city. Despite the fact that South Korea remains one of the most technologically developed countries across the globe, its citizens still struggle with disproportionate living conditions. What is more, not every citizen wants to depend on a system that is still being developed, and thus is vulnerable to errors or other difficulties.

A U-city is, in some sense, a response to the fact that the concept of a smart city is still insufficient, and a response which has been for good incorporated into the

practice of planning cities in most developed countries. The concept of the ubiquitous city is, however, still something new, something still being discovered. The problems related to its implementation include, primarily, the costs of development and the risk of failure. However, one should assume that if Songdo starts bringing tangible profits for its investors and thereby assumes the format envisaged all those years ago, interest in this form of cities will grow. It is visible already at this stage. It was only in South Korea that the issue of U-cities was raised in the 2000s. Currently, not only Asian but also Western markets (viewed as the most prosperous in Asia) are watching the further development of the ubiquitous city with interest.

Statement on the contribution of the respective authors

The author confirms that she is the sole author of this paper and has approved it for publication.

Statement on the conflict of interests

The author declares no commercial or financial ties which may be interpreted as a potential conflict of interests in this research.

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