Society and Values

Differentiation of Urbanisation Rates

The National Research University Higher School of Economics Institute for Statistical Studies and Economics of Knowledge (HSE ISSEK) presents the results of a human capital trends study. The study methodology included big data mining using the HSE ISSEK-developed iFORA system, expert sessions, and a Delphi survey of more than 400 leading international and Russian scientists specialising in human capital.

The project is being implemented by the World-Class Human Capital Multidisciplinary Research Centre and the UNESCO Futures Studies Chair (UNESCO Futures Literacy Chairs network). A complete list of trends is available in a unique open-access database at https://ncmu.hse.ru/chelpoten_trends.

The Trend's Structure

- **Smart urban management technologies**
- **Increased competition between cities for investments and human capital**
- **Increased de-urbanisation due to the COVID-19 pandemic**
- **Emergence of new urban formats**

In 2022, 57.5% of the world's population lived in cities; by 2050, the share of urban residents may reach 68.6%, and by 2100, 85%. At the same time, the adjustment of urban management systems, and the development of infrastructure lag behind the pace of urbanisation. The main challenges cities face due to population growth are related to the sustainability of urban infrastructure, the availability of resources, uneven development of inner areas, and inefficient management. These problems are solved by introducing smart technologies.

The core elements of the "smart city" concept include optimising urban services (resource management, transport, and communal services); providing smart social services (healthcare, education, etc.); introducing intelligent security systems (video surveillance, etc.); monitoring the environmental situation in real time; providing electronic government services; and involving residents in the development of digital services. As the pandemic crisis has shown, urban infrastructure must be able to quickly adapt to unforeseen challenges. Cities' digital twins and simulations are likely to be increasingly applied to explore possible scenarios.

The success of urban development will be determined by the investments in human capital and creative industries. Given the high mobility of population, the key success factor in cities' competition with one another is having an urban environment that is comfortable for living and professional growth and meets sustainable development standards.

The COVID-19 pandemic increased the outflow of megacities' residents. Taking into account the popularity of the work from home format, the need for relevant communication tools, and the growth of the (short-term) housing rental market, the de-urbanisation trend can be expected to continue, manifesting itself in particular cities, regions, and countries depending on their socio-economic situation. One way to manage urban risks is through decentralisation: preventing the excessive concentration of the population by creating networks of self-sufficient "intelligent" townships with adequate digital, social, energy, and transport infrastructures.

In the cities of the future, issues such as growing population density, reduced availability of resources, and ecosystems' diminished ability to cope with anthropogenic pressure can be dealt with by localised urban communities (urban hubs) set up within the same city. Such communities imply the need for an administrative centre, its own highly developed transport and social infrastructure, business centres, and jobs. Their emergence can stop the expansion of urban agglomerations, promote more efficient use of resources, and reduce the pressure on the environment by minimising the use of transport.

Key Estimates

1 trillion USD

the market of global smart cities may reach by 2027 (511 billion USD in 2022)

15%

the average annual growth rate of the global smart cities market will reach in 2022—2027.

The Trend's Characteristics

Impact on human capital[1]

| 1 | 2 | 3 |

Strongest manifestation period

2026—2030

Effect of COVID-19 pandemic

Strengthened the trend

Presence in Russia

comparable with the global level

Weak signal[2]

Increased de-urbanisation in developed countries (caused by, among other things, the pandemic)

Wild card[3]

Emergence of privately owned company cities

Consequences of the wild card event actually taking place

Emergence of autonomous, compact, administratively independent settlements

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[1] 1 = weak, 2 = medium, 3 = strong.

[2] Weak signals are insignificant (rarely mentioned or discussed) events which indicate the trend may radically change in the future.

[2] Wild cards" are difficult-to-predict events which, if they do happen, can significantly affect the trend

Drivers and Barriers

Drivers

- Disproportionate development levels of rural and urban areas
- Internal and international migration
- Advances of information and communication technologies
- Synergy between actions by various stakeholders including local governments, educational institutions, NGOs, private businesses, and individuals

Barriers

- Urban development policy
- Lack of financial resources to apply smart technologies in urban systems
- Spontaneous, uncontrolled urbanisation

Trend Effects

Opportunities

- More efficient use of resources by cities
- Development of social and transport infrastructure
- Urban infrastructure's increased resilience to crises
- Urban development based on the localised communities model

Threats

- Increased gap between the socio-economic development levels of specific cities or inner city areas
- Increased pressure on ecosystems