LOGEEKA™ SCIENCE

INTERNATIONAL SCIENTIFIC AND THEORETICAL JOURNAL

VOLUME 1

ci 2102-2203-01

20th March, 2022

Samarkand, Republic of Uzbekistan

ISSN-615-682536

DOI 10.36074/logeeka-20.02.2022

www.logeekascience.com

URBAN ENVIRONMENT WITH INNOVATIVE TECHNIQUES DESIGN

Balgayev Abdisamat
Associate Professor of the Department of Architectural Design, Samarkand State Architectural and Civil-Engineering Institute, a.balgayev@samdaqi.edu.uz

Balgayeva Shakhida Abdisamatovna
Associate Professor, PhD of the Department of Architectural Design, Samarkand State Architectural and Civil-Engineering Institute, s.balgayeva@samdaqi.edu.uz

Toshkulov Sherzod Berdiyor o'g'li
3rd year student of the Faculty of Architecture, Samarkand State Architectural and Civil-Engineering Institute, a.balgayev@samdaqi.edu.uz

The article analyzes the urban environment with innovative methods of forming buildings with their volumetric and spatial solutions.

Keywords: Urban design, Urban environment, Nature-integrated buildings, innovative techniques, architectural bionics

At present, modern cities are developing at an intensive pace, new districts, functional zones, and new types of buildings are appearing. Cities are growing both horizontally and vertically, their structure is becoming more complex, making it difficult to navigate in the urban space. Informativeness in the city plays an active role, its quality depends on digital technology. It is becoming more complex every year, and now a system of visual codes has formed in the urban environment.

Today there is a trend - the larger the city, the more active the introduction of design elements into urban space. Urban design is actively shaping the information system of buildings. Visual communication appears in urban spaces. The volume of the building becomes a kind of structure for the placement of visual design elements. Along with the traditional facades, media architecture appears. The facades of buildings are filled with luminous screens with images, which periodically change, transforming the building and the urban environment. Visual communications, which make it easy to navigate in space and thus make it comfortable, are actively used in the interiors of large public centers - airports, subways, sports arenas, shopping malls.

Modern cities have become centers of information production, the main resource of the economy and the main resource of urban development. Information flows and their graphic fixation begin to actively form a new environment of the modern city. The urban environment becomes an information and activity system that includes a variety of infrastructure of architectural objects. Informativeness of this system, above all, depends on the hierarchical system of buildings placement in the urban environment, taking into account the main types of activities (labor, household, social).

In foreign practice, great importance is given to public assessment of the appearance of the city, the preferences and wishes of residents, determination of qualities of the urban environment that are especially important for the population, disclosure of imaginative representations about the city that have formed in the minds of people. This kind of information helps to more accurately formulate the design problem and reasonably select the means of solving it. It should be noted that the buildings with innovative methods of formation are the objects of the implementation of new environmental approaches, constantly developing through the involvement of private investors. They are unique objects of the urban environment, focused on the real social orders for special urban planning objects, stimulating new legal approaches to solving the issues of land use.

The search for innovative methods of shaping buildings, taking into account the landscape-ecological requirements allowed to create a special kind of nature-integrated buildings with the use of natural components.

Fig.1. Current trends in innovative methods of shaping buildings in the urban environment.

Nature-integrated buildings with innovative methods of formation through the use of vegetation, geoplastics, water devices, in fact, become part of the ecosystem of the city and have an obvious role in ensuring environmental sustainability. Their volumetric and spatial solution is quite diverse due to the landscaping of vertical and horizontal surfaces and the use of efficient technologies.

Buildings with innovative techniques are also objects in the volumetric and spatial solution of which there is a dynamic process of constant renewal and expansion of the functions performed. Many buildings have begun to include in their structure a system of "design-spaces" compact and commensurate with man. They are technically equipped and highly comfortable spaces with interactivity. The creation of such spaces is based on the "eco-centric principle", aimed at maximum consideration of the human factor. Buildings with innovative methods of formation are objects of technology, where the latest achievements in various fields of science and technology are implemented. They are, in fact, stimulators of the scientific and technological process. In this aspect, buildings with different variants of transformation are of particular interest.

Fig.2. An example of the formation of a nature-inspired innovation building

Thus, we can conclude that in all projects of innovative buildings, providing for the use of the possibility of transformation in the process of construction and operation, laid the foundations of dynamic shaping, flexible planning solutions, the ideas of integration of the environment with the structure of buildings and the relationship with the environment, changing the spatial characteristics and rooms and regulation of the microclimate. Such transformations have a significant impact on the level of comfort of buildings, increasing their functional and aesthetic indicators, as well as the informativeness of the object.

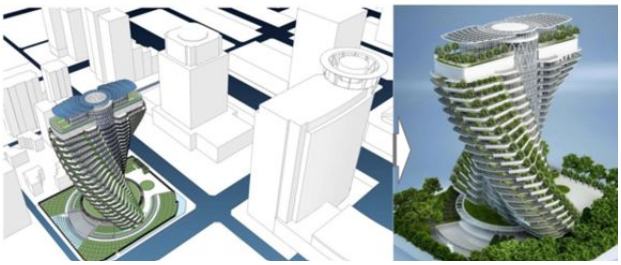

Fig.3. Residential Complex in Taipei, Taiwan (architect V. Callebot)

Buildings with innovative shaping techniques enrich the artistic image of any city. As a rule, they are objects of art, endowed with a special potential to embody innovative aesthetic ideals. At present, innovative methods of shaping buildings are carried out with the use of architectural bionics and means of color design.

REFERENCES:

1.Jodidio Philip. Green architecture Now / Philip Jodidio. - Hong Kong,
London, Paris, New York : Taschen, 2009. - 416 p. : il.
2.Proctor R. 1000 New Eco Designs and where to find them / R. Proctor. - Laurence King c/o Chronicle Books, 2009. - 352 p. : il
3.Werthmann Christian. Green Roof : A Case Study / Christian Werthmann.-Princeton Architectural Press, 2007. - 160 p. : il
4.Gunshiro Matsumoto. Feature : Greenery landscape // SPA-DE. - Japan. Farest Design Editors Inc. 2007. - vol. 7. - P. 11 - 48.
5.Wines James. Green Architecture / James Wines. - London : Taschen,
2008. - 240 p.