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INTELLIGENT LIGHTING SYSTEM (DEVELOPMENT PROSPECTS IN RESIDENTIAL BUILDINGS)

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Abstract. Comfort has always been one of the engines of progress, forcing human thought to invent more and more new devices to make their lives easier. Since ancient times, people have always sought to arrange their homes in such a way as to maximize comfort with minimal effort.
Lighting, like nothing else, affects home comfort. Properly selected light can even affect mood. It can have both positive and negative effects on performance. By adjusting the lighting, you can create an intimate or working environment, calm your thoughts and prepare yourself for sleep, or, conversely, trigger brain activity and wake up.

In addition to functionality, light also has a decorative function. By choosing the right brightness and color, you can visually change the interior and create the right atmosphere. That is why proper lighting should be given due attention. Recently emerged smart technologies are gaining popularity around the world. Until recently, smart lighting was considered very expensive, but now it is becoming more affordable. There are many manufacturers, additional functions, and different types of smart lighting.

How does smart lighting technology work in the home? You can control the light using either a remote control or voice commands. Newer versions have special apps for smartphones that serve as a kind of remote control.

Smart lighting is a lighting technology aimed at increasing the energy efficiency and comfort of using artificial light sources, which is achieved through the use of automated control, light sensors, as well as planning, accentuation, and modern ways of interacting with people and other equipment.

Keywords: light, interior, house, innovation, smart technologies, artificial intelligence, lighting architecture.

Problem statement. Imagine that you no longer need to think about turning on and off the lights in your home. You can control it from the comfort of your couch without a smartphone at hand, or even without being at home. Take advantage of the potential of lighting, you can see how light creates the right mood in any situation. Weak lighting at night, we often wake up at night to look into the room of a sleeping child or go to the kitchen for a glass of water. When walking at home at night, no one likes blinding lighting at night. Adjust the lighting in the evening and at night to be 30% bright where you need it, such as in the child's room.

Analysis of recent research and publications. At the end of May 2018, Strategy Analytics published some excerpts from the 2018 Global Smart Home Market Forecast, dedicated to the smart home market. Global spending on related equipment, systems, and services reached $84 billion in 2017, up 16% from 2016, when sales were measured at $72 billion.

"The market continues to evolve," says Bill Ablondi, analyst at Strategy Analytics. "Consumers are learning more and more about such technologies, they are becoming more

intuitive, and prices are falling. However, there is still a high level of fragmentation due to the fact that a huge number of companies are competing for smart home users.

Relevance of the study. The design and development of an adaptive lighting system is an urgent task, as the development of technological architecture raises the problem of automating lighting systems to save energy consumption. According to statistics, about 40% of the electricity produced is consumed for lighting. One of the main advantages of an adaptive lighting system is its ability to provide tremendous energy savings. This can be achieved by providing lighting devices with a certain degree of autonomy. A well-functioning adaptive lighting system can be much more efficient than one that relies solely on human decisions.

Purpose of the study: to determine the scientific priorities of the intelligent lighting system and the prospects for development in the architecture of residential buildings.

Research objectives: 1. To study the experience of designing automated lighting control systems in residential construction. 2. To analyze the effectiveness of the implementation of this topical area. 3. To develop an organizational and technical mechanism for an automated system of "intelligent lighting" in the housing sector.

The main text of the study. Laziness is considered to be the main engine of progress. It is this quality of a person that, in the opinion of many, determines the further development of "life facilitation" systems. Such automated technologies do create simplicity, environmental friendliness, and enviable savings. But this product would not have been possible without the complex thought processes of scientists and the hard work of developers. Let's take a closer look at the issue.

The city is becoming the "growth point" of the modern economy. A paradigm shift leads to a change in priorities, a system of goals, objectives, ways to solve them, indicators of the completeness of goal realization and the effectiveness of their achievement. Socially oriented indicators that characterize the transition from technocratic to humanistic aspects of activity are replacing classical economic performance indicators. An urgent problem of sustainable urban development is the high consumption of electricity, as energy tariffs are increasing by 10% per year, and lighting costs in the structure of housing and communal services expenses are also growing, reaching about 38%. Street lighting accounts for about 40% of the city's total electricity consumption. The introduction of a smart lighting system will not only reduce energy and operating costs, but will also save on money and improve the quality of indoor lighting. The introduction of smart lighting is also a development trend in the design of residential buildings with increased comfort. Street lights give people a sense of security and also create the attractiveness of the city. Automated street lights will create uniqueness and novelty, a step into the future. The principle of Smart Lighting is that the lighting changes adaptively based on data from other systems: it turns off or minimizes if there is no one in the lighting area; it automatically turns on when a car (person) crosses the lighting mast area. The benefits of using a smart lighting system are obvious. These include energy savings by varying the light level depending on the workload. Durability of lamps, because LED lamps operate at reduced power.

The cost of electricity consumption is growing exponentially these days. And there are several logical explanations for this. Let's start with the share. The development of science and technology offers us an increasing number of high-tech equipment for work and life. At work, it is usually computers, tablets, scanners, printers, modems, etc. At home, it's equipment for everyday life and entertainment [4, p.25-27].

A "smart home" lighting system is an automated computer network that responds to various human and environmental actions and is able to switch between operating modes by changing the parameters of its associated devices. As for the latter, we are talking about wall, ceiling and spotlights, emergency lighting, garden lights, neon and LED lights.

"Smart home is the future. The integrated system is able to independently control all engineering devices in the building. The modular structure will allow you to quickly make changes

and expand the functionality base. Light control is one of the modules of the Smart Home system. In addition to it, they include tracking, security, and climate control devices.

No matter how sophisticated lighting control is (a set of sensors, detectors, and controllers), it becomes part of a smart home only if there is centralized control. The system includes specific electrical wiring and devices for automated operation. Each module is closely connected to the others.

Smart lighting equipment is designed to control indoor and outdoor lighting devices. It connects every lamp in the house, garden lights, spotlights, and various backlights. The centralized device also regulates the operation of all devices (Fig. 1). Controllers are used to connect to the network, and sensors and detectors are used to register actions. For example, the sensor registers any changes in lighting - the onset of evening and night, and depending on how dark it is outside the window, turns on the lights with a certain level of brightness. The last operation is not performed by the sensor itself, but by the controller. The sensor sends a signal to it, the controller processes it and decides what to turn on and where.

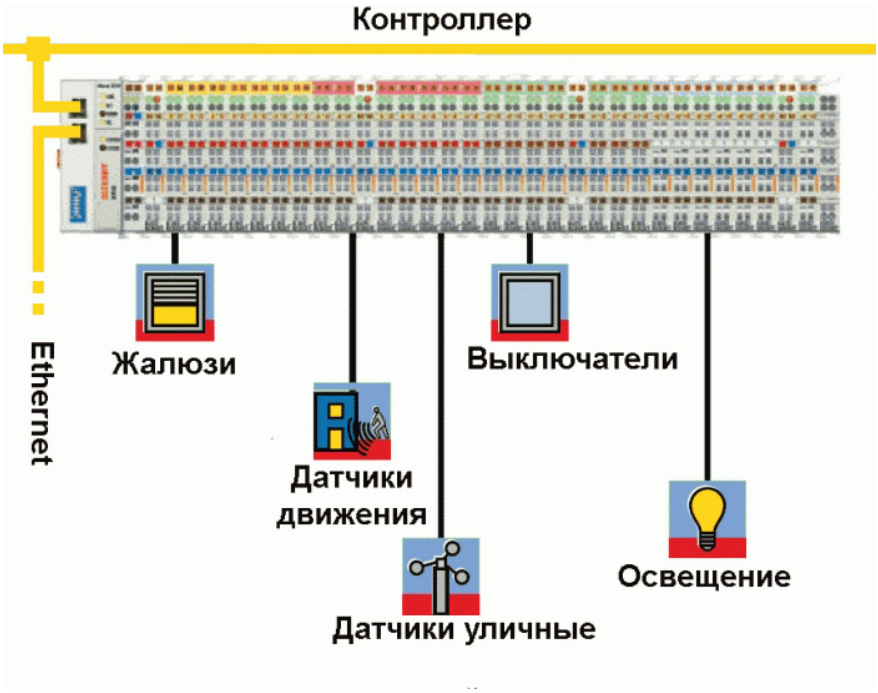

Fig. 1. Connecting devices of the smart lighting system

The advantages of a smart lighting system are that the user determines the conditions under which the intensity of the light flux changes, and certain lamps are turned on and off. These include weather conditions, the cycle of day and night (the level of light outside the window). A separate touch panel has several programs for different scenarios. You can name these programs, for example, "Evening Dinner", "Watching a movie", "Sleep".

In addition to the convenience of setting up and carefree control of electrical appliances in the house, using such a module, you significantly reduce electricity consumption. Motion sensors will allow you to turn off the lighting in the room if a person leaves it, or open the blinds and turn off the lighting when the first rays of the sun appear. The list of possibilities for smart lighting is endless. Just to name a few: power outages; load distribution throughout the house; automatic switching on or off of household appliances; switching to backup power sources (if necessary); access control to the network and devices.

It is possible to program the system, which allows you to remotely control the power grid, appliances, and lamps. This is useful when you need to create the effect of people being in the

house. This will prevent ill-wishers from encroaching on your home while you and your family are at the resort.

Smart Lighting functionality: The switching on or off of lighting devices directly depends on the change of day and night, the presence of people in a particular room. Different scenarios are responsible for the modes of operation of electrical equipment - at night, spotlights (wall sconces and nightlights) can work without central lighting, in the evening - general lighting (chandeliers, diode lamps mounted in the ceiling), and during the day, all this is disconnected from the power supply. Most systems have the ability to control home theater or backlighting [3, p.61].

Despite the variety of designs and the presence of a large number of electronic components, the use of a smart home lighting system is as simple as turning on or off a regular light bulb. The logic component is designed and embedded in the software interface during development. By changing the parameters on a small display or remote control, you control all the lights in your home. A clear and simple interface allows even the elderly or children to use the device. An automatic light control system consists of the following components: a motion sensor that turns on the light only when there is a person in the room and turns it off when there is no one in the room; a dimmer that smoothly adjusts the illumination; electrically operated blinds and cornices used to find a balance between natural and artificial light; electrical appliances - various household appliances can be connected to the system, which can function both with and without it; system equipment - various modules, control panels, and a remote control. Important! "Smart lighting" is closely connected with other engineering networks in the house, which allows you to save even more on electricity consumption.

There are two ready-made solutions for automating lighting control in a residential building or apartment. The first method involves the use of separate remotes for each room. Numerous buttons are associated with specific lighting devices - nightlights, chandeliers, wall lamps, etc. This allows a person to control the light from any part of the house - lying on the couch, sitting in a chair. When reading a book, you need to increase the brightness of a floor lamp located in the immediate vicinity, just press the corresponding button on the remote control. The second method involves full automation of the process, which requires the installation of special sensors. These can be motion sensors that turn on the light when a person appears and turn it off a few minutes after they leave the room. On the other hand, the user can turn off the light and stay in the room without it - to do this, they will have to manually flip the switch.

Turning on or off devices by timer The system configures automatic control of lighting devices by timer. The software will allow you to turn the lights on or off and change the brightness depending on the time of day. In the late afternoon, the main lights are turned on, and at night, nightlights and sconces with reduced brightness. A great option for country houses. It is possible to set the lights in the yard to turn on or off.

There are three main ways to adjust the brightness of lighting fixtures in the house through a smart lighting system. The first method involves the use of a remote control, the second - a special panel on the wall, and the third - automatic brightness change after a specified period of time (previous section). Depending on the time of day, this approach is associated with the use of separate sensors that record changes in room illumination throughout the day. This is a very convenient option because, unlike timed lighting control, it allows you to increase the brightness of the light on a cloudy day when the room is really dark. This method is often used in country (private) houses with winter gardens or greenhouses. Luminaires are placed above plants that love light, and then they are regulated by an automatic smart lighting system.

Light scenes are an additional function of automatic light control that allows you to memorize combinations of several switched on lamps and repeat them at the touch of a button. A convenient and effective option suitable for private houses and apartments.

In recent years, there are fewer and fewer country houses without automatic lighting systems for outdoor equipment. Special sensors regulate the operation of outdoor luminaires by registering changes in street light. Electrical devices turn on at dusk. The darker it is outside, the brighter the

artificial lighting. A night mode is possible, when devices are turned on only when people are present. You should use automatic lighting control as part of a smart home system when you pursue one or more of the following goals: ease of use of lighting devices, energy savings, and protection of real estate from intruders by simulating presence. Despite the high cost of installation, it quickly pays for itself.

Modern LED technology has given rise to a new generation of intelligent lighting control.

Initially, lighting control was achieved through dimmers. These devices directly regulate the power of light sources by mechanical or electronic means. The principle of operation of mechanical dimmers is based on the use of variable rheostats. Semiconductor transistor switches are used for electronic functions. Both options are usually connected in series with adjustable light sources.

Motion sensors for light control are involved in the automation process. An important drawback of the previous generation of smart lighting technology is the separation of control and power supply systems. This leads to the need to install and maintain several cable infrastructures at once: power cables for supplying electricity to light sources, and low-current control cables for providing communication with sensors, luminaire electrical units, additional controllers, such as video surveillance with/without integration with an intelligent lighting system, computer network, etc. As a rule, the number of wires increases in proportion to the size and functionality of the company. The result is a real spider's web that is difficult to control, maintain, and repair. The most important advantage and a real technological breakthrough in the field of IP is the ability to use a single cable infrastructure. The unification of communication and power supply systems to the luminaires was achieved thanks to: 1. LED lighting sources 2. evolution of RoE or Power of Ethernet technology 3. LED light output is about 10 times more efficient than a standard incandescent lamp. This also applies to the level of energy consumption. According to analysts, about 87% of US companies will switch to LED lighting by 2017. We dare to assume that the global statistics will reach approximately the same level. 4. PoE technology allows data and electricity to be transmitted together via twisted-pair Ethernet cable. The evolution of PoE is associated with an increase in power bandwidth, which allows more devices to be connected to the system. Modern PoE equipment provides for the power of connected devices up to 60W. It should be noted that the declared maximum is still far from the capabilities of the technology itself. the principle of operation of an intelligent lighting system. As mentioned earlier, a modern ISO is based on a single cabling system that includes: data exchange, control, power supply, centralized energy supply, and remote control of lighting devices. Increased requirements for elasticity and functionality require an increase in the number of controllers. And here the "director" becomes an important addition to the complex. The latter also allows for integration with other programs and systems. Data collection is provided by sensors installed near or inside the LED luminaire. As a rule, the sensor is a miniature set of sensors (light, temperature, motion) and contains a gateway for interaction with the controller. As a rule, the standard gateway connector is RJ-45. To connect new generation systems to fluorescent light sources, universal gateways with a sensor unit and a possible need to install an additional relay can be used. The system is monitored and controlled through special software installed in the controllers. Access to the software is usually via a PC, tablet, or smartphone via a web interface. The tasks of the software include: data collection and storage analysis and reporting status monitoring system management security Enviable advantages of the smart lighting system Reduced power supply costs for lighting systems by up to 80% Reduced design, installation and commissioning costs by up to 50% Obtaining detailed information about energy consumption, room temperature, and staff availability Increased security of the complex of connected systems The degree of functionality, elasticity and productivity Thanks to the high efficiency and positive prospects for cost reduction, the cost of intelligent lighting will pay off very quickly. Our qualified specialists will help you choose the most suitable luminaires, lamps, cables and components for your future system. Contact Inter Lighting consultants using any of the following methods [1, p.35-42].

Lighting control in a smart home is a rather expensive function

compared to conventional lighting systems. However, the cost of such a technology is quite justified, as it has many advantages:

1. Saving electricity. A smart lighting system consists of many components that can adjust the intensity and amount of light in a room. Motion sensors, a timer, and much more contribute to significant energy savings.

2. Now you can control the lighting in your home even from a distance. The smart technology system can be monitored via your smartphone or personal computer (Fig. 2).

3. A huge set of different modes. You can dim the light or vice versa - increase the brightness depending on what you are doing. If you are reading a book, the light is brighter, if you are watching a TV series, it is more subdued.

4. Home security. A motion sensor that automatically turns on the light as soon as it notices changes in the area or in the house can prevent burglary and scare intruders.

Among the disadvantages of smart lighting in an apartment is the high cost of the technology. However, this problem is no longer so relevant today. On the modern market, you can find elite-class smart lighting, as well as more budget-friendly counterparts. The main thing is to choose products from trusted manufacturers who are trusted by buyers from all over the world. And in general, the cost of the technology will depend on the number of functions of the lighting devices that you want to prescribe. Another disadvantage of smart lighting is the complexity of the system. Due to the design features, minor breakdowns can occur in it, preventing you from using the full functionality of the devices.

Among the features available in the smart home lighting control system, there are a huge number of functions:

1. Switching lighting devices to economy mode.

2. Controlling the light in any room of the house. You do not have to be in the kitchen to turn on the light there. You can do it with a special remote control from the living room or bedroom.

3. Darkness sensors. Automatically turns on the light at nightfall.

4. Motion sensors. Turns on the light, quickly responding to movement in the room.

5. Availability of additional scenarios. You can customize several scenarios, switching between them, the lighting will change.

6. Illumination of the adjacent territory (paths, facade, garden).

After 2010, compact, ultra-bright LEDs with low power consumption, long service life, low heat generation, comparable in cost (per 1 lumen) to compact fluorescent lamps appeared on the market and the active introduction of LEDs in lighting systems began. Compactness, high durability, and low risk to humans stimulated the rapid spread of LED lighting systems. Paradoxically, the spread of LED lighting systems has led to a reduction in the complexity of lighting control technologies: the introduction of DALI, KNX, etc. technologies could be justified by reducing the cost of electricity consumption, but the transition to LED luminaires reduces electricity consumption so much compared to incandescent lamps that additional savings due to intelligent control cannot pay off the cost of a rather expensive control system.

So, there are two ways to go - either to abandon the advanced lighting control technology or to justify the costs of creating an intelligent lighting system with new arguments. One of the advantages of LED lighting systems is the ability to change the smooth value of the luminous flux. It is possible to create a system for stabilizing the illumination of working areas: at the stage of installation and adjustment of the lighting system in a darkened room, the dependence of the illumination level in the working area on the dimming value of the adjacent luminaire is monitored using measuring equipment and the nominal dimming values are set. Simultaneously with the measurement of the illumination level of the working area by the luxmeter, the illumination value detected by the ceiling sensor is recorded. In the course of operation, the light stabilization system receives the instantaneous illumination value, compares it with the set value, and makes a

corrective action. This scheme of operation helps to reduce the problem of a sharp decrease in the service life of LED devices during overheating - since the less light emitted, the less heat radiation is dissipated. In the presence of difficult heat dissipation, it makes sense to monitor the temperature of the luminaires (using sensors or by mathematical modeling based on known values of light fluxes and room temperature emitted by the LED), which will allow you to keep track of the life of each luminaire, switch the luminaires in case of danger of overheating, and issue warnings about the need to quickly replace the LED elements. Another obstacle to the implementation of lighting control systems is the high cost of communication lines, especially when it comes to the need to physically relocate luminaires. An obvious solution is to use wireless communication channels based on mesh networks, Bluetooth 4.0, Wi-Fi, etc. Wireless interfaces can not only reduce the cost of installing equipment, but also simplify its configuration, identification, determine the relative position of luminaires, and track the appearance of a moving object. The general state of progress in modern information technology has raised the expectations of users who require advanced functionality, such as contactless lighting control, lighting control based on the analysis of gestures and human behavior, etc. This circumstance may be one of the main driving factors in the development of intelligent lighting control systems - initially, systems with advanced functionality will be expensive, but as the technology becomes widespread, a significant reduction in their cost is likely. A sharp reduction in cost, size, weight, and improved image quality has significantly expanded the scope of their application [8, p.14].

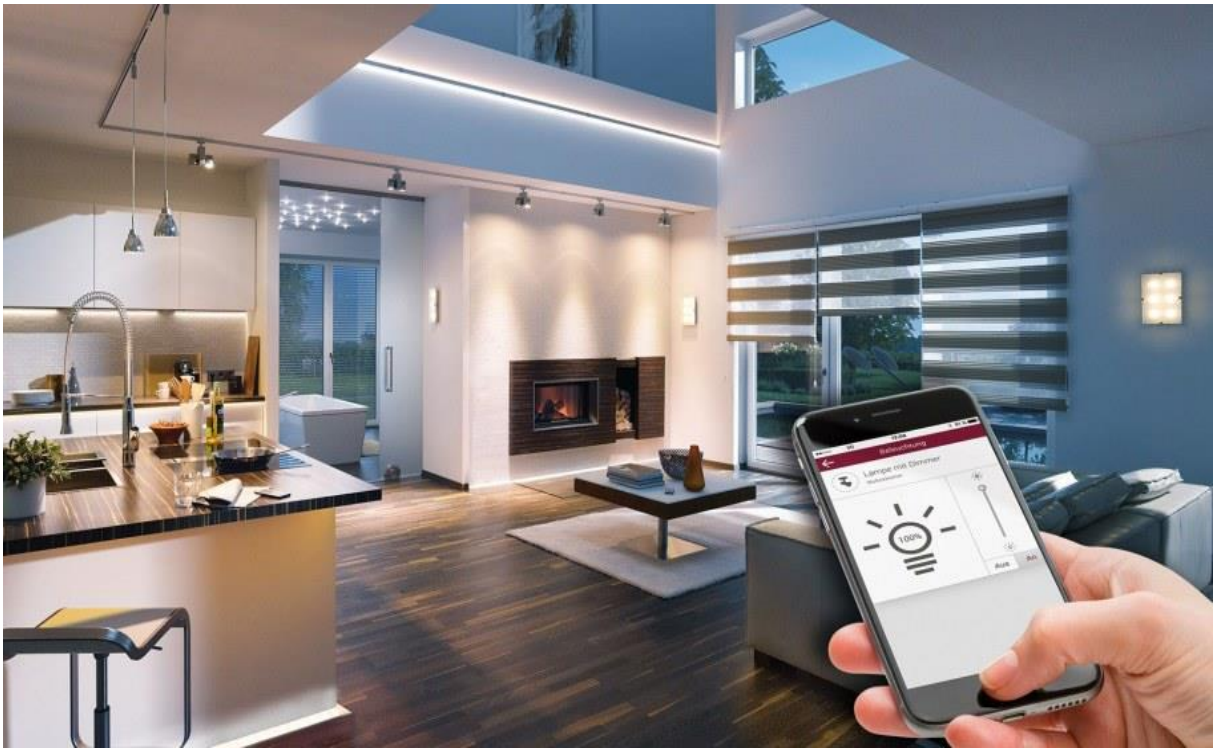

Fig. 2. Controlling lighting from your phone

In combination with computer vision and pattern recognition systems, the functionality of intelligent lighting systems can be increased. Patterns of human behavior (determined by a computer vision system) can be developed and corresponding refreshment profiles can be implemented. For example, for hospitals, patterns such as "rounds", "cleaning", "night mode", "alarm", etc. can be developed. For private rooms, such as bedrooms, lighting control systems can be created to promote healthy sleep - tracking sleep phases using a computer vision system and controlling the lighting to gently wake you up within a specified time period.

Conclusions. Intelligent technologies are rapidly gaining popularity in many areas of life. Smart lighting in the home is an automated system for controlling outdoor and indoor lighting

devices. Lighting in the house not only contributes to comfort but also creates a mood. And the Smart home system will control the lighting level at a level convenient for you, depending on the time of day, street light level, and the selected scenario. The smart home controls indoor and outdoor lighting, creating the most comfortable atmosphere possible. RGB lighting allows you to create incredible effects right in your home.

Smart lighting control also allows you to significantly save energy and avoid accidents.

The main areas of application of intelligent lighting control systems are not limited to residential and office buildings - as the cost of hardware components continues to decrease, we should expect to see them implemented in industry (workshops, warehouses) and agriculture (greenhouses).

From all of the above, we can conclude that the use of smart technologies not only makes our daily lives easier, ensures our safety and increases the comfort of our homes, but also helps to save and minimize energy consumption.

References

[1] Paramonov E.A., Zubov D.V., Nevrov A.J. Systema stabilizacii urovnja osveshchennosti rabocej zony // Izvestija MGTU «MAMI» № 3(21), 2014, t. 3

[2] Pelka M., Bollmeyer H., Hellbruck H. Accurate Radio Distance Estimation by Phase Measurements with Multiple Frequencies// International Conference on Indoor Positioning and Indoor Navigation, 27th-30th October 2014.

[3] Bauidee, Smart Home: 5 gute Gründe, 12.09.2019, URL: bauidee.de/aktuell/produkte-trends/12-09-2019-smart-home-5-gute-gruende/

[4] Muhavadiarov V., Dom I interior, svet, vypusk № 4, 2009, s. 158.

[5] Pidzukov A., Tele-Sputnik, № 3 (257), Zyt po novome, 2017, s. 58-59.

[6] Brodsky Ira, Computerworld. The race to create smart homes is on 03.05.2016.

[7] Proekt cyfrovizacii gorodskogo hoziajstva «Umny gorod». URL: http://www.minstroyrf.ru/trades/gorodskaya-sreda/proekt-tsifrovizatsii-gorodskogo-khozyaystvaumnyy-gorod/ (data zvernennia 18.11.2022).

[8] Privalihina K.K., Korzneva T.G. Intellektualmnye sistemy upravlenia vnutrennim osveshcheniem «Umny dom» // Problemy I perspektivy razvitijz otechestvennoj svetotechniki, elektrotehnski i energetiki. 2017. № 13. s. 93–95.

[9] The study on the effect of color temperature of LED luminaires on human performance and psychoemotional state. URL: https://www.ltcompany.com/media/ uploads/2015/10/27/tc-research-atkspeu.PDF (data zvernennia 28.10.2022).

[10] Xiaom. Mi Led Smart Bulb Essential. URL: https://www.mi.com/ru/mi-led-smart-bulbessential/ (data zvernennia 25.10.2022).

ІНТЕЛЕКТУАЛЬНА СИСТЕМА ОСВІТЛЕННЯ (ПЕРСПЕКТИВИ РОЗВИТКУ У ЖИТЛОВИХ БУДИНКАХ)

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Анотація. Комфорт завжди був одним із двигунів прогресу, змушуючи людську думку винаходити дедалі нові пристосування для полегшення власного життя. Починаючи з

найдавніших часів, людина завжди прагнула облаштувати свій будинок так, щоб отримувати максимум комфорту, докладаючи при цьому мінімум зусиль.

Саме освітлення, як ніщо інше, впливає на домашній затишок. Правильно підібране світло здатне навіть впливати на настрій. Воно може як позитивно, так і негативно позначитися на працездатності. Регулюючи освітлення можна створити інтимну або робочу обстановку, заспокоїти думки і підготувати себе до сну або, навпаки, викликати мозкову активність і прокинутися.

Крім функціональності, світло також виконує декоративну функцію. Правильно вибираючи яскравість та колір освітлення, можна візуально змінити інтер'єр та створити потрібну атмосферу. Саме тому правильному освітленню необхідно приділити належну увагу. Смарт технології, що недавно з'явилися, сьогодні набирають популярність у всьому світі. Ще донедавна розумне освітлення вважалося дуже дорогим, проте зараз воно стає доступнішим. З'являються безліч виробників, додаткові функції та різні типи смарт-підсвічування.

Як працює технологія розумного освітлення у будинку? Керувати світлом можна за допомогою або дистанційного пульта, або голосових команд. Нові версії мають спеціальні програми для смартфонів, який служить своєрідним пультом.

Розумне освітлення – технологія освітлення, спрямована на збільшення енергоефективності та комфорту використання штучних джерел світла, що досягається завдяки використанню автоматизованого керування, датчиків освітленості, а також можливостей планування, акцентування та сучасних способів взаємодії з людиною та іншою технікою.

Ключові слова: світло, інтер’єр, будинок, інновація, розумні технології, штучний інтелект, архітектура освітлення.

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ДИНАМІКА РОЗВИТКУ ПРОСТОРОВИХ АРХЕТИПІВ ПРИ ПЕРЕХОДІ ДО ТЕХНОЦИВІЛІЗАЦІЇ

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Анотація. Стаття присвячена вивченню динаміки розвитку просторових архетипів при переході до техноцивілізації. Особливу увагу приділено пошуку нових підходів до розвитку історичних міст та їх центрів, ідеологічних та методологічних засад збереження пам'яток архітектури, а також історико-архітектурної спадщини, її використання та розвитку в умовах стороннього, тобто техногенного середовища та глобалізації. **Виявлено, що основні тенденції** вирішення проблем співіснування, з одного боку, міського середовища і міської культури, а з іншого – урбанізованого оточення і масової культури сьогодні пов’язано з кількома тенденціями розвитку штучного оточення. Серед них найбільшої вагомості набувають процеси спочатку протистояння і поляризації, а потім протиборства і поглинання урбанізованим оточенням міського середовища. Доведено, що привабливість міст визначається безумовними плюсами міського життя, яке в рази збільшує темпи соціокультурного розвитку сучасного суспільства. Розробка концепції архітектурного простору як динамічної системи та виявлення його гуманітарної основи, яка через архітектуру незмінно транслюється у середовище існування людини в рамках будь-якої соціальної системи – від традиційної до техногенної.