

# THE SYSTEM OF ENTITIES USING INFORMATION TECHNOLOGIES IN THE FIELD OF LIFE SAFETY: ADMINISTRATIVE, LEGAL AND ECONOMIC PRINCIPLES OF EFFECTIVE FUNCTIONING

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**Abstract.** The present article undertakes a study of the system of subjects using information technologies in the field of life safety, namely administrative law and economic principles of their activities. It also identifies promising areas for improving the current national legislation which regulates relevant legal relations. It is noted that the system of civil protection subjects is generally defined by the Code of Civil Protection of Ukraine. However, in light of the escalating natural, man-made, social and military threats, there is an imperative to establish a unified information and telecommunications system for civil protection. This system should encompass an interactive map and a database of civil protection subjects. It is imperative to establish a definitive legal framework encompassing the utilisation of information technologies in life safety contexts. This framework is crucial for the effective administration of pertinent information and telecommunications systems, as well as the maintenance of associated databases. Concurrent maintenance of mobile applications, designed for the mobilisation of human and material-technical resources in the event of a threat or the immediate occurrence of an emergency, is also paramount. The author concludes with a call for amendments to be made to the current national legislation on the administrative law regulation of mobile application usage in the field of life safety. This would include the rights and obligations of subjects that will administer the aforementioned mobile applications and subjects that will be involved in the elimination of emergencies and their consequences as volunteers via the installed mobile application. Particular attention is paid to the need for proper technical support of entities involved in the elimination of emergencies and their consequences with the help of information technology.

**Keywords:** subjects, information technologies, life safety, emergency, civil protection, mobile application, database, legal regulation, administration, volunteers.

**JEL Classification:** K0, K32, O30

**Research relevance.** In the context of the ongoing armed aggression of the Russian Federation against Ukraine, the issue of ensuring life safety assumes particular significance. This is due to the fact that civilian infrastructure and high-risk objects are frequently subject to shelling, which can result in an emergency and the rapid deployment of civil protection forces. This, in turn, necessitates the prompt arrival of rescuers and other relevant actors at the scene.

The advent of modern information technologies, in particular mobile communications devices, specific mobile applications, databases, and automatic emergency response systems, has enabled a substantial optimisation of emergency response processes.

However, a key role in the organisation of rapid response to emergencies is played by a man, namely, the subjects using these information technologies, who are authorised officials of the public administration body implementing the state policy on civil protection, rescuers, and other legal entities and individuals who voluntarily provide assistance or contribute to the elimination of an emergency and its consequences.

Researchers in the fields of engineering, natural sciences and law have demonstrated a significant focus on administrative law and organisational support for life safety. It is therefore worthwhile to highlight recent works devoted to life safety by such distinguished scientists as F. Apshai (2021), T. Hryniuk (2013), K. Marchenko and O. Oryshak (2023),

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O. Ostapenko (2021), O. Khalak (2021), O. Khytra (2022), and O. Chekryhin (2023).

The utilisation of information technologies (digitalisation) in various spheres of public life is a subject of study by such distinguished scientists as M. Babyk, V. Bevzenko, D. Bilenka, O. Bernaziuk, M. Vikhliaiev, O. Hunbina, K. Dubova, S. Yesimov, T. Kovalov, T. Kolomoiets, O. Komarov, A. Komziuk, A. Krakovska, I. Lopushynskyi, K. Oksiutenko, A. Omelchenko, M. Serebro, R. Stefanchuk, I. Tyshchenkova, and others.

However, the utilisation of information technologies in life safety and administrative law, as well as the economic principles that govern these activities, have not yet been the subject of a dedicated scientific analysis that would substantiate the present publication.

**Problem statement.** The objective of the present study is to analyse the utilisation of information technologies in the context of life safety within the framework of administrative law regulation and the economic support of related activities. The study aims to identify areas that could be improved within national legislation that regulates public relations in this domain.

The methodology of the present work traditionally unites three groups of scientific inquiry methods. The first group consists of philosophical methods, namely the dialectical method, its laws and techniques, and the method of metaphysics. Among the general scientific methods (the second group of methods), the most widely used are the methods of logic (analysis, synthesis, deduction, induction, comparison), the systematic approach and structural functionalism. The third group consists of special legal research methods, among which the formal legal method and the method of legal modelling prevail.

**Research results.** In the context of the study of the system of subjects using information technologies in the field of life safety within administrative law regulation and maintenance support of its effective functioning, it is expedient to note that life safety is conducted in two main areas. The first is to ensure life safety in the everyday activities of each individual and the population as a whole. These activities must be carried out in accordance with the requirements of technical and technical-legal norms. The second area pertains to ensuring life safety in situations involving potential or imminent threats, whether they be natural, man-made, social, or military in nature.

Depending on the area of life safety, the entities involved in the relevant activities also differ. For instance, life safety in the home is ensured by specially authorised persons of public administration bodies, legal entities and individuals through strict compliance with technical and technical-legal standards.

It is evident that the role of an occupational safety and health inspector entails the organisation and

coordination of the occupational safety department within an enterprise or organisation. The role entails the preparation and submission of occupational health and safety reports to the employer, as well as the development and provision of proposals for the elimination of existing threats. In addition, the inspector provides advisory opinions on occupational health and safety issues and co-operates with internal structural units and regulatory authorities monitoring working conditions; draws conclusions on plans, assumptions and projects for the modernisation of the enterprise and participates in the approval of technical plans for new or reconstructed buildings (OsvitaUA, 2024).

The aforementioned occupational health and safety entity is also involved in occupational risk assessment and investigation of workplace accidents; it formulates or provides reports on internal occupational health and safety instructions (OsvitaUA, 2024).

In Ukraine, there is such an occupational safety and health entity as the State Labour Service, which is a central executive body established in accordance with the Cabinet of Ministers Resolution No. 442 'On Optimisation of the System of Central Executive Bodies' of September 10, 2014, as a result of reorganisation by merging the State Service of Mining Supervision and Industrial Safety and the State Labour Inspectorate and transferring functions of implementing the state policy in the field of occupational health and dosimetric monitoring of workplaces by the State Sanitary Service.

The State Labour Service of Ukraine (SLSU) is a central executive body directed and coordinated by the Cabinet of Ministers of Ukraine through the First Vice Prime Minister of Ukraine – Minister of Economy, which implements state policy on industrial safety, labour protection, occupational health and safety, handling of industrial explosives, state mining supervision, as well as supervision and control over compliance with labour legislation (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Labour Service of Ukraine", 2024).

Among other things, the main tasks of the SLSU include the following:

- Implementation of the state policy on industrial safety, labour protection, occupational health and safety, handling of industrial explosives, state mining supervision, as well as supervision and control over compliance with labour legislation;
- integrated management of occupational health and safety at the state level;
- state regulation and control over labour protection and industrial safety in activities related to high-risk facilities (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Labour Service of Ukraine", 2024).

Thus, the State Labour Service of Ukraine is a key actor in ensuring the safety of life in the manufacturing industry, mining sector and public relations related to labour activity.

The state administration in the field of road traffic and its safety is carried out by the Cabinet of Ministers of Ukraine, specially authorised central executive authorities, executive authorities of the Autonomous Republic of Crimea, local executive authorities and local self-government bodies (Art. 3 of the Law of Ukraine "On Traffic") (The Law of Ukraine "On Traffic", 2024).

In addition, in accordance with the Regulation on the Road Safety Service of Ministries, Other Central Bodies of State Executive Power, Enterprises, their Associations, Institutions and Organisations, approved by the Resolution of the Cabinet of Ministers of Ukraine dated April 5, 1994 No. 227, work on ensuring road safety, prevention of road accidents in ministries, other central bodies of state executive power, enterprises, their associations, institutions and organisations having vehicles is carried out by the relevant structural unit – the Road Safety Service or authorised specialists, depending on the number of employees involved in the operation of these vehicles (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the Road Safety Service of Ministries, Other Central Bodies of State Executive Power, Enterprises, Their Associations, Institutions and Organisations", 2018).

In accordance with the Regulation on the State Service of Ukraine for Transport Safety, the State Service of Ukraine for Transport Safety (Ukrtransbezpeka) is the central executive body that implements the state policy on land transport safety (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Service of Ukraine for Transport Safety", 2015).

The primary functions of Ukrtransbezpeka encompass, inter alia, the execution of the state policy on safety in public road, urban electric, and railway transport; and the implementation of state supervision (control) over safety in road, urban electric, and railway transport (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Service of Ukraine for Transport Safety", 2015).

The State Service of Ukraine on Food Safety and Consumer Protection (Derzhprodspozhyvsluzhba) is a central executive body, whose activities are directed and coordinated by the Cabinet of Ministers of Ukraine, which implements state policy in the following areas: veterinary medicine, food safety and certain food quality indicators, plant quarantine and protection, animal identification and registration, sanitary legislation, health and epidemiological protection of the population (with the exception of

the functions of implementing the state policy on occupational epidemiological surveillance (monitoring) and hygiene, and the functions of monitoring dosimetry at workplaces and occupational radiation exposure), price control, prevention and reduction of tobacco consumption and its harmful effects on public health, metrological supervision, market supervision within the scope of its competence, seeds and planting stock (in relation to certification of seeds and planting stock), registration and accounting of machinery in the agro-industrial complex, state supervision (control) in the agro-industrial complex, state supervision (control) in the protection of property rights to plant varieties, seeds and seedlings, state control over compliance with legislation on consumer protection and specific advertising, quality of grain and its products, state supervision (control) over compliance with biological and genetic safety measures for agricultural plants during the creation, research and practical use of a genetically modified organism in open systems in enterprises, institutions and organisations of the agro-industrial complex, regardless of their subordination and form of ownership, and control over radioactive contamination of agricultural products and foodstuffs (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Service of Ukraine on Food Safety and Consumer Protection", 2022).

Consequently, the assurance of population safety in their daily lives falls within the remit of numerous power entities across the various public administration bodies listed.

The system of civil protection is enshrined in Art. 6 of the Code of Civil Protection of Ukraine. Therefore, under para. 1 of the Article, civil protection is provided by entities mandated to protect people, territories, the environment and property in peacetime and during a special period, as required by the Code to implement defence actions of Ukraine, taking into account the specifics identified in the Law of Ukraine "On the Fundamentals of National Security of Ukraine".

The subjects of civil protection are central executive authorities, other state bodies, the Council of Ministers of the Autonomous Republic of Crimea, local state administrations, local self-government bodies, business entities, and public organisations (The Code of Civil Protection, 2024).

In accordance with Article 6(2) of the Civil Protection Code of Ukraine, the executive authorities coordinate the activities of the executive bodies in the field of civil protection within their respective powers, including 1) the National Security and Defence Council of Ukraine; 2) the Cabinet of Ministers of Ukraine.

According to Article 6(3) of this article, coordination of activities of central and local executive authorities,

enterprises, institutions and organisations related to ensuring technogenic and environmental safety, protection of the population and territories, prevention of and response to emergencies:

- The Cabinet of Ministers of Ukraine establishes the State Commission on Technogenic and Environmental Safety and Emergencies.
- The Council of Ministers of the Autonomous Republic of Crimea, oblast, Kyiv and Sevastopol city state administrations establish regional commissions on technogenic and environmental safety and emergencies.
- Raion state administrations, city and raion administrations in cities (if established), settlement and village executive authorities establish local commissions on technogenic and ecological safety and emergencies.
- The governing bodies of enterprises, institutions and organisations establish emergency commissions (The Code of Civil Protection, 2024).

To coordinate the response to a specific emergency at the national, regional, local and facility levels, special commissions on emergency response are established (Article 6(4) of the Code of Civil Protection of Ukraine) (The Code of Civil Protection, 2024).

The body primarily responsible for the implementation of the state policy in the domain of civil protection is the State Emergency Service of Ukraine. Its operations are governed by the Regulations on the State Emergency Service of Ukraine, which were formally endorsed by the Cabinet of Ministers of Ukraine on December 16, 2015 (No. 1052). In accordance with the provisions of the aforementioned resolution, the State Emergency Service of Ukraine (SESU) is designated as the central executive body, the activities of which are directed and coordinated by the Cabinet of Ministers of Ukraine through the Minister of Internal Affairs. The primary function of the SESU is to implement the state policy on civil protection. This includes the protection of the population and territories from emergencies and the prevention of their occurrence, the elimination of the consequences of emergencies, rescue, fire extinguishing, fire and man-made safety, the activities of emergency rescue services, and hydrometeorological activities (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Emergency Service of Ukraine", 2024).

The main tasks of the State Emergency Service include, in particular, the following:

- Implementation of state supervision (control) over the observance and fulfilment of the requirements of the legislation on fire and industrial safety, and the activities of emergency services;
- performance of functions of the competent authority in activities related to high-risk facilities

(The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Emergency Service of Ukraine", 2024).

It is the SESU that organises and ensures the functioning of the unified state civil protection system, deploys special units in case of mobilisation to perform certain civil protection tasks in the territories and settlements assigned to civil protection groups, as well as at the facilities of business entities assigned to civil protection categories; coordinates the activities of its civil defence forces in the course of emergency response, organises and controls emergency rescue and other urgent work; ensures firefighting, rescue of people, assistance in the aftermath of accidents, catastrophes, natural disasters and other types of hazardous events that pose a threat to human life or health or cause material damage; creates and uses financial resources and operational material reserves to prevent and eliminate the consequences of emergencies, provide emergency assistance to victims, and so forth (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Emergency Service of Ukraine", 2024).

In order to effectively perform its tasks, the SES is also authorised to exercise state supervision (control) in the field of fire and industrial safety in order to detect and prevent violations of the law by business entities (except for business entities that carry out independent professional activities at their place of residence and do not use hired labour, emergency rescue services); to monitor compliance with the requirements of the civil protection legislation and to draw up relevant acts; to supervise compliance with civil protection legislation by central executive authorities, local state administrations, other state authorities and local self-government bodies by conducting comprehensive, control and targeted inspections; to monitor compliance with the rules of human safety on water bodies; to control the readiness of the civil protection facilities of the civil protection fund for their intended use; to organise and conduct inspections of the readiness of functional and territorial subsystems of the unified state civil protection system and relevant governing bodies to act in case of emergencies, etc.

Furthermore, in accordance with paragraph 4 of the aforementioned Regulation, the SES is responsible for the generalisation of the practice of applying legislation on issues within its competence, the development of proposals for the improvement of legislative acts, acts of the President of Ukraine, the Cabinet of Ministers of Ukraine, and normative legal acts of ministries, and the submission of these proposals to the Minister of Internal Affairs as applicable (The Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State Emergency Service of Ukraine", 2024).



For instance, the Minister of Internal Affairs is responsible for issuing orders that regulate public relations in the field of civil protection. Additionally, the SES, within the limits of its powers provided for by law, on the basis of and in pursuance of the Constitution and laws of Ukraine, acts of the President of Ukraine, resolutions of the Verkhovna Rada of Ukraine, acts of the Cabinet of Ministers of Ukraine, and orders of the Ministry of Internal Affairs, issues organisational and administrative orders, and organises and controls their implementation.

The legal regulation of the use of information technologies in various areas of public relations, including civil protection and life safety, also falls within the competence of such a public administration body as the Ministry of Digital Transformation of Ukraine.

Accordingly, in accordance with the Regulation on the Ministry of Digital Transformation of Ukraine, as approved by the Resolution of the Cabinet of Ministers of Ukraine dated September 18, 2019 (No. 856), the Ministry of Digitalisation is recognised as the primary entity within the system of central executive bodies responsible for ensuring the formulation and execution of state policy in the following domains: digitalisation, digital development, digital economy, digital innovations and technologies, robotics and robotics, e-governance and e-democracy, development of the information society, informatisation; electronic document management; development of digital skills and digital rights of citizens; open data, public electronic registers, development of national electronic information resources and interoperability, electronic communications and radio frequency spectrum, development of broadband infrastructure, e-commerce and business; electronic and administrative services; electronic identification and electronic trust services; development of the IT industry; creation and functioning of the Diia.City legal regime; cloud services.

In addition, the Ministry of Digital Transformation coordinates the activities of ministries, other central executive authorities, the Council of Ministers of the Autonomous Republic of Crimea, local state administrations, as well as state-owned enterprises, institutions, organisations and state economic associations, educational institutions on issues within the competence of the Ministry of Digital Transformation and provides them with the necessary methodological assistance (The Resolution of the Cabinet of Ministers of Ukraine "Issues of the Ministry of Digital Transformation", 2024).

As a result, it would be more appropriate to regulate the use of information technologies in the field of life safety by joint orders of two rule-making entities, namely: The Ministry of Internal Affairs of

Ukraine and the Ministry of Digital Transformation of Ukraine. Co-operation between these ministries in the field of administrative and legal regulation of the use of information technologies in the field of life safety and civil protection will ensure that the latest achievements in the field of digitalisation and innovative software, as well as reliable means of protecting personal data and information constituting state secrets, are taken into account in the process of joint rulemaking.

Consequently, a notable area of innovation in the utilisation of information technologies for life safety concerns the development of a dedicated mobile application. The purpose of this application is to mobilise human and material resources to address emergencies and mitigate their consequences.

The mobile application should rely on a database of persons who are ready voluntarily, on call via the mobile application, to appear at the scene (the location of the emergency or its consequences) and assist in eliminating the emergency or its consequences (take an active part in the removal of debris, the provision of primary medical care to the victims before the arrival of the ambulance, the maintenance of access control in a certain territory, etc.).

It is recommended that the management of mobile applications be delegated to authorised officials of the State Emergency Service of Ukraine. These officials will be responsible for establishing an operational headquarters (or emergency response centre), overseeing the database of volunteers, facilitating two-way communication between the operational headquarters and volunteers, analysing live updates, and overseeing the overall process of emergency response.

**Conclusions.** The study of the system of subjects using information technologies in life safety allows the conclusion to be drawn that, given the growing natural, man-made, social, and military threats, there is a real need to create a single information and telecommunications system of civil protection, which will include an interactive map and a database of civil protection subjects.

There is also an objective need for a legal definition of the system of subjects using information technologies in life safety, which will manage the relevant system and database, as well as provide concurrent maintenance (management of the control centre, headquarters) of mobile applications designed to mobilise human and technical resources in case of threat or immediate emergency.

In view of the above, it is necessary to amend the current national legislation on the administrative regulation of the creation of a unified information-telecommunication system for civil protection and the use of mobile applications in the field of life safety, including the rights and obligations of subjects

who will manage the above-mentioned mobile applications and will participate as volunteers in the elimination of emergencies and their consequences via the installed mobile application.

The following issues also require legal regulation: financial and material-technical support for the functioning of the unified information and telecommunication system of civil protection; a mobile application for mobilising human and material-technical resources in case of a threat or immediate occurrence of an emergency; and financial and material-technical support for entities that will be involved

in the elimination of emergencies and their consequences on a voluntary basis.

It is recommended that these issues be resolved within a joint order of the Ministry of Internal Affairs of Ukraine and the Ministry of Digital Transformation of Ukraine, thereby ensuring the utilisation of the most advanced information technologies in ensuring public safety. The necessity to formulate particular proposals for amending the current administrative legislation with a view to enhancing the legal regulation of the activities of life safety entities in Ukraine determines the prospects for further research.

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Received on: 07th of October, 2024

Accepted on: 25th of November, 2024

Published on: 30th of December, 2024