Digitalization of Safety in the Field of Labor Protection

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Abstract. Modern enterprise safety technologies affect the life and health of people all over the world, as well as the quality of full, clean functioning of the environmental protection system. According to the authors, from a scientific and practical point of view, the project is aimed at solving one of the vital problems at enterprises – it is the safety and security of citizens (workers) in the workplaces, the warning and prevention of accidents at work, the creation of a digitalized mechanism for regulating occupational safety at the enterprise. The authors of the project proposed and justified the introduction of a new scientific direction (concept) - digitalized safety in the field of labor protection, as well as the need to introduce and develop new digital technologies in the field of labor safety. The study developed a system (consolidation, which is required in the ILO Convention) to establish digitalized platform in each state for violations of labor protection, as well as scientific understanding of the mechanism of interaction between the three components (subjects) for labor safety, for global improvement of safety systems at the enterprises.

1. Introduction
The sphere of work is the main sphere of recognition and realization of the basic rights and freedoms of a person and a citizen, since the active life of a person is manifested to the greatest extent in the labor creative process and in the period of labor activity. The development of a market economy should not lead to the withdrawal of the state from the labor market. It should not just be an observer in the legal regulation of economic and social-labor relations. The state is called upon to exercise a protective function by exercising supervision and control over the observance of legislation [1].

According to ILO Convention No. 81 about labor inspection, adopted by the national legislation of the ratifying States, appropriate sanctions for violations of regulations, the application of which is subject to control by labor inspectors, should be provided for and effectively applied (Article 18).

Both the International and Russian legislation contains norms on preservation of life and health of people, labor protection (the Charter of ILO of 1919; Art. 7, item 1 of Article. 41 of the Constitution of the Russian Federation.), which is the most valuable on Earth planet. But unfortunately, inspections of the state labor Inspectorate show that the safety of enterprises is under threat of the Apocalypse in the world, as labor legislation in many organizations is not always respected.

In the article of prominent Russian scientists noted that the environmental safety of the regions is an imperative of sustainable development of the region, the basis for the preservation of natural systems and maintaining the quality of the environment. The main meaning of environmental safety is associated with the need of complying the environmental standards. Violation of such rules seriously affects the health of the population and leads to the destruction of the sustainability of environmental systems [2]. This rule can be easily applied to labor safety in enterprises.

The purpose of this work is to develop a system (consolidation, which is necessary in the ILO Convention) to create a digitalized platform on the territory of each state for violations of labor protection.

The aim of this work is to study and to digitalize the results of inspections of the bodies responsible for supervision and control over compliance with labor legislation, which conduct scheduled and
unscheduled inspections, for the global improvement of the security system at enterprises. The need of solving this issue is confirmed by the following data of the State labor Inspectorate of the Saratov region. Because of the inspections, 9 materials on bringing responsible persons to criminal responsibility under Article 145.1 of the Criminal code of the Russian Federation were sent to the investigation bodies in 2018. 3 criminal cases were initiated under Article 145.1 of the Criminal code of the Russian Federation. On August 1, 2018, the State Labor Inspectorate carried out 863 inspections and revealed 1,563 wage violations. Officials and legal entities for 6505, 4 thousand rubles were brought to administrative responsibility [3]. It is not difficult to guess what the situation is in other regions of the country. "The number of different kinds of inspections formally seems to be reduced, but during meetings with business we hear that fundamental changes are not happening yet. It is necessary to make the appearance of supervisors in enterprises as an exception. This is justified only in high-risk facilities. In other cases, remote control methods should be used. Within two years, it is necessary to transfer the entire system of control and supervision to a risk-oriented approach" [4].

The relevance of the study is stipulated by:
Firstly, high socio-economic and political significance of the problem in modern society;
Secondly, the need for theoretical and practical analysis of trends in the field of human life security, restoration and filling of gaps;
Thirdly, the need to develop and create a digitized platform on the territory of each state on violations of labor protection, as well as a scientifically-based understanding of the mechanism of interaction between the three components (subjects) on labor safety (in the field of labor protection and industrial safety [5]), this is especially important in this vector of work.

2. Results and discussion
Certainly, that labor security (enterprise security) is an integral part of the mechanism of protection of labor citizens' rights. It is implemented by the state supervision and control over compliance with the current legislation (Article 352 of the Labor code of the Russian Federation) – the Federal Labor Inspectorate.

The Federal Labor Inspectorate is a single centralized system of state bodies exercising state supervision and control over the observance of labor legislation on the territory of the Russian Federation. The activities of the Federal Labor Inspection bodies and officials of these bodies are carried out based on the principles of respect, observance and protection of human and civil rights and freedoms, legality, objectivity, independence and transparency. The main powers of the Federal Labor Inspectorate are based on the provisions of ILO Convention No. 81 about labor inspection.

The labor Inspection is under the supervision and control of the Central authority (state).
Planned and unscheduled inspections of observance of safety of work of workers and the enterprise are carried out for the purpose of supervision and control of labor inspection. State inspectors are empowered to detect violations effectively, but unfortunately, this does not always produce results. Therefore, it is necessary to introduce a mechanism of interaction between the three components (subjects - employee, employer, labor inspection) on labor safety, in order to improve the global safety system at enterprises.

The experience of different countries makes it possible to adopt it for the effective elimination of emerging violations in the field of labor safety of enterprises. For example, the Ministry of labor resources of Singapore has formulated a new concept of occupational safety, designed to eliminate ultimately all work-related deaths. In the short term, it expects to reduce the number of work-related deaths by a third within five years at first, and then by half within ten years or earlier. To achieve this goal, Singapore has adopted a new occupational safety Act, which obliges companies to establish occupational safety management systems, identify and limit occupational risks, and develop a culture of prevention in the field of occupational safety. To improve self-regulatory processes in industry, in addition to strengthening labor inspection, a labor safety Advisory Committee was established in Singapore, consisting of key industry sector executives, trade unions and members of the scientific community [6].

In turn, the representatives of Kazakhstan asked for advice and consultation on the revision and amendment of its law on labor protection and the development of the labor inspection system. The new law on labor protection was adopted by the country's Parliament in March 2004. Based on the findings of the national occupational safety review, a national program for 2005-2007 was adopted after tripartite consultations. The program aims to introduce a health and safety management system (ILO - OSMS 2001) in enterprises in order to reduce the number of occupational accidents by 3 per cent and the loss of working time by 5 per cent by 2007. In 2005, ILO representatives were invited to conduct an audit of the labor Inspectorate. Based on the results of this audit, recommendations were developed, which are currently being implemented [6].

However, using all methods and means of eliminating the violated labor and environmental legislation, we can propose the following system (consolidation, which is necessary in the ILO Convention) to create a digitalized platform on the territory of each state for violations of labor protection (in the field of construction [7], industrial safety [8], environmental safety [9, 10, 11], in the field of electric power [12]).

From the point of view of the theory of law, the concept of digitalized safety in the field of labor protection is a state of protection of people, labor and environmental safety of the enterprise (in the field of labor protection of enterprises [13], professional retraining on environmental safety [14]).

Figure 2. Diagram of signs of digitalized safety in the field of labor protection.
On the basis of the Federal Labor Inspectorate, a separate Department for digitalized labor safety is created. This is the interaction of the state structure of the Labor Inspectorate with state-owned enterprises (the number of employees from 500 people and above) to create digitalized platforms to which inspectors alternately come for a duration of 3 months, then change to check, prevent and develop the direction of people's safety, labor safety of the enterprise. The position of the employee of this department is called - labor inspector for digitized enterprise security. In case of detection of violations on labor safety of the enterprise the inspector without delay brings in Federal base this information and takes all efforts for their elimination.

This innovation will help the state to monitor large enterprises in the field of labor protection, to liquidate and prevent offenses in time.

Based on the Federal Labor Inspectorate, a separate Department for digitalized labor safety is created.

Labor inspector for digitized enterprise security

State-owned enterprises (the number of employees from 500 people and above)

Figure 3. Scheme of integrated enterprise security.

3. Conclusions
Based on our research, we can offer the main directions for creating a digitalized safety system in the field of labor safety:
1) to develop a new scientific direction (concept) - digitalized safety in the field of labor protection;
2) to introduce and work out new digital technologies in the field of labor safety;
3) it is necessary to design and create digitalized platforms on the territory of states on labor safety violations, as well as scientifically substantiate an understanding of the mechanism of interaction between the three components (entities) on labor safety;
4) to conduct a study in the field of digitalization of the results of inspections of bodies supervising and monitoring compliance with labor laws that conduct scheduled and unscheduled inspections for global improvement of the security system in enterprises.

Because of our research, a system was developed (consolidation, which is necessary in the ILO Convention) to create a digitalized site on the territory of each state for labor safety violations. There is also a scientifically sound understanding of the mechanism of interaction between the three components (subjects) of labor safety, with a view to global improvement of the security system at enterprises. We will be able to preserve the life and health of workers in the course of work, subject to all the rules and regulations for labor safety, with the introduction of digitalized enterprise security.

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