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Implementation of the occupational health and safety management system model according to DSTU ISO 45001:2018: challenges and opportunities for transport enterprises

The article examines the features of the implementation of the international standard DSTU ISO 45001:2018 "Occupational health and safety management system" specifically at transport enterprises. The focus is on specific challenges associated with a high level of production risks, the mobility of the working environment and the complexity of technological processes in the transport sector. The key problems of implementing the standard are analyzed, in particular, the insufficient level of staff awareness, the need to modernize existing safety systems and adapt to modern occupational safety requirements. The potential benefits of implementing ISO 45001:2018 are identified, including a reduction in the level of occupational injuries, increasing the effectiveness of risk management and strengthening the image of the enterprise. Practical recommendations are proposed for optimizing the process of implementing the standard, taking into account industry specifics.

***Keywords**: occupational health and safety, ISO 45001:2018, transport enterprises, safety management system, risk management, workplace safety, transport systems.*

Introduction. In the current conditions of Ukraine's economic development, ensuring an adequate level of occupational health and safety and preserving employees' health at enterprises –particularly in the transport sector – is gaining particular importance [1]. This sector is among the most hazardous, as it combines complex technological processes, intensive use of equipment, and high staff mobility. In this regard, the implementation of an occupational health and safety management system in accordance with the requirements of the international standard DSTU ISO 45001:2018 is a crucial condition for enhancing the efficiency of transport enterprises, reducing workplace injuries, and improving the overall level of safety.

The ISO 45001:2018 standard is a modern risk management model in the field of occupational health and safety, providing a systematic approach to identifying, assessing, and controlling hazardous factors. Its implementation not only enhances employee safety but also strengthens the reputation of enterprises operating in accordance with international norms and practices. However, despite the evident advantages, enterprises face several challenges on the path to full integration of this standard, including insufficient funding, inadequate staff qualifications, and limited methodological support.

Analysis of recent research and problem statement. The issue of ensuring occupational safety and reducing industrial risks at enterprises across various sectors, including the transport industry, has become particularly relevant in the context of modern European integration processes and increasing demands for working conditions. In academic literature, considerable attention has been devoted to the development of theoretical and practical aspects of occupational safety management, particularly through the implementation of international standards. These topics have been addressed in the works of O.D. Malko, O.V. Bryhada, B.M. Tsymbal, among others. Scholars have also focused significantly on the assessment of occupational risks at enterprises. Research in the field of occupational risk assessment and management has been conducted by R. Trishch, O. Nechuiviter, Sorokolat N., Fateieva L., O.O., Delini M.M., Van Yi., and others. [2-7].

Research emphasizes the importance of integrating the ISO 45001:2018 standard into an enterprise's management system as a factor in improving occupational safety efficiency and fostering a culture of workplace safety. At the same time, studies dedicated to the specific features of implementing DSTU ISO 45001:2018 in transport enterprises are scarce. Existing works pay insufficient attention to the specifics of the organizational and economic conditions under which the transport sector in Ukraine operates, which significantly affects the adaptation of the standard. Moreover, there is a lack of practical models for integrating the standard's requirements into existing management processes, especially considering the limited resources of small and medium-sized enterprises. Therefore, there is a need for an in-depth analysis of the challenges related to the implementation of DSTU ISO 45001:2018 in the transport sector, the identification of obstacles, and the exploration of prospects for developing an occupational health and safety management system, taking into account the current challenges and conditions of industry enterprises.

The purpose and tasks of the study – The purpose and objectives of this study are to determine the appropriate approach to the assessment of occupational risks in production and the effective management of occupational safety at enterprises in the transport sector of Ukraine through the implementation of modern international risk management standards, with the aim of improving workplace safety conditions at enterprises. The study also aims to analyze the main challenges and prospects of implementing DSTU ISO 45001:2018 in the transport industry, and to formulate recommendations for the effective application of this standard at transport enterprises.

Materials and methods of research. The study employs a comprehensive approach that includes the analysis of the regulatory and legal framework, statistical data, and practical experience in implementing the DSTU ISO 45001:2018 standard at transport enterprises in Ukraine.

The main materials for the analysis were:

- the standard DSTU ISO 45001:2018;
- regulatory acts of Ukraine in the field of occupational safety;
- statistical data from the State Labour Service of Ukraine and the State Statistics Service of Ukraine;
- analytical and scientific publications on the topic of occupational health and safety management systems.

The research methods include:

- content analysis, which enabled the examination of the provisions of the standard and regulatory documents;
- a systems approach to identify interconnections between elements of the occupational health and safety management system;
- comparative analysis used to assess the differences between existing practices and the requirements of the standard;
- SWOT analysis, which helped identify strengths, weaknesses, opportunities, and threats regarding the implementation of ISO 45001:2018 in the context of the transport sector.
- The obtained data served as the basis for drawing conclusions regarding the current state, existing issues, and prospects for implementing an occupational health and safety management system based on the requirements of DSTU ISO 45001:2018.

More than 6300 people die every day as a result of an accident at work or an occupational disease, which is a huge burden on organizations and society as a whole. It is an alarming number and is proof that measures need to be taken in the area of occupational safety and health management (OH&S), which will ultimately lead to a reduction in overall accidents and morbidity. One of the important steps is the implementation of the ISO 45001 standard, which employers can apply in order to ensure more effective health and safety.

New approaches in the occupational safety and health management system require that everyone be aware of the risks they face in the workplace and in their daily lives. The employer's obligation is to identify the risks associated with the work process, to implement risk elimination or minimalization measures, and familiarize its employees with residual risks.

The implementation of the ISO 45001 standard is expected to give priority to an overall improvement in occupational safety and a reduction in accidents at work and occupational diseases.

In recent years, occupational safety has been undergoing profound transformations. The management model of occupational safety is evolving toward a system that involves shared social and economic responsibility between businesses and employees in ensuring safe working conditions. The goal is to enhance the role of social partnership in creating a healthy psychological climate in the workplace and maximizing the well-being of both individual employees and the organization as a whole. Improving workplace safety requires the advancement of principles related to occupational health and industrial safety management. This need is defined by current global trends in occupational safety and the requirements of relevant international regulations.

According to World Bank data on nominal global GDP and gross output, annual economic losses caused by poor working conditions, inadequate occupational health, and safety violations are estimated at 4%, amounting to approximately USD 3.0 trillion. In Ukraine, around 4,000 workers are injured annually in workplace incidents, with approximately 400 fatalities. In 74% of these cases, the primary cause is poor work organization. As a result, during the first quarter of 2023, one-time compensation for permanent loss of professional capacity was granted to 853 victims. The total amount spent on these payments reached UAH 17.8 million, with an average payment per victim of UAH 19,100 - UAH 1,700 or 10% more than in the first quarter of the previous year. As of May 2023, monthly insurance payments were being received by 185,600 individuals affected by workplace accidents and their family members. In total, UAH 973.66 million was allocated for these monthly insurance payments.

Expenditures on fines and compensations due to workplace accidents significantly impact an organization's financial performance. Moreover, such incidents negatively affect overall business operations, leading to reputational damage, additional inspections, and increased scrutiny from supervisory and regulatory authorities. За останні роки ситуація з виробничим травматизмом на підприємствах транспортної галузі погіршується, значною мірою на це впливає недосконала система управління охороною праці (Fig. 1.).

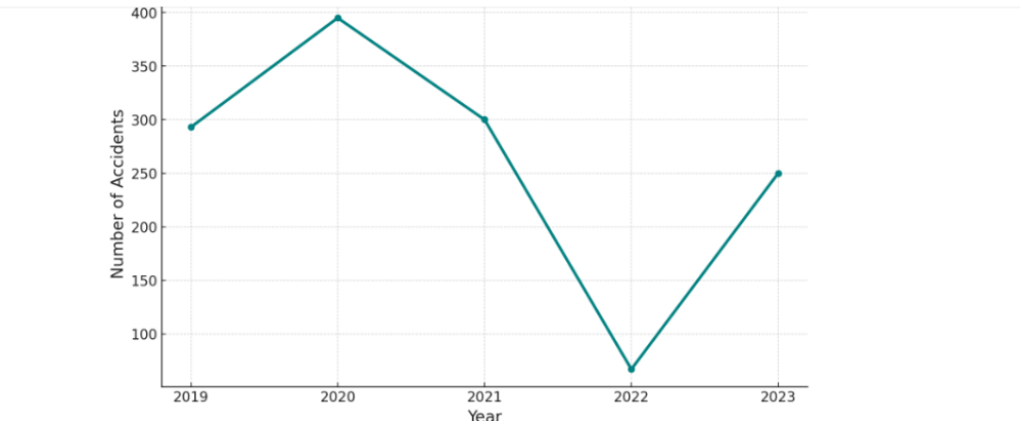

Fig. 1. **Graph of the dynamics of occupational injuries in the transport industry**

Enterprises in the transport sector are considered high-risk for occupational injuries and work-related illnesses. Currently, many transport companies are entering the European market, and therefore must comply with all international standards, including occupational safety requirements.

The study and resolution of issues related to ensuring healthy and safe working conditions is one of the most important tasks in the development of new technologies and production systems. Investigating and identifying potential causes of workplace accidents, occupational diseases, emergencies, explosions, and fires, as well as developing measures and requirements aimed at eliminating these causes, enables the creation of safe and favorable working conditions.

Comfortable and safe working conditions are among the key factors that influence labor productivity, occupational safety, and employee health.

It is globally recognized that the most effective strategy for ensuring and maintaining the highest possible level of workplace safety is the strategy of hazard prevention in the workplace. This strategy involves developing safety measures based on risk assessment procedures.

This approach forms the foundation of occupational health and safety legislation in the industrially developed countries of the European Union and is regularly revised to address current issues related to protecting workers from accidents and occupational diseases.

As part of the Association Agreement with the European Union, Ukraine has committed to gradually reform its regulatory framework over the next few years through the implementation and harmonization of relevant legal acts. Therefore, during this period, all business entities, without exception, will be required to adopt a fundamentally new strategy - based on risk assessment - to ensure safe, healthy, and comfortable working conditions. Timely identification of potential occupational risks will enable the implementation of measures to prevent or minimize them.

Since 1999, the British standard OHSAS 18001 "Occupational Health and Safety Management Systems" [8] has helped enterprises eliminate occupational risk factors. Over the course of its 18 years of implementation, approximately 100,000 enterprises worldwide were certified. OHSAS 18001 earned a positive reputation. However, it was best suited for large industrial and construction organizations and was primarily designed for environments where a basic occupational safety system was already in place.

OHSAS 18001 has since been replaced by a new occupational health and safety standard - ISO 45001:2018 "Occupational Health and Safety Management Systems – Requirements with guidance for use" [9]. This standard was developed using terminology and a unified structure consistent with those of ISO 9001:2015 and ISO 14001:2015.

By applying this standard, an organization assumes responsibility for ensuring safe working conditions and takes all possible measures to prevent negative impacts on individuals (its own employees as well as those affected by the organization's activities – visitors, contractors, etc.). The standard is universal, allowing organizations of any type and size – both manufacturers and service providers – to apply it. According to ISO data, in 2018 alone, 11,952 certificates of conformity to ISO 45001 were issued, demonstrating the effectiveness and strong demand for this standard.

As expected, the standard adopted a new structure, unified across all ISO standards. This enhances the integration of ISO 45001 into other ISO management systems and reduces the audit procedures required for certification.

Key innovations introduced in ISO 45001 include (Fig. *2*):

- Responsibility for the occupational health and safety management system is placed entirely on the organization's leadership – without delegating this authority to occupational safety specialists;
- Risk assessment applies not only to occupational safety but also to the overall management system;
- The organization is accountable for managing the risks associated with its suppliers and contractors, as well as the potential impact of their activities on neighboring facilities within the adjacent territory;
- There is a requirement to identify and manage not only risks but also opportunities;

- In the case of planned changes (to the organization, management system, or processes), whether permanent or temporary, hazard identification and risk assessment must be conducted prior to implementation, with documented information maintained;
- The use of electronic information stored outside the formal document control system is permitted.

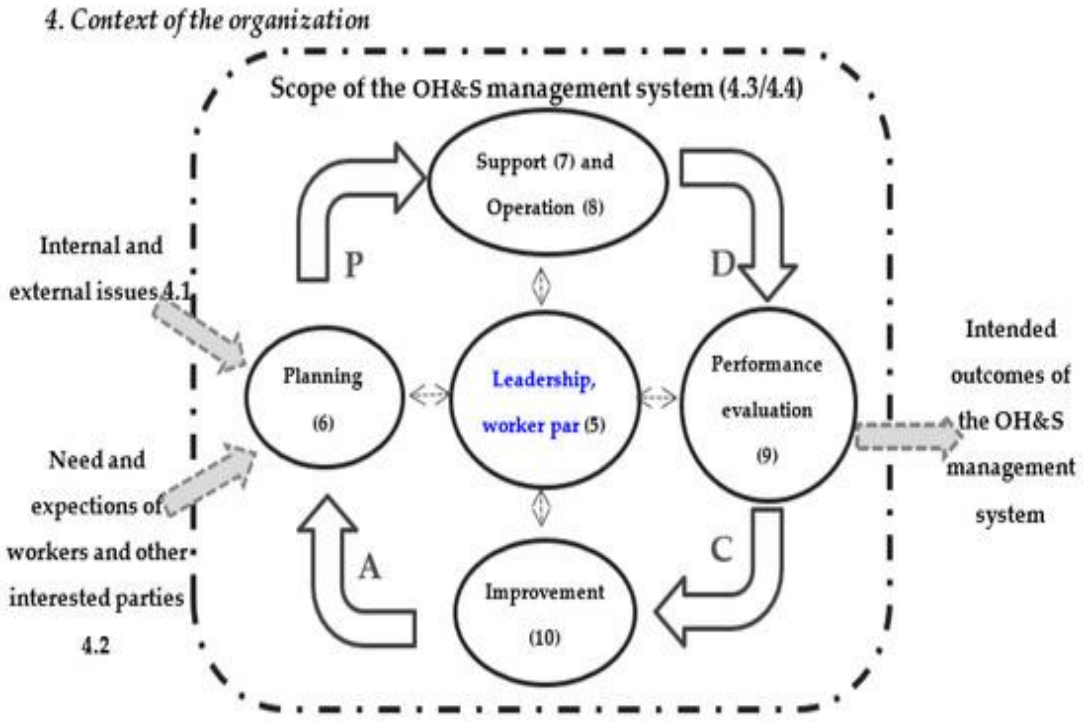

Fig. 2. **Health and safety management system vs. PDCA**

In a more detailed form, this process can be presented as the execution of the following eight stages:

1. Formulating the goals and objectives of risk management and determining the available resources to achieve them.
2. Identifying all potentially possible hazards.
3. Determining the likelihood of the occurrence of a particular hazard and the severity of its manifestation.
4. Assessing the level of risk associated with the identified hazards (quantitative risk assessment).
5. Conducting a criteria-based assessment of risks (based on the acceptability criterion).
6. Prioritizing risks according to their significance.
7. Developing and implementing safety measures and tools.
8. Monitoring and making adjustments [10].

The use of this cycle enables the practical implementation of continuous improvement in the safety aspects of processes, aimed at enhancing organizational efficiency and, as a result, reducing the number of workplace accidents and occupational diseases.

In Fig. 3 it can be seen that, from the point of view of the new standard ISO 45001:2018, the structure of the occupational health and safety management system is at a high level

The main advantages of the new OH&S management system according to ISO 45001:2018 can include [11]:

✓ Elimination of health and safety risks;

- ✓ Development of best practices in the field of occupational safety and health;
- ✓ Reduction in fatalities, accidents at work, and diseases in the workplace
- ✓ Demonstration of leadership and commitment with regard to the OH&S management system;
- ✓ Creation and implementation of health and safety policy and goals;
- ✓ Monitoring and measurement supports supervisory management by providing key performance indicators (KPIs) in measuring the level of performance of the health and safety management system.

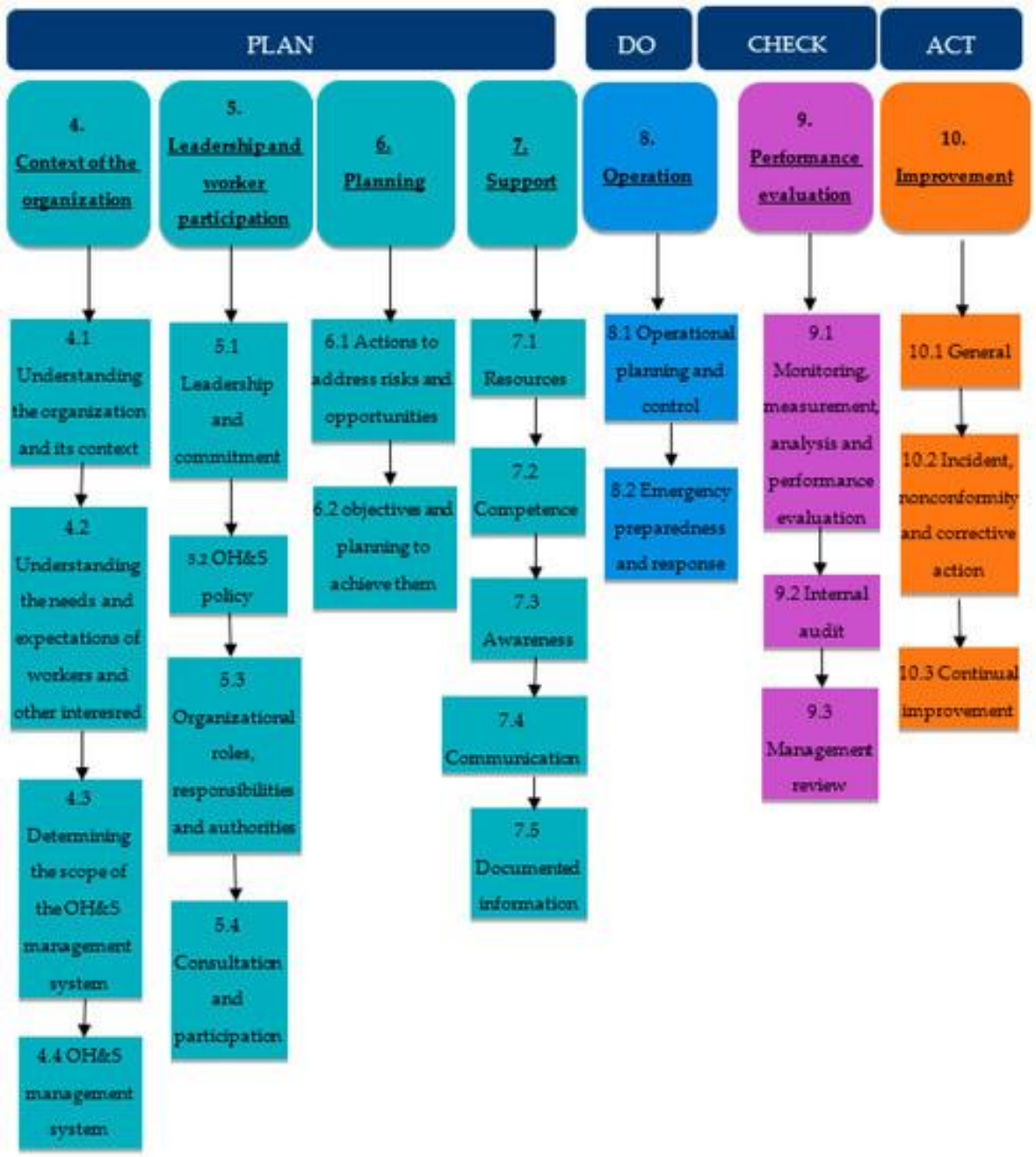

Fig. 3. **The structure of the OH&S according to ISO 45001 from the point of view of PDCA**

However, the ISO 45001:2018 standard is quite complex to understand, and not every enterprise can independently grasp the algorithm for developing an occupational health and safety management system

as outlined in the standard. Since ISO 45001 requires that any occupational health and safety actions correspond to the scale of risks and the nature of activities, the level of documentation is determined by the organization's specific context.

For organizations operating hazardous production facilities, the occupational health and safety policy must also include objectives related to risk identification and assessment at these facilities, as well as goals for implementing measures to reduce accident rates.

ISO 45001 emphasizes the need for risk management within the framework of the occupational health and safety and industrial safety management system. In principle, this requirement is common to all management systems based on ISO standards. In terms of risk assessment, the standard includes a general requirement for planning actions to eliminate risks. This planning involves identifying the risk, steps to minimize its impact, methods for eliminating the risk (if possible), and minimizing or eliminating the consequences of exposure.

In the analysis of risks in the field of occupational health and safety (OHS), commonly used quality management methodologies – such as FMEA analysis - are highly applicable. A key aspect in qualitative risk assessment, identification, and management is adherence to DSTU IEC/ISO 31010:2013 "Risk Management – Risk Assessment Techniques" [12], as well as ISO 31010:2018 "Risk Management – Guidelines" [13].

Current labor legislation does not provide any specific guidance on how exactly an employer should conduct a risk assessment within their enterprise. In practice, the process of "occupational risk assessment," when conducted independently by the employer, often boils down to distributing various questionnaires to departments. These questionnaires typically include items such as: "Has the safety briefing been conducted?", "Are personal protective equipment (PPE) issued?", "Are safety rules followed?" Naturally, lower-level managers answer affirmatively to such questions.

The responsible employee (usually a health and safety specialist), upon receiving the completed questionnaire, typically records a low level of risk - which is exactly what the employer wants. In reality, however, such a procedure has little to do with a genuine risk assessment (unless the employer's sole intention is to formally meet requirements and minimize potential claims from regulatory or inspection authorities). As a result, most enterprises delegate the risk assessment task to external expert organizations that possess the necessary experience, knowledge, and competencies.

The task of experts from such an organization is to inspect the workspace, the organization of workstations, examine the equipment and tools used, familiarize themselves with technological processes, analyze the available results of the special assessment of working conditions and production control, and, when necessary, perform instrumental measurements of the levels and values of hazardous and harmful production factors, as well as carry out many other procedures. Only under these conditions can the results of risk assessment be considered relevant to the actual state of occupational safety.

At present, there are no clearly defined criteria that expert organizations assessing occupational risks must meet. There is also no registry of experts authorized to perform assessments, nor even an approximate list of requirements for them. The most important stage of occupational risk assessment is the study of the process and the identification of hazards. If the process is not sufficiently studied and not considered in all its possible variations (this includes the standard course of the process, rare or irregular operations at a given workplace, non-routine or emergency situations that may occur), then hazards will not be identified. Consequently, risks will not be considered, and potentially important management decisions may be missed. One of the main causes of all accidents is the failure to consider certain hazards.

For high-quality hazard identification, it is necessary to develop a standard list of hazards from which the relevant ones for a specific workplace can be selected. The typical list may include dozens of hazards in just one area of a facility (moving parts of equipment, high temperature, humidity, noise, electromagnetic radiation, dustiness, maximum allowable concentrations, vibration, low lighting, etc.).

At the second stage of risk assessment, a "classical" methodology is usually applied, ranking risks by the probability of occurrence and severity of consequences. Risk assessment procedures must be followed by risk management procedures. Otherwise, the assessment remains just an evaluation, without

implying any measures to reduce the levels of existing hazards, let alone any preventive actions to avoid the emergence of such hazards in the future [14].

During the process of occupational risk assessment, enterprises may face the following challenges:

- Lack of resources for such an extensive and detailed task;
- Insufficient knowledge among responsible personnel for identifying all hazards and conducting further risk assessment;
- Psychological barriers (staff may not always be open to other perspectives, as they are accustomed to standard procedures and reluctant to change).

Implementing and obtaining certification for an occupational health and safety management system can be a demanding task, and many requirements of the ISO 45001 standard may be difficult to quickly grasp.

The implementation stages include numerous steps that require thorough preparation and expertise. It is essential to gain management support and thoroughly study legal requirements.

The ISO 45001 standard sets out the requirements for understanding and maintaining an organization's compliance with legal regulations for the successful implementation of an Occupational Health and Safety Management System (OHSMS). It is necessary to define the scope of the OHSMS (for the entire enterprise or only for a specific department), identify the processes and procedures for risk assessment and management, and later implement these processes and procedures. Employees must be trained and familiarized with ISO 45001. A certification body must be selected. The OHSMS must be used and control records maintained. Internal audits should be conducted. It is essential to apply the "Plan – Do – Check – Act" principle to ensure that final actions are implemented and sustained. Only then can the results of internal audits be considered truly effective. The final steps include management review, development of a corrective action system, and conducting certification audits [15].

These multifaceted and complex tasks can only be effectively performed through collaboration between the company's employees and an expert organization. It is clear that employees who have spent years at their respective workplaces are best positioned to develop a typical list of hazards and professionally identify them. However, the assessment and identification of risks must be carried out by specialists in this field.

As part of the study, a SWOT analysis was conducted, which is considered an effective research method that enables in-depth analysis of internal and external factors influencing the implementation of the ISO 45001:2018 standard in the transport sector. This analysis (Fig. 4) allows not only for the systematization of the key strengths and weaknesses of the organization but also for the identification of potential opportunities and external threats that may impact the effectiveness of the occupational health and safety management system implementation.

The SWOT analysis serves as an analytical tool that forms the basis for making strategic decisions and drawing well-founded conclusions regarding the prospects and challenges of integrating the standard within the modern transportation environment. The analysis identified strengths such as the presence of experienced personnel and existing safety management systems, as well as weaknesses such as the insufficient awareness of employees about the standard's requirements.

Among the opportunities highlighted are increased trust from customers and partners, enhanced corporate image, and optimization of risk management processes. At the same time, threats were identified, including high implementation costs, resistance to change from personnel, and the need for continuous updating of regulatory frameworks.

Despite the recognized effectiveness of the ISO 45001:2018 standard in occupational health and safety management, its implementation in transport enterprises is accompanied by a number of significant challenges. Among the main obstacles are the insufficient awareness of managerial personnel about the advantages of a systematic approach to safety management, limited financial resources that hinder the engagement of qualified specialists and the provision of proper training, as well as the weak integration of the standard's requirements into existing management processes.

STRENGTHS	WEAKNESSES
• **Increased occupational safety** • **Reduced injuries** • **Improved company image** • **International standard = advantage** • **Better risk management**	• **High implementation costs** • **Low staff awareness** • **Resistance to change** • **Difficult integration with other systems**
OPPORTUNITIES	THREATS
• **New contracts thanks to the standard** • **Access to international markets** • **Attracting investments** • **Motivating employees**	• Changes in legislation • Weak state support • **Staff shortage**

Fig. 4. **SWOT Analysis of ISO 45001:2018 Implementation in the Transportation Industry**

Particularly pressing is the issue of employee resistance to change, which is often caused by a low level of corporate safety culture. Additionally, the lack of methodological guidelines and industry-adapted tools for the practical application of the standard within the Ukrainian transport sector further complicates implementation.

A key challenge lies in adapting the standard to the operational activities of the transport industry, where risks are complex and variable. At the same time, there are substantial development prospects: the implementation of digital risk monitoring technologies, automation of safety processes, leveraging international experience, and the creation of sector-specific guidelines for integrating the standard.

With government support, the development of educational initiatives, and the cultivation of a safety culture, an occupational health and safety management system based on ISO 45001:2018 can become an effective tool for reducing workplace injuries and enhancing the competitiveness of transport enterprises.

How should risk identification measures be properly developed at a transport sector enterprise? A very useful tool is the hierarchy of controls, according to which measures are grouped by type and effectiveness (Fig. 5) [16]:

1. Elimination of the hazard – the most effective measure. This means completely removing the source of the hazard. For example, if a road for vehicles passes through a production area, you can redirect traffic along a different route and block off the original road. Elimination is the most effective but often the most expensive type of control measure.

2. Substitution of the hazard – replacing a greater hazard with a lesser one. For example, replacing an old-design pump with a new one equipped with modern safety features (interlocks, protective covers on rotating mechanisms, etc.). This measure does not eliminate the hazard entirely but significantly reduces the risk of injury. Such measures are often less expensive than elimination, but they can still be quite effective.

3. Engineering controls, also referred to as "hazard isolation". If the first two types of measures are not feasible or are too costly, this approach seeks to physically separate the hazard from people as much as possible. A clear example is fencing off an electrical installation and locking the access doors. This prevents unauthorized personnel from entering a dangerous area, granting access only to trained professionals who know how to behave safely. These measures are generally much cheaper than the first two but also less effective.

4. Administrative controls, also known as "organizational measures". These are the cheapest and, therefore, the most commonly used measures. They do not remove the hazard at all but instead aim to influence safe human behavior. For example: the electrical installation is not removed or fenced off, but all workers are instructed to stay away from it, this rule is included in the occupational safety

instructions, and compliance is regularly monitored. These measures are not bad but should ideally be combined with other types of protection.

5. Personal Protective Equipment (PPE). This is also a very popular type of safety measure. It becomes essential when all other protective measures have failed. This type of protection is valid and appropriate. However, it is at the very bottom of the hierarchy of controls because PPE does not prevent an incident from occurring, nor does it stop the hazard from affecting a person - it merely reduces the consequences of the hazard's impact on the body. There are many cases where, to protect workers, reliance is placed solely on the provision of PPE, while other, higher-priority protective measures suggested by the hierarchy are neglected. This is a flawed strategy that, unfortunately, can lead to injuries.

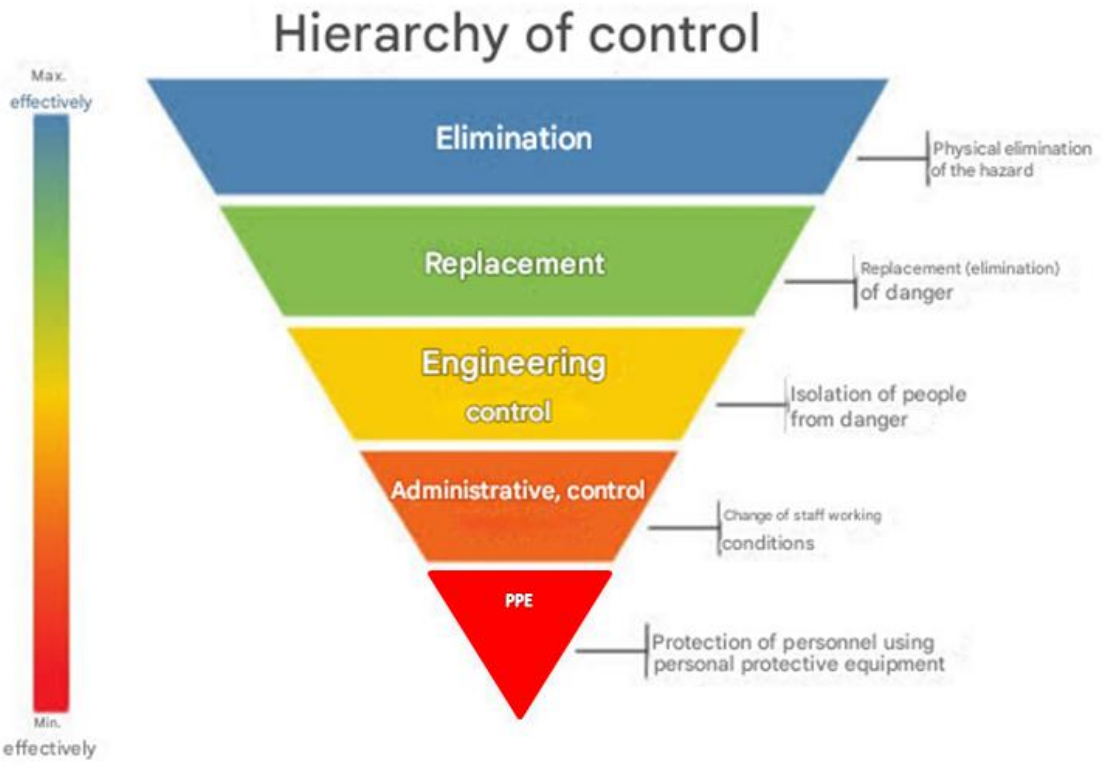

Fig. 5. **Hierarchy of events**

To address existing issues in implementing DSTU ISO 45001 into the occupational health and safety management system of transport enterprises, the following model can be used (Fig. 6).

The implementation of DSTU ISO 45001 at transport enterprises is a key step toward improving worker safety, reducing occupational risks, and ensuring the sustainable development of the industry. The standard sets clear requirements for hazard identification, risk management, and continuous improvement of the occupational health and safety system. In the context of the transport sector, where high risks of accidents, injuries, and external factors are constant challenges, the integration of ISO 45001 not only helps reduce the number of incidents but also enhances the company's reputation, attracts responsible employees, and avoids penalties from regulatory authorities. It is an investment in safety, efficiency, and the competitiveness of enterprises.

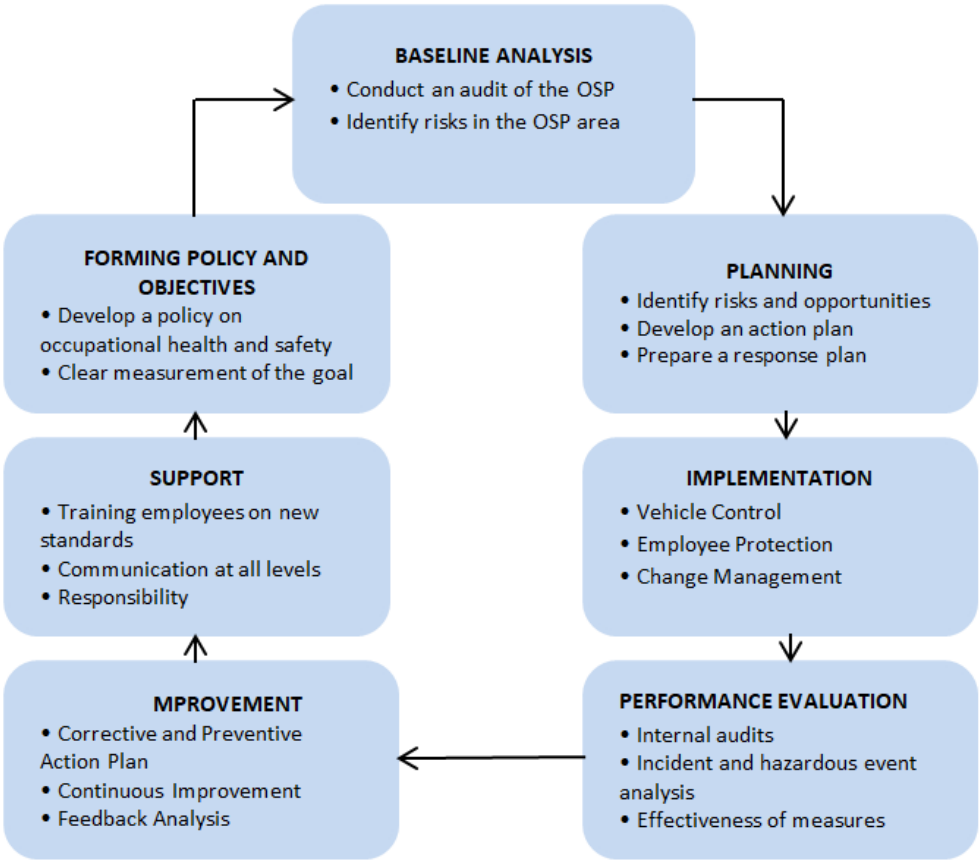

Fig. 6. **Model for integrating DSTU ISO 45001 requirements into the occupational health and safety management system of transport enterprises**

The qualitative analysis of the ISO 45001:2018 standard, based on eight systems thinking principles, indicates that the implementation of the new standard can help organizations move beyond a focus on individual system components, provide a deeper understanding of the entire socio-technical system, and improve workplace safety at the enterprise [17].

Conclusions. Occupational safety is one of the most important issues in today's society, especially at a time when many employers prioritize maximizing profit as quickly and with as little investment as possible. As a result, occupational safety requirements often receive little attention or are completely ignored, which unfortunately leads to an increase in workplace injuries and violations of workers' rights regarding labor protection. Therefore, the introduction of a new occupational safety management model based on the ISO 45001 standard will allow employees to feel that their needs for professional safety are being considered, reduce the risk of accidents, and consequently lower organizational costs. This standard has the potential to fundamentally change the state of occupational safety by introducing best global practices into integrated enterprise management systems. All of this will have a positive impact on building a favorable image of the enterprise.

The implementation of the DSTU ISO 45001:2018 occupational health and safety management system is a critical step for transport enterprises aiming to enhance workplace safety and minimize production risks. This study has highlighted the unique challenges and opportunities associated with the adoption of this standard, including the high-risk nature of transport operations, the complexity of technological processes, and the need for continuous risk assessment.

Key findings of the research include:

- The necessity for comprehensive staff training lies not only in raising awareness of occupational safety requirements but also in implementing a systematic approach to developing competencies in risk-oriented thinking. The scientific novelty consists in the proposed integration of training modules that encompass modern methods of hazard identification, risk management, the application of ISO 45001:2018 standards, and the development of a safety culture through team-based training, case analysis, and risk modeling.
- The modernization of existing safety systems should be carried out by integrating specific elements of leading international practices, such as the application of ISO 31000:2018 for strategic risk management, the use of the HAZOP (Hazard and Operability Study) methodology for identifying hazards in technological processes, the implementation of digital risk monitoring systems and safety dashboards as applied in the Vision Zero concept in Germany, the adoption of Behavior-Based Safety (BBS) models widely used in the USA, Canada, and Australia, and the practice of regular independent audits in accordance with the UK's Health and Safety Executive (HSE) standards. The application of these practices will not only enhance compliance with international requirements but also foster the development of an adaptive and dynamic occupational health and safety management system focused on risk prevention and continuous improvement.
- Effective risk management plays a key role in reducing injuries and improving organizational performance. The scientific novelty of this statement lies in the proposed model for adapting the DSTU ISO 45001:2018 standard to the conditions of transport enterprises, taking into account industry-specific risks. Specific areas for increasing effectiveness include the application of the PDCA cycle (Plan – Do – Check – Act), systematic risk assessment using quantitative criteria, and the prioritized implementation of engineering and organizational protective measures.

Adopting the DSTU ISO 45001:2018 standard not only reduces accident rates and ensures legal compliance but also strengthens the competitive position of enterprises by improving their reputation and operational efficiency. The proposed practical recommendations provide a clear pathway for optimizing the implementation process, considering the specific conditions of the transport sector.

Future research should focus on the development of industry-specific guidelines and the use of digital technologies for risk monitoring, which will further enhance the effectiveness of occupational health and safety systems.

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Імплементація моделі системи управління охороною праці відповідно до ДСТУ ISO 45001:2018: виклики і можливості для транспортних підприємств

У статті розглядаються особливості впровадження міжнародного стандарту ДСТУ ISO 45001:2018 «Система управління охороною праці та безпекою праці» на транспортних підприємствах. Основна увага приділяється специфічним викликам, пов'язаним з високим рівнем виробничих ризиків, мобільністю робочого середовища та складністю технологічних процесів у транспортному секторі. Проаналізовано ключові проблеми впровадження стандарту, зокрема, недостатній рівень обізнаності персоналу, необхідність модернізації існуючих систем безпеки та адаптації до сучасних вимог охорони праці. Визначено потенційні переваги впровадження ISO 45001:2018, зокрема зниження рівня виробничого травматизму, підвищення ефективності управління ризиками та зміцнення іміджу підприємства. Запропоновано практичні рекомендації щодо оптимізації процесу впровадження стандарту з урахуванням галузевої специфіки.

***Ключові слова**: охорона праці, безпека, стандарт ДСТУ ISO 45001:2018, ризики, стратегія, модель, транспортні підприємства, адаптація, транспортні системи.*