Structure and Implementation of ISO 45001 in Industry Domain

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Abstract
Many companies, particularly in high-risk sectors such as automotive, construction, and energy, have already demonstrated the benefits of adopting ISO 45001. In Romania, certification has also become a competitive advantage in public procurement processes. Key benefits include fewer accidents, improved efficiency, legal compliance, and enhanced corporate reputation. Therefore, ISO 45001:2018 should not be seen merely as a compliance requirement, but as a strategic tool that fosters sustainable development while positioning occupational health and safety as both an organizational priority and a driver of long-term performance. The purpose of this article is to analyse in detail the content of ISO 45001:2018, its implementation in organizations, the challenges encountered, and the benefits it brings, offering recommendations for effective application. Implementation involves several stages: gap analysis, top management commitment, hazard identification and risk assessment, monitoring legal requirements, setting measurable objectives, employee training, performance monitoring through key indicators, conducting internal audits, and, if required, certification by an accredited body.

Keywords
occupational health and safety standard implementation, safety performance, hazard identification, monitoring legal requirements

1. Introduction

In comparison to OHSAS 18001, ISO 45001 is created based on the High Level Structure (HLS), thus achieving integration with several standards such as ISO 9001 and ISO 14001. The standard is organized into ten chapters addressing critical aspects: from organizational context and leadership involvement to planning, operations, performance evaluation, and continuous improvement [1].

The international standard ISO 45001:2018 serves reference for occupational health and safety (OHS) management, offering organizations a structured framework to minimize workplace risks and safeguard employees. The publishing comes in response to the International Labour Organization's disturbing evidence that millions of people die every year from work-related causes.

Challenges may arise during this process, including employee resistance to change, limited resources, complex legislation, or a weak prevention-oriented organizational culture. These can be mitigated through strong leadership, effective communication, employee engagement, integration with other management systems, and the use of digital tools for data collection and analysis.

In recent decades, occupational health and safety (OH&S) has become a central topic in organizational management, regardless of the field of activity. The International Labour Organization (ILO) reports that hundreds of millions more individuals have illnesses or accidents brought on by working conditions each year, and over 2.7 million people lose their lives to work-related accidents or occupational diseases. These numbers demonstrate the necessity of effective and uniform management practices to safeguard workers [2].

In this context, the presented standard is internationally recognized for occupational health and safety management systems. It offers a comprehensive framework for lowering risks, boosting security, and enhancing worker happiness.

2. Context and Evolution of OH&S Standards

The ISO 45001:2018 standard was published in March 2018 and replaced OHSAS 18001, which had been widely used but did not hold ISO standard status.

The main reasons for developing ISO 45001 were:
- The need for international harmonization of health and safety practices;
- Easy integration with other management standards (ISO 9001 and ISO 14001);
- Adoption of the High-Level Structure (HLS), which facilitates an integrated approach to organizational management.

ISO 45001 not only sets compliance requirements but also promotes a culture of prevention and active leadership involvement in employee protection.

3. Structure of ISO 45001:2018

The standard is built on the HLS structure, common to all major ISO standards. The chapters include the following:
1. Scope: this chapter defines the purpose and applicability of the standard. By reducing work-related injuries and illnesses, ISO 45001's criteria for an occupational health and safety (OH&S) management system help organizations create safe and healthy work environments.
    - Applies to any organization, regardless of size, industry, or nature of activities.
    - Focuses on risk management and opportunity improvement.
    - Aims at continual improvement in OH&S performance.
2. Normative References: this section points to documents essential for the application of the standard.
    - In ISO 45001:2018, there are no specific normative references (it is self-contained).
    - However, organizations might need to refer to related standards like ISO 9001 (quality management) and ISO 14001 (environmental management) to ensure effective integration.
3. Terms and Definitions: this chapter provides a common vocabulary to ensure clarity and consistency.
    - Defines essential words like "consultation," "worker," "participation," "hazard," "risk," and "OH&S performance."
    - Establishes a shared understanding for all stakeholders involved.
    - Helps avoid misinterpretation during implementation and audits.
4. Context of the Organization: organizations must understand their internal and external environment to effectively manage OH&S risks.
    - Identify relevant issues: legal, cultural, social, technological, and economic factors.
    - Identify stakeholders (employees, contractors, customers, regulators, communities) and their expectations.
    - Define the scope of the OH&S management system – which parts of the organization and which activities it covers.
5. Leadership: top management is required to demonstrate visible commitment and accountability.
    - Establish an OH&S policy that reflects the organization's vision and commitment to safety.
    - Assign roles, responsibilities, and authorities clearly.
    - Ensure workers are consulted and participate in decision-making.
    - Promote a culture of safety and prevention, not just compliance.
6. Planning: this chapter covers the strategic and operational planning needed for OH&S.
    - Identify hazards and assess risks and opportunities.
    - Establish objectives consistent with the OH&S policy.
    - Ensure compliance with applicable legal and regulatory requirements.
    - Develop plans to eliminate hazards, reduce risks, and improve performance.
    - Integrate OH&S planning with business planning.
7. Support: refers to the resources and infrastructure necessary for effective OH&S management.
    - Provide sufficient resources (financial, human, technological).
    - Ensure competence through training and awareness programs.
    - Promote effective communication and worker engagement.
    - Establish and maintain documented information (policies, procedures, records).

8. Operation: focuses on execution and control of processes to manage risks.
- Establish controls to eliminate hazards and minimize occupational health and safety (OH&S) risks.
- Manage change to ensure safety during organizational or process transitions.
- Establish emergency preparedness and response plans.
- Apply operational controls (e.g., safe work procedures, use of PPE, contractor management).
9. Performance Evaluation: covers monitoring, measuring, analysing, and evaluating OH&S performance.
- Define performance indicators and measure them regularly.
- Conduct internal audits to verify compliance and effectiveness.
- Perform management reviews to ensure the system remains aligned with strategic objectives.
- Collect feedback from workers and stakeholders for improvement.
10. Improvement: Ensures continuous improvement of the OH&S management system.
- Take corrective actions for nonconformities and incidents.
- Analyse root causes to prevent recurrence.
- Promote innovation and proactive improvement measures.
- Use lessons learned to strengthen organizational resilience and safety culture [3].

4. Implementation Stages of ISO 45001
- Initial Analysis (Gap Analysis): review current OH&S practices against ISO 45001 to identify gaps and set an action plan.
- Management Involvement and OH&S Policy: top management defines the OH&S policy, commits resources, and promotes a safety culture.
- Hazard Identification and Risk Assessment: Recognize potential hazards and evaluate associated risks.
- Legal Compliance: Ensure compliance with laws and regulations, maintain a legal register, and monitor updates.
- Establishing OH&S Objectives and Plans: Set measurable safety objectives aligned with risks and policy; create action plans with responsibilities.
- Resources, Training, and Awareness: Provide necessary resources, training, and awareness programs to build competence and accountability.
- Operational Implementation: Apply safety procedures, controls, and emergency plans; manage contractors and changes effectively.
- Monitoring and Reporting: Track KPIs, incidents, and near misses; analyse trends and communicate results across the organization.
- Internal Audits: Conduct regular internal audits to check compliance and effectiveness; document and correct issues.
- Management Review: Top management reviews audits, KPIs, incidents, and resources to ensure continuous improvement.
- External Certification (Optional): Independent certification body audits the system; provides credibility and competitive advantage [4].

5. Implementation Challenges
- Resistance to change from employees and management;
- Lack of resources (financial, human, technological);
- Weak organizational culture focused on prevention;
- Complexity of legislation and difficulty in maintaining compliance.

6. Best Practices and Success Factors
- Active leadership – management must set the example;
- Effective communication – consistent delivery of safety-related information;
- Employee involvement – participation in risk assessment and solution proposals;
- Integration with other standards – ISO 9001 and ISO 14001;
- Digitalization of monitoring – using software for incident reporting and KPI analysis.

7. Examples and Applications

Many multinational companies (e.g., in automotive, construction, energy) have adopted ISO 45001 to reduce risks and meet customer requirements. In Romania, ISO 45001 certification has become a competitive advantage in public tenders, where workplace safety is an important criterion.

8. Conclusions

ISO 45001:2018 represents a major step forward in the global alignment of occupational health and safety standards. Offering a structured, internationally recognized framework, it empowers organizations to go beyond mere compliance and adopt a proactive strategy for managing risks and safeguarding workers.

The implementation of ISO 45001 brings clear and measurable benefits:
- Reduction of workplace accidents and illnesses, leading to improved employee well-being and reduced absenteeism;
- Higher productivity and efficiency, as safe working conditions foster employee motivation and operational continuity;
- Enhanced organizational reputation, demonstrating responsibility toward workers, customers, and society;
- Strengthened safety culture, where prevention, consultation, and continuous improvement become embedded in daily practices.

While challenges such as resistance to change, resource constraints, or complex legal requirements may arise, these can be overcome through:
- Active leadership involvement at all organizational levels;
- Employee participation in risk assessment and decision-making;
- Continuous training and awareness programs to build competence and responsibility;
- Systematic planning and monitoring to ensure compliance and improvement.

Ultimately, ISO 45001:2018 should not be seen merely as a certification goal, but as a strategic tool for sustainable development. By integrating OH&S into the core of organizational strategy, companies can achieve long-term resilience, protect their workforce, and gain competitive advantage in an increasingly safety-conscious global market [5].

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