

**EXPERIENCE OF IMPLEMENTING  
THE INTEGRATED MANAGEMENT SYSTEM  
IN MANUFACTURING COMPANIES IN SLOVAKIA**

Katarína LESTYÁNSZKA ŠKŮRKOVÁ, Marta KUČEROVÁ,  
Helena FIDLEROVÁ

Ing. Katarína Lestyánszka Škúrková, PhD, Ing. Marta Kučerová, PhD., Ing. Helena Fidlerová, PhD.  
Slovak University of Technology in Bratislava, Faculty of Materials Science and Technology in  
Trnava, Institute of Safety, Environment and Quality, Paulínska 16, 917 24 Trnava, Slovak Republic  
e-mail: [katarina.skurkova@stuba.sk](mailto:katarina.skurkova@stuba.sk), [marta.kucerova@stuba.sk](mailto:marta.kucerova@stuba.sk), [helena.fidlerova@stuba.sk](mailto:helena.fidlerova@stuba.sk)

**Abstract**

*In corporate practice, the term of Integrated Management System means a system the aim of which is to manage an organization regarding the quality, environment, health and safety at work. In the first phase of the VEGA project No. 1/0448/13 “Transformation of ergonomics program into the company management structure through interaction and utilization QMS, EMS, HSMS”, we focused on obtaining information about the way or procedure of implementing the integrated management systems in manufacturing companies in Slovakia. The paper considers characteristics of integrated management system, specifies the possibilities for successive integration of the management systems and also describes the essential aspects of the practical implementation of integrated management systems in companies in Slovakia.*

**Key words**

*Integrated Management Systems (IMS); Integration of Management Systems, Quality Management System (QMS); Continuous Improvement; Sustainability*

**INTRODUCTION**

The success of the organization currently depends mainly on proving its competence at the market and the ability to find a synergetic effect in practice. Stormy changes bring a necessity to build the systems that enable the organization to respond appropriately to these changes, or forecast them. Therefore, enterprises are seeking to standardize their internal processes and build management systems that comply with international standards. Emphasis on improving the quality caused the development of standards based on industry standards. The establishment of international quality management system, followed by environmental management system and health and safety at work can be considered as a breakthrough in the field of the quality management (Nenadál, 2002).

The above-mentioned management systems have many similar features, thus systems exhibit many similar features their integration into the integrated management system is currently common. This enables the companies to merge the common elements of the various systems, thus reducing the financial, time and organizational complexity in integrated management system compared with self-administered management systems.

In today's economic situation, Integrated Management System (IMS) can be considered as a necessity. According to Priestol, integrated management system represents a voluntary instrument for effective management of business processes not only in the quality of services, but also in the management of environment, safety and information security in organization. It arises mainly as a voluntary initiative of management, creating the optimal conditions for the continuous improvement of environmental performance, reducing the rate of endangering the area, reducing injuries, increasing the protection of workers, improving hygiene in the workplace, increasing the overall efficiency and thus improving the economic performance of the organization (Priestol, 2008).

## CHARACTERISTICS OF INTEGRATED MANAGEMENT SYSTEM

Integration of management systems comprises the management of processes on all levels of organization. Integrated Management System means that the company decided to introduce another management system and interconnect it with the existing quality management system and its function, and the result is the formation of integrated management system. *Integrated Management System* is based on the vision of the international standards integration for quality management, environmental management, safety management and occupational health, management of capital, but also information security management and so on. *The starting point for almost all of these management systems is a process approach* that allows combining processes into one system. The key factors influencing this system are customers and suppliers, society and the public, employees and shareholders. The impact of before mentioned individual stakeholders includes all three pillars of sustainable development: economic, environmental and social.

IMS consists usually of the following management systems in companies in Slovakia:

- Quality Management System (QMS),
- Environmental Management System (EMS),
- Occupational Health and Safety Advisory Services (OHSAS).

The scope of IMS may be extended to other management systems, for example Information Security Management System (ISMS), Corporate Social Responsibility according ISO 26000 and Food Safety Management Systems according ISO 22000: 2005.

Great review of the ISO in 2000 opened the way to the integration of quality management systems, environment and safety. The revised EN ISO 9001: 2009 Standard is the closest in its structure and process approach to the EN ISO 14001 Standard. Since the EN ISO 14001 Standard is very similar its structure to the OHSAS 18001 Standard, there are appropriate conditions for application of all three management systems as integrated management system. Each of these management systems defines its specific requirements, but the categorization of the main requirements is the same. Therefore, the bases for the integration are the main requirements of all three systems. This concerns the following areas:

- Policies
- Planning
- Implementation and Introduction
- Assessment

- Improving
- Management review.

During organization's growth, the need to standardize its processes increases. Organization can be characterized as a system of fixed structures, declared competences and responsibilities. Core of its success is considered the minimization of costs, excellent performance in a transparent processes and flexible information system. The integration of management systems is the connection of individual systems based on the client (customer, the public, employee and owner) into one organization. It is the process of organizing the various parts into one on higher level to ensure efficient functioning of all its parts. If respecting the systematic approach, improvement of production quality cannot cause the devastation of environment or pose risk to the health of employees. Activities related to ecology and working environment are an integral part of all processes from the stage of creation to disposal (Hrubec, 2009).

New modern theories of management thinking and actions prioritize using the synergistic effect. Integration of management systems means a very effective and efficient integrated management system. Its implementation brings the organization reduced costs, materials, labour, improved reputation of the organization and its eligibility, either from business partners or the general public, and a way to new customers. IMS is the opportunity for the organizations to demonstrate its commitment to sustainable development in relation to its stakeholders as well as in relation to the environment, health and safety, and management of information security.

### **IMPLEMENTATION OF INTEGRATED MANAGEMENT SYSTEM**

According to our experience, there are two basic ways of designing and implementing the integrated management system in manufacturing companies (shown in Fig. 1):

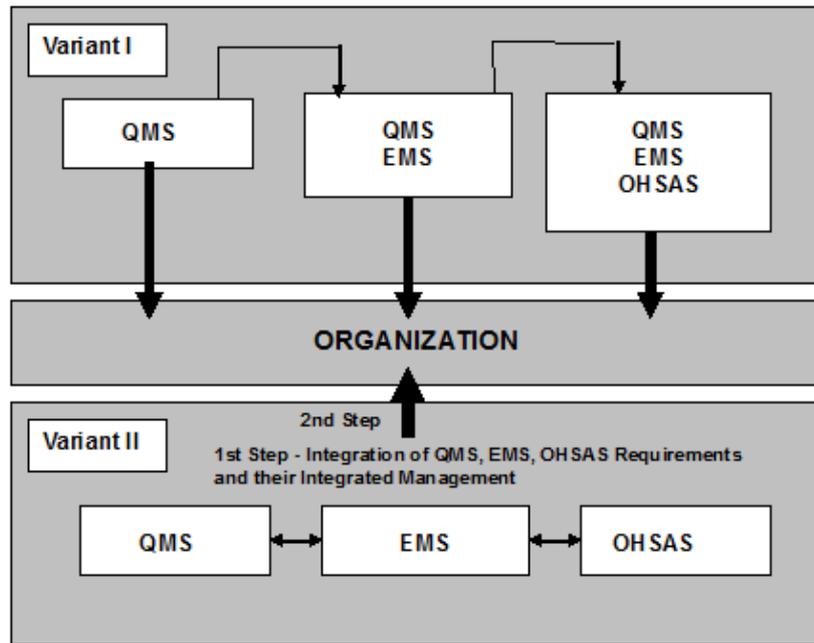
1. The single- step introduction of IMS as a whole (the implementation of various management systems simultaneously, including their integral interconnection).
2. The continuous implementation of IMS in several steps (the implementation of a single management system, then the subsequent implementation of other management systems and their continuous integration).

Based on published survey and case studies, we agree with Priesol (2008) and Mohammed (2012) that many organizations started with implementing individual management system first, and then continued with integrating the management systems.

### **EXPERIENCE OF THE IMPLEMENTING THE IMS APPLICATION IN MANUFACTURING COMPANIES IN SLOVAKIA**

In addressing the issues of the VEGA No. 1/0448/13 research project *“Transformation of ergonomics program into the company management structure through integration and utilization and QMS, EMS, HSMS.”* we dealt with the implementation of integrated management systems in manufacturing companies in Slovakia. We conducted a survey in some organizations to assess the implementation of IMS and its current state. We surveyed companies of the automotive industry, wood industry and R & D organizations.

All surveyed organizations implemented an integrated management system according to the process variant referred to as stated in the above-mentioned point 2. First, the quality management system was introduced along with the requirements of the automotive industry according to TS 16949. Then, before establishing the quality management system, requirements of other management systems including environmental requirements, health and safety at work, or energy management information security and finally social responsibility were gradually integrated.



**Fig. 1** Variants of IMS implementation. (Priesol,2008).

The keystone of three basic management systems (QMS, EMS and OHSAS) is a process approach that allows the realization of continuous improvement. The advantage of the process approach is the ongoing control/ management of the links among the different processes within the process system, as well as management of their combinations and interactions.

For successful functioning of system, processes and their interconnections were defined and visualized on the process map. Individual processes are further described in the relevant internal directives and related documentation. Each organization has an IMS manual which is the basic document for QMS and EMS, defining Quality Policy and Objectives. All managers and management staff ought to familiarize with the IMS guidelines. A representative for the integrated management system is responsible for IMS manual, its correctness and appropriateness. PDCA methodology (Plan - Do - Check - Act) can be applied for all processes. It can be described as follows:

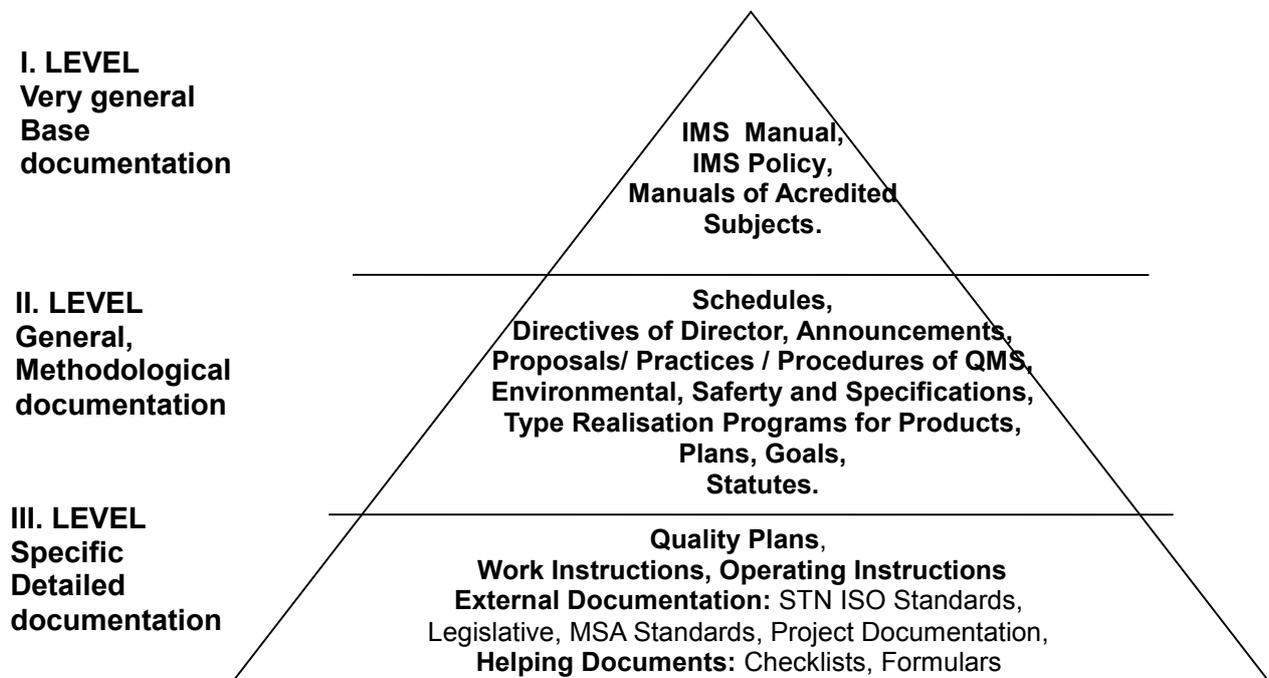
- PLAN: Set objectives and processes necessary to achieve results in accordance with customer requirements and policies in the organization,
- DO: Implement the plan, executing the process, making the product,
- CHECK: Monitor and measure processes and products, compare with the policies, objectives and requirements of the customer,
- ACT: Take an action for continuous improvement of process performance.

Integration of management systems requirements through the integrated management system in surveyed organizations brings several advantages: simplification of documentation, a policy of quality, environment and safety, conducting joint external and internal audits, management review process for all systems and other benefits.

**IMS Documentation**

The organization must establish appropriate documentation for the quality management system, including a statement of quality policy and quality objectives, quality manual, procedures and standards records and documents that organization may determine are necessary to ensure processes. In ISO 9001: 2008 is emphasis on the creating and actualization of the quality manual. Mentioned documentation should be managed so ought to be developed

documented procedures in organization for it. A documented procedure shall be formulated also for the management of records. We surveyed the IMS in an organization in Slovakia dealing with designing, implementing, engineering and training activities for power and process industries. The structure of the documentation in this organization with IMS is shown in Fig. 2. It is possible to find three basic levels of documentation, very general (base) documentation, and general (methodological) and specific (detailed) documentation.



*Fig. 2 Document structure in company with IMS (Drawn by authors.)*

***Internal documents in organization with IMS are:***

1. *IMS Manual* is the main document of an integrated management system, which defines the system structure, its parts necessary for functioning of the IMS and its application in all departments.
2. *IMS Policy* describes the overall intentions and direction of an organization in quality, environment, safety and health at work.
3. *Procedures* are documents that describe a set of rules and regulations for same procedure.
4. *Schedules, Management acts* for providing storage tasks, implementation of decisions and communication in relation to the management and organization. They consist of the Director-General orders and announcements with general information only.
5. *Proposals/ Practices/Procedures/Specifications* specify ways of doing things or processes for more departments at the same time.
6. *Plans* - provide a variety of goals, objectives, targets, scope, resources, tasks and sequence of activities relating to a product, a service, contract or project.
7. *Quality Plan* describes specific procedures for the integrated management system, resources and sequence of activities that apply to a specific product, service, project or contract.
8. *Statutes* regulate the establishment and organization of these various bodies in the organization in the field of fire protection, security and so on.

9. *Implementing Rules* provide detailed instruction manual or realization of certain activities/processes applied generally to certain departments or jobs. They comprise guidelines, work instructions, operating instructions.
10. *Specifications/Programs for Product Realization* provide the procedures for the implementation of a particular product.

Analysis of IMS documentation showed that the organization has established, developed, updated and maintained documentation in accordance with the requirements of standards. The records of the organization should be taken and updated to provide continuous proof of compliance with the needs and requirements for the effective function of the integrated management system. Documents and records must always be legible and readily identifiable.

### ***Benefits of Integrated Management System***

Integrated Management System is an effective management tool, which enables the company to achieve the objectives and provides the optimal conditions for its prosperity. It is used to maximize the market value of the company and it contributes to the improvement of management and operational processes in the company.

We found the following main benefits brought by an integrated management system in all surveyed companies in Slovakia:

- reduced production costs,
- improved quality of products and services,
- better external image of the company,
- optimized management of processes and resources,
- improved competitiveness, consolidation and better position in the domestic and international market,
- increased customer satisfaction,
- compliance with the legislation.

## **CONCLUSION**

Each organization is responsible for a process of implementation of continuous improvement through the improvement of all processes and activities in the different stages of the production cycle. The term continuous improvement should be understood as such activities that lead to the achievement of new, previously unattained levels in any areas of organization. If an organization wants to be successful, it must constantly enhance its processes and not to be satisfied with the status quo. It means a series of tasks that have to be met, but also a number of advantages which it will ensure. One of the advantages is competitiveness in relation to other organizations, and strengthening of the market position. The philosophy of continuous improvement must be applied within the whole organization.

To improve the performance and competitiveness, manufacturing companies should applied different methods and approaches that move the organization to a new level. New modern theories of management thinking and actions prioritized the application of synergistic effect. There is no one universal management system, but the systems that depend on the implementation conditions can effectively facilitate the rationalization of management. Integration of management systems creates a very effective and efficient integrated management system. Its introduction brings the organization reduction of costs, materials, labour, improves the reputation of the organization and its eligibility, either from business partners or the general public, and opens the way to new customers. The best product of the



9. SIMON A., et al. 2012. Evolution of Integrated Management Systems in Spanish firms. *Journal of Cleaner Production*, 23(1), pp. 8-19.
10. SOCHA, L. 2010. *Manažérske systémy integrovaného riadenia. Integrated Management Systems*. Ružomberok: Verbum. ISBN 978-80-8084-608-4

**Reviewers:**

doc. Ing. Andrea Chlpeková, PhD.

doc. Ing. Maroš Korenko, PhD.