

# DEVELOPMENT OF INTEGRATED SYSTEM OF ENTERPRISE MANAGEMENT BASED ON THE STANDARDS OF QUALITY MANAGEMENT SYSTEMS AND LEAN PRODUCTION

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**Abstract:** The experience of creating an integrated management system based on the requirements of standards ISO 9000 family of standards and GOST R for lean manufacturing. To solve this problem the company seeking to develop and implement several models of management systems. The most common is to develop a quality management system based on the requirements of GOST R ISO 9001-2015. With the introduction of a family of standards GOST R on lean manufacturing, the opportunity to develop the management system of lean production.

**Keywords:** lean production, quality management systems, GOST R ISO 9001-2015

In the context of globalization of the world economy, market relations require business constant balance between the greatest possible satisfaction of all stakeholders (shareholders, investors, state bodies, consumers and companies), competition requirements and compliance with legislative requirements. Maintaining this balance provides businesses sustainable and successful development what is the strategy for the development, maintenance and promotion of systems management standards-based systems management, which are considered as effective tools to expand business opportunities. The result of this activity, all stakeholders are entitled to expect from companies:

- increase of profit, profitability, rate of return on investment;
- improving the competitiveness of products;
- reduce all types of losses;
- reduce impacts on the environment;
- reduce the risks and consequences from accidents in the workplace.

To solve this problem, companies seek to develop and implement several models of management system. The most typical is the development of a quality management system (QMS) based on ISO 9001 requirements. With the introduction of a family of standards GOST R in lean production, there is the possibility of developing a system of lean production management (SMLP).

In the implementation in practice of these standards possible high risk of the following problems:

- contradictions in the priority (status) the operation of these 2 systems;

- inconsistencies in the concepts (of philosophy) management systems;

- duplication of requirements in the developed document management system (policy, goals, procedures, etc.). At the same time the philosophy of modern management detects the presence of all aspects that ensure sustainable business development, one of the main of them is the integration of all processes of the value streams in a single system that represents a holistic management mechanism of the enterprise.

The application of the idea of integration management systems (IMS) ensures the consistency of activities within the enterprise, eliminating the independence of the management systems.

The methodological basis that defines the principles and requirements for the ISM, is GOST R 53893-2010 based on the requirements of the standard BSI PAS 99 and designed mainly for use by organizations, which implement the requirements of two or more standards for management systems.

In particular, the concept of LP can assist organizations in improving their competitiveness and business performance, offering a range of methods and tools for all areas of activity, allowing to produce goods and provide services in minimum time and minimum cost with the required consumer quality.

The application of LP requires a certain way of thinking, considering every activity in terms of value for the consumer and reduce all types of losses.

The philosophy of LP is based on the representation of business flow of value creation for the consumer, flexibility, identifying and reducing losses, continuous improvement of all activities at all levels of the organization, involvement and development of personnel to improve customer satisfaction and other stakeholders.

In accordance with the concept and requirements of the standards of LP at the enterprise plant "INTERSKOL-Alabuga" for the production of professional power tools have been designed, implemented and certified to the requirements of GOST R 56404-2015 the enterprise management system (EMS), including systems concepts - SMK and SMLP. Further, in connection with the release of the new version of standards ISO 9000, management system integrated in compliance with standard ISO 9001-2015.

In the process of developing the EMS was developed by the intention and direction of the organization as a Policy of the integrated system, officially formulated its top management and Vision of the lean manufacturing concept.

In accordance with the requirements EMS aimed at increasing value for customers at all stages of operations alignment and synchronization of the value stream, improvement of the performance of financial, information and material flows. When organizing improvements used by the project team managers (leaders) and submission of proposals (Kaizen) improvements individually by the employees with registration forms Kaizen proposals and reports A3. The results of the improvements

are visualized on the Bulletin boards.

SMLP assessment is an integral part of the self-assessment of the activity performed in EMS and conduct internal audits to assess, analyze and improve the functioning of the system. Assessment activities EMS GOST R 56406-2015 level of maturity from initial evaluation to 96 points (37%) increased to 197 points (76%) and reached the 5th level of "Recognition of excellence SMBP"

From systems integration of the QMS and SMLP, the company received the following business benefits:

- improve operating efficiency by increasing the efficiency of flows;
- ensuring a more holistic approach to risk management;
- reduced risk of problems:
  - contradictions in the priority (status) the operation of these 2 systems;
  - inconsistencies in the concepts (of philosophy) management systems;
  - duplication of requirements in the developed document management system (policy, goals, procedures, etc.);
- cost savings for maintenance of the system, referencing documented procedures, processes;
- reducing the amount of labor during audits;
- vision more improvements through the application of Kaizen methodology.

The next stage of development of the enterprise management System to create an integrated system with application standards environmental management and health and safety personnel.

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