



## **Chapter XX**

# **Support of Integrated Management Systems by the Use of In-Plant Information, Management and Monitoring Systems**

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## **Abstract**

*For many organisations the present status of integration of management systems raises the question where the development goes and whether there are not further new approaches to be pursued in the next years. Due to different perceptions of the term integration and in conflict for the right approach to the system, numerous parallel systems developed in the past. The following contribution describes the targets of different types of management systems and points out strategies and structural approaches of integration. In a second step the possibilities of ICT-supported solutions are resumed exemplarily. ICT-supported information, management and monitoring systems as components will take a central role in integration of management systems and have to be developed for further requirements.*

## **Introduction**

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A management system comprises all activities for planning a business policy and introducing it into an organisation. It is as well an instrument for systematic and targeted corporate management and as for the overall operational monitoring system, it helps to fulfil all obligations to exercise the proper care. The advantage of an integrated management system is in the utilisation of synergistic effects resulting from the combination of joint management structures and processes for the production of goods and services.

Thus far it has not been possible to implement operationally a clear and concise description of an integrated management system. Due to different perceptions of the term integration and a conflict over the right approach to the system, numerous parallel systems have developed, which are to be integrated in the future.

In connection with the provision of data referring to in-plant regulations of processes and procedures, as well as to operational data of different origins in ICT-supported management, information and monitoring systems, the question of the structure of integrated management systems under a new point of view comes more and more to the fore. This contribution shows the structural approaches of integration and points out possible ICT-supported solutions as examples.

## **Development of Management Systems and their Standardisation**

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A short review on the historical development of the different management systems shows how requirements to organisations, and thus to management as well, have changed over the course of recent decades (Figure 1).

In the following, a short survey of both current and planned requirements of standards and regulations is given, which have to be considered in connection with the combination of multifunctional operational information and management systems.

## **Quality Management**

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In the beginning, quality checks at the end of production were at the fore of the quality system. Soon it became clear that such systems would pay for themselves

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