9 Integrated and Simplified Management Systems

9.1 Integrated Management

9.1.1 What is, and What is Not, an IMS

A management system is the interconnection of components to achieve a given objective more effectively in a company or an organisation. These components include the organisation, resources and processes. Therefore, people, equipment and culture are part of the system as well as the documented policies and practices.

An integrated management system (IMS) is a management system which integrates several or all components of a business into one coherent system so as to enable the achievement of its purpose and mission. Except from the core business aspects, many other aspects could be important for the company strategy e.g. quality, effects on external environment, health of employees, safety for employees and third parties, security, equity, social responsibilities, gender etc.

Actually anything, which has an effect on business results must be part of the management system. Therefore, an IMS should integrate all currently formalised systems focusing on quality, health and safety, environment, personnel, finance, security etc. What this means is that all the processes and the documents that describe them would be integrated.

For something to be integrated it does not just sit next to the other components – it has to be fixed to the others so as to make a whole. Therefore, putting the financial system, the quality system and the environmental and safety system into one book of policies and procedures is not enough. It does not constitute an integrated management system. Creating one national standard for management systems is not integration either. Buying a software package which handles quality, safety and environmental documentation is not integration, nor is merging disciplines such as putting the quality manager, safety manager and environmental manager in one department.

Integrated management is a concept whereby functional management is dispersed throughout an organisation so that managers manage a range of functions together. As an example it may be a manufacturing manager who manage planning, manufacturing, safety, personnel, quality, environment, finance etc. as one package.

In this chapter we will focus on the integration of Quality, Environment, and Occupational Health and Safety (OH&S), as those aspects are the most common to integrate. Health is dealing with health aspects for the employees including all work-related activities during normal operation. Safety is

Main Contents of this Chapter

The whys and hows to integrate management systems in a company or an organisation are discussed and explained in this chapter. The components – most often quality, environment, and occupational health and safety – should have a common structure to be successfully integrated, although a standard for the integrated system, the IMS, is lacking.

Quality management according to the ISO 9000 standard, with a focus on customers' satisfaction, is described as well as how to introduce and use quality management in an organisation. The introduction and use of an Occupational Health and Safety Management Systems, OH&S focuses on hazard identification, risk assessment and risk control. Corporate Social Responsibility, CSR, is sometimes included.

In many instances, such as for small companies, the ISO standards for management do not fit and for them simplified systems are used. Also very large organisations, such as cities, have their own simplified systems for environmental audits, while environmental labels function as standards for products and services.

dealing with accidents, which can cause effects on personnel, third parties, property and the environment.

9.1.2 Why Management Systems Should be Integrated

There are several good reasons for integration of management, especially Occupational Health and Safety (OH&S) together with Environmental management. Examples of advantages are:

- Reduce duplication of activities and therefore costs.
- Balance conflicting objectives e.g. between occupational health and environment.
- Eliminate conflicting responsibilities and relationships.
- Harmonise and optimise practices.
- Create consistency.
- Improve communication.
- Facilitate training and development.

Integrating the management systems also facilitates the focus on the most important aspects in a company. Separate systems tend to put focus on each area instead of the common area.

9.1.3 Three Reasons for Introducing an IMS

The most important reason for an integrated management system, IMS, is that this will *reduce costs*, since many routines can be coordinated more effectively. For example when reporting deviations, this has to be done for all areas, as it effects all areas. Coordinated reporting is much simpler. There is a large potential for saving money with IMS as compared to separate systems.

Another important driving force is *legislation*. Legislation concerning management systems is predominant in the area of OH&S.

Legislation aimed at the prevention and control of accidents involving dangerous substances in the EU was significantly prompted by one particular disaster from the past. In 1976, a chemical plant manufacturing pesticides and herbicides in Seveso, Italy, accidentally released large amounts of poisonous dioxins into the air, contaminating ten square miles of land and vegetation. Over 600 people were evacuated with as many as 2,000 treated for dioxin poisoning.

As a result, in 1982, the *Seveso Directive* [Council Directive 82/501/EEC] on the major accident hazards of certain industrial activities was adopted, later amended in light of two other major accidents. The first was the 1984 chemical disaster at the Union Carbide factory in Bhopal, India, where over 2,500 people died. The second was the 1986 catastrophe at the Sandoz warehouse in Basel, Switzerland, where a major chemical leak laden with mercury led to the massive pollution of the Rhine River and the death of half a million fish.

In 1996, the *Seveso Directive II* [Council Directive 96/82/EC] replaced its predecessor. Still in effect, it aims to prevent major accidents involving dangerous substances and to limit their consequences for humans and the environment. It covers industrial activities and the storage of dangerous chemicals, expands the public's right to access information and requires governmental authorities to carry out regular inspections.

One of the main conclusions in the guidelines to the Seveso legislation [Guidelines on Major Accident Prevention Policy and Safety Management System, as required by Council Directive 96/82/EC, SEVESO II] is the importance of management. *"Failures of the management system were shown to have contributed to the cause of over 85% of the accidents reported."*

A third reason for integration is *customers' requests*. It is becoming more frequent that public authorities as buyers of products and services requires that in order to get a contract the company must have a management system. These management systems are usually simplified versions, which can include such aspects as environment, health and safety. These are described more in detail below.

9.2 Elements of Integrated Management Systems

9.2.1 A Common Structure of Management Systems

If an organisation has a certificated Quality management systems and/or an EMS, the IMS can be developed by adding the necessary processes to cater for the OH&S of management system standards. The general structure will remain the same. All systems should share the following processes:

- Document development and control.
- Training of employees.
- Internal audit of the elements in the IMS.
- Management review of the whole IMS.
- Corrective actions.

9.2.2 Standards for Management Systems

Most of the standards for management systems are ISO Standards.

OHSAS 18000 has been developed to be compatible with ISO 9001 and ISO 14001, in order to facilitate the integration of quality, environmental and occupational health and safety management systems by organisations, should they wish to do so.

The OHSAS specification gives requirements for an OH&S management system, to enable an organisation to control its OH&S risks and improve its performance. It does not state specific OH&S performance criteria, nor does it give detailed specifications for the design of a management system.

Many countries have also developed national standards for OH&S which can be certified through independent auditors.

A new standard for corporate responsibility, ISO 26000, is being developed. Corporate Social Responsibility addresses concrete questions related to human rights, business practices, communications and community involvement. Equality, safety, working conditions and child labour are examples of topics covered by the principles. The principles focus on the social and socio-economic aspects of sustainability.

9.3 Quality Management According to ISO 9000

9.3.1 The ISO 9000 System for Quality Management

The ISO 9000 family is primarily concerned with quality management. This means what the organisation does to "fulfil the customer's quality requirements, and applicable regulatory requirements, while aiming to enhance customer satisfaction, and achieve continual improvement of its performance in pursuit of these objectives" [ISO organisation].

The ISO 9000 family consists of 4 basic documents, which best are used together. ISO 9000, *Quality management systems Fundamentals and vocabulary*, contains the terminology and principles. ISO 9001 contains the first level of requirements for quality management. ISO 9004, *Quality management systems Guidelines for performance improvements*, describes the different solutions, which can be applied to introduce the quality management in the organisation. Finally ISO 9011 describes how to audit and certify the management system.

The four documents are also made to fit with the other management systems, especially the ISO 14001 family for environmental management, as well as branch specific standards, e.g. ISO/TS 16949 for the car industry. They are also made to fit with different programmes for good management, not only certification according to the ISO 9000 system, but also according to different national programmes and branch specific programmes.

Eight quality management principles are defined in ISO 9000:2000, and in ISO 9004:2000. They are the following:

Principle 1 Customer focus – to understand current and future customer needs and requirements and strive to meet customer expectations.

Principle 2 Leadership – to establish unity of purpose and direction of the organisation, and an internal environment to achieve its objectives.

Principle 3 Involvement of people – to secure the full involvement of the employees.

Principle 4 Process approach – to achieved efficient process management.

Principle 5 System approach to management – to identify interrelated processes in order to base management on systems understanding.

Principle 6 Continual improvement – to secure continual improvement of the overall performance.

Principle 7 Factual approach to decision making – to secure that decisions are based on analysis of monitored data and safe information sources.

Principle 8 Mutually beneficial supplier relationships – to create a constructive relationship with suppliers and others on which the organisation is dependent.

9.3.2 Use of the System

ISO 9001:2000 is used to establish a management system that provides confidence in the conformance of product to established or specified requirements. It is the only standard in the ISO 9000 family against whose requirements a quality system can be certified by an external agency. The standard recognizes that the word "product" applies to services, processed material, hardware and software intended for, or required by, a customer [ISO organisation].

There are five sections in the ISO 9001 standard that specify activities to be considered when implementing a system:

1. Product Realization.
2. Quality management system.
3. Management responsibility.
4. Resource management.
5. Measurement, analysis and improvement.

ISO 9001:2000 and ISO 9004:2000 are harmonized in structure and terminology to make it easy to move smoothly from one to the other. Both standards apply a *process approach*, that is, they recognize one or more linked activities, which require resources and must be managed to achieve predetermined output. The output of one process may directly form the input to the next process and the final product is often the result of a network or system of processes [ISO organisation].

9.3.3 To Introduce a Quality Management System

The introduction of a quality management system is a long-term commitment, which can be guided by the use of the ISO 9000 documents. The following procedure is recommended by the Swedish Standards Institute, SIS.

Step 1: Identify and define the goals of the organisation. These may be: to be more profitable, that products should fulfil the requirements of the costumers, satisfied customers, increased market shares, satisfied employees and improved work environment in the organisation, improved internal communication, reduce costs, or create a reliable production system.

Step 2: Identify and define requests of customers and surrounding society. Some examples of interest groups (stakeholders) are: customers and final users, employees, suppliers, shareholders, and society at large. Identify stakeholders requests, such as: high and reproducible quality of products, reliable shipments, good and open communications, predictable processes, and responsible employees.

Step 3. Education and training. Different handbooks and manuals on quality management and the ISO 9000 system as well as case descriptions are available. For more detailed training the ISO 9000 documents should be studied, especially ISO 9000, ISO 9001, ISO 9004 and ISO 9011. An external consultant is often engaged to carry out training.

Step 4. Add ISO 9001 requirements to the existing management system. Exactly which requirements should be introduced depends on if the organisation intends to seek certification. With ISO 9001 the organisation has the possibility to go on to certification.

Step 5. Assess the applicability of the different parts of the quality management system. This is made to see if the parts are applicable to the organisation and its goals. The components are:

- Project management – ISO 10006.
- Configuration management – ISO 10007.
- Measurements and monitoring – ISO 10012.
- Documentation of quality – ISO 10013.
- Economic effects of quality management – ISO/TR 10014.
- Training – ISO 10015.
- Audit – ISO 19011.

Step 6. Define the present situation and make a gap analysis. This is made to identify differences between existing management and requests according to ISO 9000. This can be done internally (according to ISO 9004) or through an external auditor.

Step 7. Define which processes are required to provide the products for costumers. The list in ISO 9001, section 7, can be used to see which parts are applicable in the organisation. The processes listed are:

- Costumers directed processes.
- Construction and development.
- Procurement of material and goods.
- Production of products and services.
- Work with monitoring and measuring equipments.

Step 8. Make a plan for how to bridge the gaps identified (step 6) and develop the processes defined (step 7). Identify the processes and set aside resources to take the steps needed. Define responsibilities and establish a time plan. ISO 9001 sections 4.1 and 7.1 give information relevant to the establishment of a plan.

Step 9. Carry out the plan.

Step 10. Make regular internal audits. Use ISO 19011 for information on audits, competence of auditors, and how audits are managed.

Step 11. Decide on certification. Identify the reasons for certifications properly. Reasons for seeking certification are different. They may be:

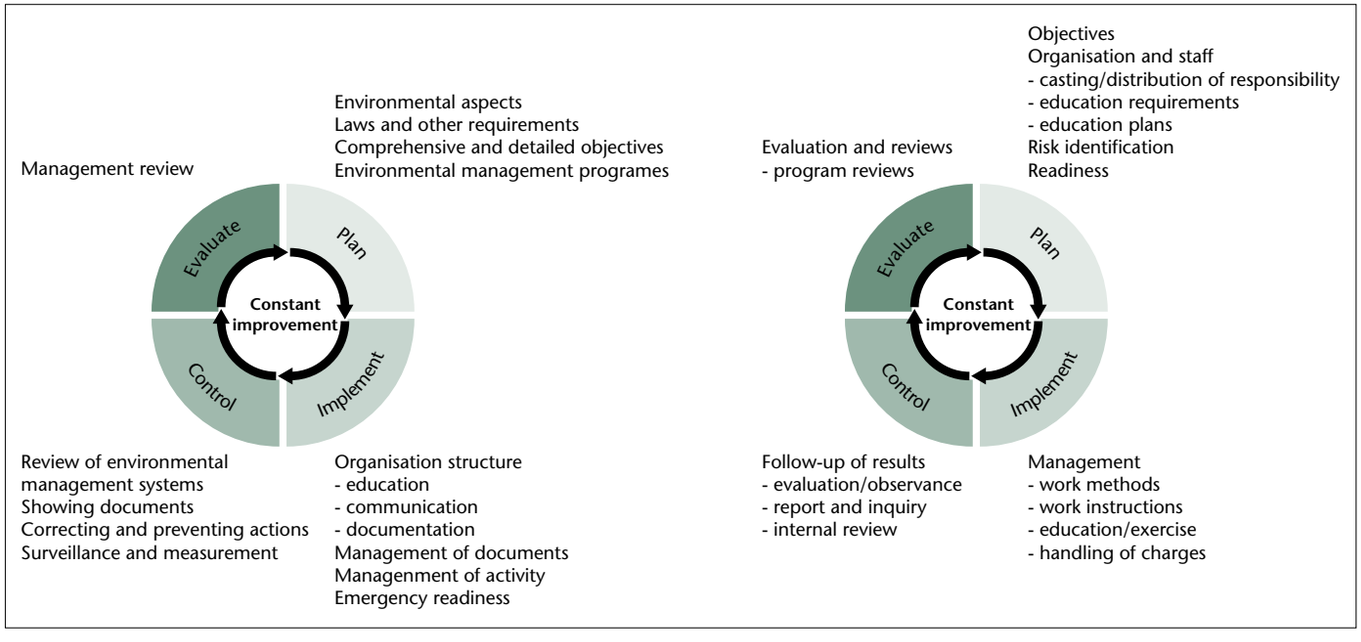

Figure 9.1 *The PDCA cycle (Plan-Do-Check-Act) cycle, also called the Deming cycle, for continuous improvement (see also Figure 1.3).*

- Contractual.
- Markets requirements.
- Customers' requests.
- Legal request.
- Risk management.

Step 12. Carry out an external audit. Use an accredited auditor for this. The requests for certification are listed in ISO 9000.

Step 13. Continue to improve the quality work of the organisation. Make regular reviews to identify the effects and judge the suitability of the management system introduced. ISO 9004 contains the methods used for continuous improvement.

9.4 Occupational Health and Safety Systems

9.4.1 Components of an OH&S Management System

The main components in OHSAS 18000 which are compatible with ISO 14000 are:

4.2 OH&S policy.
4.3 Planning.
  4.3.1 Planning for hazard identification, risk assessment and risk control.
  4.3.2 Legal and other requirements.
  4.3.3 Objectives.
  4.3.4 OH&S management programme(s).
4.4 Implementation and operation.
  4.4.1 Structure and responsibility.
  4.4.2 Training, awareness and competence 3.2.
  4.4.3 Consultation and communication 3.2.
  4.4.4 Documentation.
  4.4.5 Document and data control.
  4.4.6 Operational control.
  4.4.7 Emergency preparedness and response.
4.5 Checking and corrective action.
  4.5.1 Performance measurement and monitoring.
  4.5.2 Accidents, incidents, non-conformances and corrective and preventive action.
  4.5.3 Records and records management.
  4.5.4 Audit.
4.6 Management review.

The sequence of components for continuous improvement is essentially based on the so-called Deming or Plan-Do-Check-Act cycle (see Figure 9.1). Below we will develop some of the components more in more detail.

Probability					
> 1 time per year					
1 time per 1-10 years					
1 time per 10-100 years					
1 time per 100-1,000 years					
< 1 time per 1,000 years					
Persons	Temporary mild discomforts	Occasional wounded, lasting discomforts	Occasional serious wounded, severe discomforts	Occasional dead and several serious wounded	Several dead and tens of serious wounded
Environment	No decontamination, small spreading	Simple decontamination, small spreading	Simple decontamination, large spreading	Difficult decontamination, small spreading	Difficult decontamination, large spreading
Property	< 0.1 MSEK	0.1-1 MSEK	1-5 MSEK	5-20 MSEK	> 20 MSEK

Figure 9.2 *Matrix for risk assessment in preliminary hazard analysis (PHA) technique.*

9.4.2 Hazard Identification, Risk Assessment and Risk Control

The preliminary hazard analysis (PHA) technique is a broad method, which is commonly used to map risks (see Figure 9.2). It focuses on (1) identifying apparent hazards, (2) assessing the severity of potential accidents that could occur involving the hazards, and (3) identifying safeguards for reducing the risks associated with the hazards.

Brief summary of characteristics:

- Relies on brainstorming and expert judgment to assess the significance of hazards and assign a ranking to each situation. This helps in prioritising recommendations for reducing risks.
- Typically performed by one or two people who are knowledgeable about the type of activity in question. They participate in review meetings of documentation and field inspections, if applicable.
- Applicable to any activity or system.
- Generates qualitative descriptions of the hazards related to a process. Provides a qualitative ranking of the hazardous situations; this ranking can be used to prioritise recommendations for reducing or eliminating hazards in subsequent phases of the life cycle.

Usually a semi-quantitative scale is used to judge the severity of identified hazardous events. In this way the company can set priorities for acceptable risk levels for different aspects.

9.4.3 Working with Risk Management

The quality of the evaluation depends on the quality and availability of documentation, the training of the review team leader with respect to the various analysis techniques employed, and the experience of the review teams

Other important methods for risk assessment are:

- What-If Analysis can be regarded as a PHA where checklist can be used to support the analysis team by asking questions "What happens if?"
- Fault Tree Analysis (FTA) and Event Tree Analysis (ETA) can be used to logically structure scenarios for undesired event. Based on statistics frequencies for events can be calculated. The methods are difficult to use for untrained personnel.
- Failure Mode and Effects Analysis (FMEA) is traditionally used too analyse effects of failures in technical systems.
- HAZOP Analysis is a very structured method to analyse processes where a detailed design exists. It is a very time consuming method and it can be used both for safety and operability analysis.

Management-wise the following items should be considered.

Emergency preparedness and response. Based on the risk assessment process, the company should develop scenarios for "worst" accidents that could occur. Worst case is referred to as an accident, which could cause substantial damage to property and personnel. For these scenarios the company should develop, communicate and practice an emergency plan.

Performance measurement and monitoring. The performance of the different components in the IMS should be monitored through audits. These audits can be carried out by internal personnel through different questionnaires. It is though advisable to also engage external in the audits. It is also important to develop indicators for measurement of effectiveness throughout the organisation. It is amazing how many companies do not have in place ways of measuring the effectiveness of their processes. It is also important to measure the company against available benchmarking figures in the trade.

Accidents, incidents, non-conformances and corrective and preventive action. All management systems require that deviations from normal operation are documented and that preven-

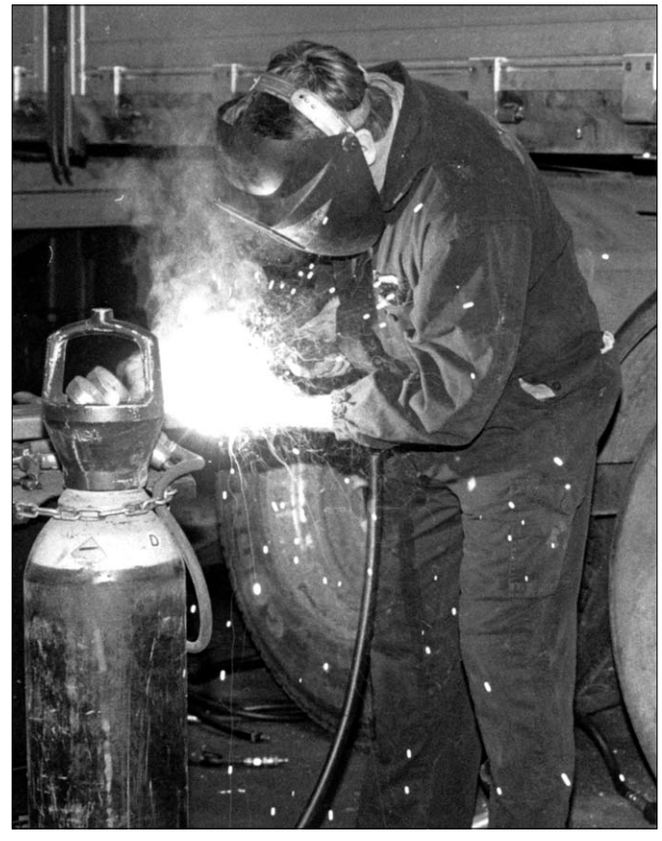

Figure 9.3 *The work environment of a welder has to be properly arranged to be safe. Risk assessment relates to e.g. fire, temperature, intense light, and possible leakage of the gases used for the welding. Photo: Inga-May Lehman Nådin.*

tive actions are taken. This is a typical thing, which should be integrated as different deviations can combine and it is not really possible to foresee if these deviations can affect quality, environment, safety or health. The documented deviations are also of considerable value during risk assessment.

9.5 Experiences of Integrated Policies

9.5.1 Social Responsibility based on Safety, Health and Environment

The integrated policy for a company is a commitment from the highest management level in the company concerning which level of conditions the company is aiming for. Below is a short version of the integrated Safety, Health, Environment (SHE) Policy in the pharmaceutical company AstraZeneca.

AstraZeneca aims to be amongst the pharmaceutical industry leaders in SHE and intends to operate as a responsible member of society committed to continuous improvement in all aspects of SHE performance. The core priorities are:

- Integrate SHE considerations into all activities across the AstraZeneca Group of companies.
- Manage SHE as a fundamental component of governance systems and ensure compliance with applicable SHE-related laws and regulations.
- Train, empower and require individuals to take personal responsibility for safety, health and the environment.
- Aim to eliminate all work-related injuries and cases of ill health by providing a safe and healthy work environment and promoting health and wellbeing.
- Aim for continuous improvement in the sustainability of all our activities by, amongst other things, economising on the use of natural resources and working to eliminate pollution.
- Monitor existing and emerging SHE risks, assess their significance and manage their potential impact on people, the environment and the business.
- Monitor our SHE performance and communicate openly with the stakeholders.

The policy document clearly states the commitments of the company in such a way that it could be communicated to all personnel. The policy is not a summary of the management programme but it should be specific enough to enable anyone to judge whether the company fulfils its commitments.

9.5.2 Experiences from Using IMS

Many of the identified problems with IMS are common for all management systems (MS) like:

- Demand for resources, especially if the MS shall be certified.
- Long term efforts.
- Substantial documentation.
- A risk that the standard is guiding, rather than the demand of the company.
- Large efforts in education of all personnel are required.
- Not neutral regarding competitiveness; Within the EU authorities in different countries interpret rules in different ways.
- The MS can encourage a conservative control culture instead of a creative work for continuous improvements.
- An attitude ”the system takes care of everything” can develop.

Problems specific for integrated management systems are:

- Competing standards.
- Areas with vague indicators like safety can be neglected.
- Different cultures in the organisation regarding quality, environment and OH&S.
- In downsizing organisation economic factors can be the main driving force for IMS which can lead to resistance from personnel.

There are many experiences from companies working with IMS. One of the main experiences is that the IMS must be dimensioned according to the needs and conditions in the company.

Other experiences are:

- The IMS must be ”owned” by the users.
- The IMS must give simple and easily accessible information regarding what-when-who.
- IT-systems should not control the development of the IMS.
- One step needs to be taken at a time.
- Visions need to be created and communicated to employees.
- The engagement of top management is crucial starting from a communicated policy.

9.6 Simplified Management Systems

9.6.1 The Need for Simplified Systems for SMEs

The principles of IMS can be applied to every company, regardless of its size, type or industry. Having a good IMS in place will ensure that the products, services are of the highest standards, the customers are happy and the future of the organisation is heading in the right direction.

For many small and medium-sized enterprises (SMEs) it would, however, be too ambitious to develop integrated management systems that fulfils the requirements in the ISO standards. In these cases it is more realistic to develop only parts of the

systems, which are focusing on the most relevant aspects in the companies. This could be done in such a way that parts of the standards are implemented and the system can gradually grow according to the needs. The important thing is that the company on a high management level determines what aspects are important and what level of standard the company wants to achieve.

The City of Stockholm has developed an Environmental Diploma for SMEs. It is a simplified environmental management system where other aspects can be incorporated. It is a voluntary system open to Stockholm-based SMEs with up to 50 employees. In 2004, about 100 companies were working towards a diploma.

As proof for having fulfilled the criteria, companies receive a diploma during an annual ceremony at Stockholm City Hall. The diploma is managed by the City of Stockholm Environmental Centre for SMEs which is a department focusing on pro-active initiatives and projects targeting SMEs. The Centre is independent from the department handling authority issues such as environmental inspection, control and monitoring.The companies need no prior knowledge about environmental issues in order to start working on the diploma.

Figure 9.4 *Varbergs Låsservice, in Varberg on the Swedish west coast, is a small company working with installations and repair of locks. It is certified according to a simplified management system developed for small and medium sized companies [http://www.fr2000.org/]. Gert-Inge Arvidsson is proudly showing the certificate. © FR2000.*

The diploma is based on international standards such as ISO 14001 and EMAS. The diploma has three levels, each level corresponding to one year including audit and renewal of the diploma after each level.

The incentives for the City of Stockholm to spend resources on the diploma are:

Closer contact with local business, which enables the City to improve its work on business promotion and bottom-up democracy. Personal contacts are more efficient than indirect information. In this way Stockholm can obtain more of the advantage of a small town rather than an anonymous big city.

Reduced environmental load, which in the long term reduces costs for society in general and for the City in particular. The diploma has rendered concrete, substantial results in terms of reduced emissions of CO_2, chemicals etc. The companies' staff also uses its new knowledge and make conscious choices in their everyday lives.

The incentives for the companies to spend resources on the diploma are:

Improved business opportunities. Having an environmental management system is often a prerequisite for winning contracts when doing business with other companies and public organisations.

Reduced costs. Better control and environmental improvements often reduce costs. Saving energy, using resources more efficiently, choosing a more expensive investment alternative that renders lower running costs etc.

Improved contact with the City, which facilitates exchange of information and opinion.

Satisfaction from knowing that they are contributing to sustainable development.

Meeting other companies, networking, exchanging experience and making new business contacts.

9.6.2 Management and Audit Systems for Cities and Towns

Also for cities there exists a variety of *audit schemes* more or less simplified. The Union of Baltic Cities, UBC, to which more than 100 cities in the Baltic Sea region now belong, has used a municipal environmental audit scheme (MEA), originally based on a work of the World Bank, which in turn originates from the EMAS within the European Union.

The basic form of auditing, that is, compliance auditing, where performance is audited against legislation, regulation and codes of conduct, is typical for companies. In the UBC manual, the focus is on environmental management and the

Figure 9.5 Tallinn, Estonia, *was the first city in the Baltic Sea region to undergo an environmental audit by colleagues from Turku, Finland, according to the so-called Municipal Environmental Audit Scheme, MEA. Later the managers from Tallinn made the same audit in Turku and strengths and weaknesses were discussed. Photo: Toomas Volmer, © Tallinn City Tourist Office & Convention Bureau.*

auditing is done against self-determined targets. But it may change as municipal environmental management systems are subject to international standardization. The MEA standards were first published in Finland and Estonia in spring of 1997, and have since been used in a number of twin auditing arrangements (cities which audit each other).

The audit is typically performed against: (1) legislation; (2) environmental effects of production processes; (3) management and administration activities; (4) environmental economy, investment related to environment, and planning and (5) communication of results to the public. In MEA, specifically, 'non-polluting' environmental performance such as regulation of environmental health and, for example, safety in transport and storage of hazardous material is also included.

The audit is related to management work, in the sense that all points that arise from the audit influences the management in the city administration.

Auditing is usually visualised as progressing stepwise.

Step 1: Preparatory work. Introducing the audit methods and principles to city officials is crucial in order to achieve the commitment and to secure the final success of the audit. Being audited may be threatening and the auditors should make every effort to achieve a positive approach and commitment. Desirable characteristics for the audit team member are a thorough knowledge of municipal environmental issues and, as far as possible, independence from the management system.

Step 2: Collecting the data. After the field missions are completed, each auditor should prepare a preliminary list of findings and make sure that he or she has put the right questions to the right persons.

Step 3: Analysis of data. The data should be collected in a way that will demonstrate the strengths and weaknesses of the management procedures. Reliability of environmental monitoring systems should be addressed. For example, control values, such as maximum permissible concentrations (MPCs), should be used and time-series variation analyzed and shown. Some kind of cost/benefit analysis should be possible after the MEA.

Step 4: Reporting, recommendations and dissemination of auditing. The audit report has three basic purposes: 1) to provide management information, 2) to initiate corrective action and 3) to provide documentation of the audit and its findings. The report should include hints on technical solutions. All the findings, suggestions and conclusions from the audit must be mediated to both the governing bodies, management as well as to the public.

Step 5: Follow-up and the audit cycle. The nature of auditing is repetitive, which means that unfavourable findings are

Figure 9.6 *Labels on products is one form of certification as the permit to use a label is based on a careful auditing of the producer according to set standards. Here Alice Bah Kuhnke, Secretary General of the Swedish organisation FairTrade, demonstrates labelled consumer products. [http://www.rattvisemarkt.se]*

followed in the subsequent audits until they are eliminated. If the reporting is properly done, it should initiate corrective actions.

9.6.2 Management and Audit Systems Related to Environmental Labels

A number of systems exist for giving specific products labels to certify their environmental standard. All of these not only require that the product itself has certain properties, such as free from certain pollutants, but also that the production process follows specific rules. In this sense the labelling schemes are also introducing and auditing management.

This is an area where agriculture comes into the picture. To have food products labelled as e.g. organically grown food, or environmentally friendly food, requires that the cultivation is carried out in specified ways, that animals are managed according to established rules, etc. These management schemes are audited by the organisations that give certificates for using the labels.

Being audited and certified for the use of the environmental labels is often more requiring than introducing a management systems according to ISO 9001 or ISO 14001, since here we are dealing with specific requirements, not just a proper procedure.

Labels also exist for "fair" products, which have been produced in a "fair" way, that is with consideration of human rights and international agreements and other generally recognised ethical principles. These labels are thus related to Corporate Social Responsibility. Just as with the green labels, they require a proper management, audit and certification, although only in the aspects that relate to what the labels guarantee.

Study Questions

1. Which advantages do Integrated Management Systems have compared to stand-alone Management Systems? Mention some benefits and drawbacks.
2. List three reasons for introducing an Integrated Management Systems, IMS.
3. Describe the basic properties of the ISO 9000 standard for quality management.
4. Make a short process chart for the introduction and running a quality management system.
5. Describe the basic properties of an occupational health and safety management systems.
6. Describe how to do risk assessment in a working place, and work with risk management.
7. Describe how to carry out hazard identification in an organisation.
8. What is Corporate Social Responsibility, CSR? Give examples.
9. Describe the various ways to work with simplified environmental management systems, especially for SMEs, and describe why this is interesting to some companies.
10. Compare product environment labels with EMS in a company.

Internet Resources

European Commission – Chemical Accidents (SEVESO)
http://europa.eu.int/comm/environment/seveso/

Swedish Standards Institute (SIS)
http://www.sis.se

ISO 9000 and ISO 14000 – Introduction
http://www.iso.org/iso/en/iso9000-14000/index.html

OHSAS 18001 Occupational Health and Safety Zone
http://www.ohsas-18001-occupational-health-and-safety.com

AstraZeneca – Governance, Management and Measurement
http://www.astrazeneca.com/article/511594.aspx

Simplified Integrated Management Systems (in Swedish)
http://www.fr2000.org/

Union of Baltic Cities,
Municipal Environmental Auditing Scheme
http://euronet.uwe.ac.uk/emas/outputs/final/annex%207_9%20scoping%20review.doc

FairTrade
http://www.rattvisemarkt.se/