

**SINGAPORE STANDARD**

**Environmental management systems –  
Requirements with guidance for use**



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*Singapore Accreditation Council*  
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*Systems on Silicon Manufacturing Co Pte Ltd*

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**Contents**

	<b>Page</b>
National Foreword _____	7
Foreword _____	8
Introduction _____	9
1 Scope _____	13
2 Normative references _____	13
3 Terms and definitions _____	13
3.1 Terms related to organization and leadership _____	13
3.2 Terms related to planning _____	14
3.3 Terms related to support and operation _____	16
3.4 Terms related to performance evaluation and improvement _____	17
4 Context of the organization _____	19
4.1 Understanding the organization and its context _____	19
4.2 Understanding the needs and expectations of interested parties _____	19
4.3 Determining the scope of the environmental management system _____	19
4.4 Environmental management system _____	20
5 Leadership _____	20
5.1 Leadership and commitment _____	20
5.2 Environmental policy _____	21
5.3 Organizational roles, responsibilities and authorities _____	21
6 Planning _____	21
6.1 Actions to address risks and opportunities _____	21
6.1.1 General _____	21
6.1.2 Environmental aspects _____	22
6.1.3 Compliance obligations _____	23
6.1.4 Planning action _____	23
6.2 Environmental objectives and planning to achieve them _____	23
6.2.1 Environmental objectives _____	23
6.2.2 Planning actions to achieve environmental objectives _____	24
7 Support _____	24
7.1 Resources _____	24
7.2 Competence _____	24
7.3 Awareness _____	25

	<b>Page</b>
7.4	Communication _____ 25
7.4.1	General _____ 25
7.4.2	Internal communication _____ 25
7.4.3	External communication _____ 26
7.5	Documented information _____ 26
7.5.1	General _____ 26
7.5.2	Creating and updating _____ 26
7.5.3	Control of documented information _____ 26
8	Operation _____ 27
8.1	Operational planning and control _____ 27
8.2	Emergency preparedness and response _____ 28
9	Performance evaluation _____ 28
9.1	Monitoring, measurement, analysis and evaluation _____ 28
9.1.1	General _____ 28
9.1.2	Evaluation of compliance _____ 29
9.2	Internal audit _____ 29
9.2.1	General _____ 29
9.2.2	Internal audit programme _____ 29
9.3	Management review _____ 30
10	Improvement _____ 31
10.1	General _____ 31
10.2	Nonconformity and corrective action _____ 31
10.3	Continual improvement _____ 31
 <b>Annexes</b>	
A	(informative) Guidance on the use of this International Standard _____ 32
B	(informative) Correspondence between ISO 14001:2015 and ISO 14001:2004 _____ 48
	Bibliography _____ 50
	Alphabetical index of terms _____ 51

## **National Foreword**

This Singapore Standard was prepared by the Working Group on Environmental Management System appointed by the Technical Committee on Environmental Management which is under the purview of the Environment Standards Committee. This standard is a revision of SS ISO 14001 : 2004 and is identical with ISO 14001 : 2015. SS ISO 14001 : 2015 cancels and replaces SS ISO 14001 : 2004.

Attention is drawn to the following :

1. Where the words 'International Standard' appear, they should be interpreted as 'Singapore Standard'.
2. The references to International Standards shall be replaced by the following Singapore Standards:

International Standard	Corresponding Singapore Standard
ISO 9001	SS ISO 9001
ISO 14001	SS ISO 14001
ISO 14004	SS ISO 14004
ISO 19011	SS ISO 19011

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

### **NOTE**

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 1, *Environmental management systems*.

This third edition cancels and replaces the second edition (ISO 14001:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO 14001:2004/Cor.1:2009.

## Introduction

### 0.1 Background

Achieving a balance between the environment, society and the economy is considered essential to meet the needs of the present without compromising the ability of future generations to meet their needs. Sustainable development as a goal is achieved by balancing the three pillars of sustainability.

Societal expectations for sustainable development, transparency and accountability have evolved with increasingly stringent legislation, growing pressures on the environment from pollution, inefficient use of resources, improper waste management, climate change, degradation of ecosystems and loss of biodiversity.

This has led organizations to adopt a systematic approach to environmental management by implementing environmental management systems with the aim of contributing to the environmental pillar of sustainability.

### 0.2 Aim of an environmental management system

The purpose of this International Standard is to provide organizations with a framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs. It specifies requirements that enable an organization to achieve the intended outcomes it sets for its environmental management system.

A systematic approach to environmental management can provide top management with information to build success over the long term and create options for contributing to sustainable development by:

- protecting the environment by preventing or mitigating adverse environmental impacts;
- mitigating the potential adverse effect of environmental conditions on the organization;
- assisting the organization in the fulfilment of compliance obligations;
- enhancing environmental performance;
- controlling or influencing the way the organization's products and services are designed, manufactured, distributed, consumed and disposed by using a life cycle perspective that can prevent environmental impacts from being unintentionally shifted elsewhere within the life cycle;
- achieving financial and operational benefits that can result from implementing environmentally sound alternatives that strengthen the organization's market position;
- communicating environmental information to relevant interested parties.

This International Standard, like other International Standards, is not intended to increase or change an organization's legal requirements.

### **0.3 Success factors**

The success of an environmental management system depends on commitment from all levels and functions of the organization, led by top management. Organizations can leverage opportunities to prevent or mitigate adverse environmental impacts and enhance beneficial environmental impacts, particularly those with strategic and competitive implications. Top management can effectively address its risks and opportunities by integrating environmental management into the organization's business processes, strategic direction and decision making, aligning them with other business priorities, and incorporating environmental governance into its overall management system. Demonstration of successful implementation of this International Standard can be used to assure interested parties that an effective environmental management system is in place.

Adoption of this International Standard, however, will not in itself guarantee optimal environmental outcomes. Application of this International Standard can differ from one organization to another due to the context of the organization. Two organizations can carry out similar activities but can have different compliance obligations, commitments in their environmental policy, environmental technologies and environmental performance goals, yet both can conform to the requirements of this International Standard.

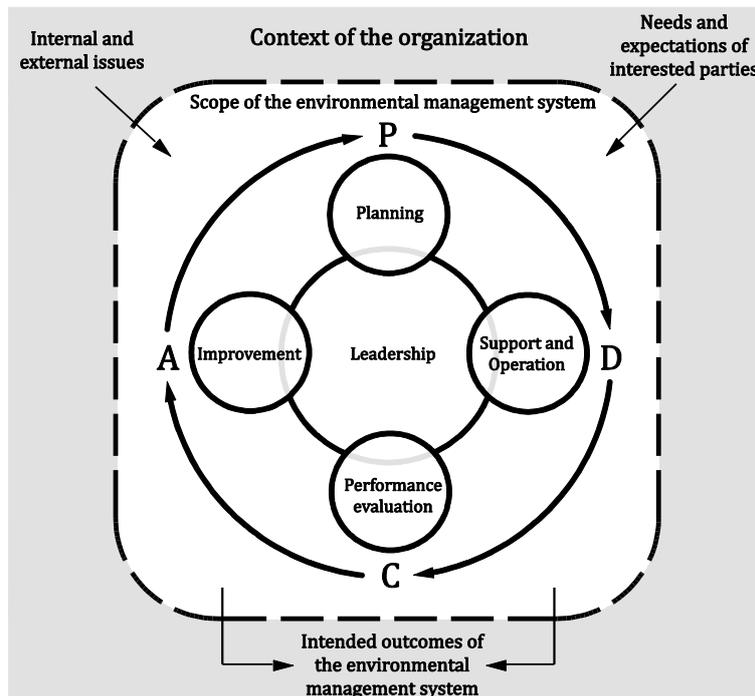
The level of detail and complexity of the environmental management system will vary depending on the context of the organization, the scope of its environmental management system, its compliance obligations, and the nature of its activities, products and services, including its environmental aspects and associated environmental impacts.

### **0.4 Plan-Do-Check-Act model**

The basis for the approach underlying an environmental management system is founded on the concept of Plan-Do-Check-Act (PDCA). The PDCA model provides an iterative process used by organizations to achieve continual improvement. It can be applied to an environmental management system and to each of its individual elements. It can be briefly described as follows.

- Plan: establish environmental objectives and processes necessary to deliver results in accordance with the organization's environmental policy.
- Do: implement the processes as planned.
- Check: monitor and measure processes against the environmental policy, including its commitments, environmental objectives and operating criteria, and report the results.
- Act: take actions to continually improve.

Figure 1 shows how the framework introduced in this International Standard could be integrated into a PDCA model, which can help new and existing users to understand the importance of a systems approach.



**Figure 1— Relationship between PDCA and the framework in this International Standard**

## 0.5 Contents of this International Standard

This International Standard conforms to ISO’s requirements for management system standards. These requirements include a high level structure, identical core text, and common terms with core definitions, designed to benefit users implementing multiple ISO management system standards.

This International Standard does not include requirements specific to other management systems, such as those for quality, occupational health and safety, energy or financial management. However, this International Standard enables an organization to use a common approach and risk-based thinking to integrate its environmental management system with the requirements of other management systems.

This International Standard contains the requirements used to assess conformity. An organization that wishes to demonstrate conformity with this International Standard can do so by:

- making a self-determination and self-declaration, or
- seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or
- seeking confirmation of its self-declaration by a party external to the organization, or
- seeking certification/registration of its environmental management system by an external organization.

Annex A provides explanatory information to prevent misinterpretation of the requirements of this International Standard. Annex B shows broad technical correspondence between the previous edition of this International Standard and this edition. Implementation guidance on environmental management systems is included in ISO 14004.

In this International Standard, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission;
- “can” indicates a possibility or a capability.

Information marked as “NOTE” is intended to assist the understanding or use of the document. “Notes to entry” used in Clause 3 provide additional information that supplements the terminological data and can contain provisions relating to the use of a term.

The terms and definitions in Clause 3 are arranged in conceptual order, with an alphabetical index provided at the end of the document.

# Environmental management systems – Requirements with guidance for use

## 1 Scope

This International Standard specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. This International Standard is intended for use by an organization seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability.

This International Standard helps an organization achieve the intended outcomes of its environmental management system, which provide value for the environment, the organization itself and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include:

- enhancement of environmental performance;
- fulfilment of compliance obligations;
- achievement of environmental objectives.

This International Standard is applicable to any organization, regardless of size, type and nature, and applies to the environmental aspects of its activities, products and services that the organization determines it can either control or influence considering a life cycle perspective. This International Standard does not state specific environmental performance criteria.

This International Standard can be used in whole or in part to systematically improve environmental management. Claims of conformity to this International Standard, however, are not acceptable unless all its requirements are incorporated into an organization's environmental management system and fulfilled without exclusion.

## 2 Normative references

There are no normative references.