



BSI Standards Publication

Software and systems engineering — Certification of software and systems engineering professionals

Part 1: General requirements

National foreword

This British Standard is the UK implementation of ISO/IEC 24773-1:2019. It supersedes BS ISO/IEC 24773:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee IST/15, Software and systems engineering.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Certification of software and systems
engineering professionals —**

**Part 1:
General requirements**

*Ingénierie du logiciel — Certification des professionnels de
l'ingénierie du logiciel —*

Partie 1: Exigences générales



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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 document 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC 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) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

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

For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html. This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 07, *Software and systems engineering*.

This first edition cancels and replaces ISO/IEC 24773:2008 which has been technically revised.

The main changes compared to the previous edition are as follows:

- normative reference has been made to ISO/IEC 17024, for general requirements related to certifications and the certification of persons;
- a statement of general requirements or recommendations applicable to both software and systems engineering has been added;
- a separation of software-engineering-specific requirements from the generic requirements has been made;
- additional requirements for certifications in systems engineering have been included;
- additional recommendations concerning bodies of knowledge which form one element of a certification scheme have been added; and
- additional guidance concerning the description of skills and competencies has been added.

A list of all parts in the ISO/IEC 24773 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Over the past several decades, software systems have become critical components of most aspects of life. At the same time, these systems have become increasingly complex. One response to this situation has been the recognition and codification of effective practices for systems and software development processes and products. This effort has led to the development of systems and software engineering standards by ISO and IEC, by professional societies, and by national standards bodies. It has also led to the definition of an internationally-recognized body of knowledge for software engineering^[5] and systems engineering^[8].

The increasing globalization of the industry implies that a systems engineering or software engineering professional is likely to work in different countries over the course of a career. Currently individuals around the world are working in these domains and they possess varying levels of knowledge and skill. However, there is no single certification which is recognized for these domains – there are many certifications and they differ in several respects.

It is therefore important to develop certifications for these domains which are more meaningful, more readily comparable, and which are recognized internationally. An International Standard which contains minimum requirements for the scope and content of certifications for professionals in these domains can increase confidence in those certifications which conform to that International Standard.

Because conforming certifications meet the requirements contained in this document, the standard can improve the recognition and acceptance of those certifications in countries and jurisdictions around the world. This increased acceptance and recognition in turn can enhance the mobility of the professionals holding a conforming certification.

This document responds to the needs of organizations that require software or systems engineers whose skills and competence are attested by a certification that conforms to an International Standard.

At present, different countries have adopted different approaches regarding the required skills and knowledge for professionals working in these domains – these may be implemented by means of regulations and laws. The establishment of certifications for professionals in these domains, and the definition for minimum requirements for such schemes are not intended to interfere with or override such national regulations and laws. A certification for professionals in these domains, as described in this document is not a licence to practice in any jurisdiction. However, licensing bodies and regulators may consider various certifications of individual persons. The intention of this document is to be open to these national approaches by providing a framework for expressing them in a common scheme that can lead to understanding between different countries.

This document is part one of ISO/IEC 24773 (all parts), a multi-part standard that revises and replaces ISO/IEC 24773:2008. The existing version of ISO/IEC 24773:2008 was intended to be used as a framework for the comparison of certifications for software engineering professionals.

Many qualifications and some certifications exist for systems and software engineering. There is currently no International Standard that defines the minimum requirements for such schemes. This new revision of ISO/IEC 24773 addresses the certification of professionals in software engineering and systems engineering.

ISO/IEC 17024 is a base standard containing general requirements for bodies performing certification of persons. The revised ISO/IEC 24773 (all parts) contains requirements specifically related to certifications for software and systems engineering professionals. ISO/IEC 24773 (all parts) also contains guidance to certification bodies regarding the definition of knowledge, skill and competence that are to be incorporated into a certification for such professionals. ISO/IEC 24773 (all parts) is intended to be used in combination with ISO/IEC 17024.

ISO/IEC 24773 (all parts) is useful to industry organizations seeking to compare various certifications for professionals in systems and/or software engineering; to individual professionals seeking to obtain certification; and to employers who may choose or recognize such certifications. Such comparison is important for the society and for various types of stakeholders, since many disparate certification