
**Systems and software engineering —
Systems and software Quality
Requirements and Evaluation
(SQuaRE) — Quality measurement
framework**

*Ingénierie des systèmes et du logiciel — Exigences de qualité du
produit logiciel et évaluation (SQuaRE) — Modèle de référence de
mesure et guide*

(<https://standards.iteh.ai>)
Document Preview

ISO/IEC 25020:2019

<https://standards.iteh.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019>



iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO/IEC 25020:2019](https://standards.itih.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019)

<https://standards.itih.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms	5
5 Conformance	5
6 Quality measurement	5
6.1 Quality measurement reference model	5
6.2 Different QMs and their relationships	7
6.3 Selecting QMs	10
6.4 Constructing QMs	10
6.4.1 Identify QMs needed to be constructed	10
6.4.2 Description of the QM	11
6.4.3 Definitions of the QMEs	11
6.5 Plan and perform measurement	12
6.6 Application of the measurement results	13
Annex A (informative) Considerations for selecting QMs and QMEs	14
Annex B (informative) Assessing the reliability of measurement and the validity of QMs	16
Annex C (informative) Elements for documenting QMs	18
Annex D (informative) Normalized measurement function for QMs	21
Annex E (informative) Measurement information model in ISO/IEC/IEEE 15939	24
Bibliography	27

[ISO/IEC 25020:2019](https://standards.iteh.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019)

<https://standards.iteh.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019>

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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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).

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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

This second edition cancels and replaces the first edition (ISO/IEC 25020:2007), which has been technically revised.

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

- relationships among different types of quality measures have been added;
- application of measurement results and description of quality measure have been added;
- elements for documenting quality measures in [Annex C](#) have been supplemented and categorized;
- [Annex D](#) has been added showing a normalized measurement function for QMs;
- [Annex E](#) has been added showing the measurement information model in ISO/IEC/IEEE 15939;
- harmonized with ISO/IEC 25000:2014, ISO/IEC 25022:2016, ISO/IEC 25023:2016, ISO/IEC 25024:2015 and ISO/IEC/IEEE 15939:2017.

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 <https://www.iso.org/members.html>.

Introduction

0.1 General

This document is a part of the SQuaRE series of International Standards. It provides a framework for measuring the quality characteristics and sub-characteristics (defined in ISO/IEC 2501n). This document serves as a guideline for developing and selecting quality measures for quality in use (in conjunction with ISO/IEC 25022), system and software product quality (in conjunction with ISO/IEC 25023), data quality (in conjunction with ISO/IEC 25024) and IT service quality (in conjunction with ISO/IEC TS 25025¹⁾).

0.2 Quality measurement division

This document is a part of ISO/IEC 2502n Quality Measurement Division of the SQuaRE series that consists of the following International Standards:

- ISO/IEC 25020 — *Quality measurement framework*: provides a framework for developing quality measurement;
- ISO/IEC 25021 — *Quality measure elements*: provides a format for specifying QMEs (Quality Measure Elements) and a few examples of QMEs that can be used to construct software quality measures;
- ISO/IEC 25022 — *Measurement of quality in use*: provides measures, including associated measurement functions for the quality characteristics in the quality in use model;
- ISO/IEC 25023 — *Measurement of system and software product quality*: provides measures, including associated measurement functions and QMEs for the quality characteristics in the product quality model;
- ISO/IEC 25024 — *Measurement of data quality*: provides measures, including associated measurement functions and QMEs for the quality characteristics in the data quality model;
- ISO/IEC TS 25025 — *Measurement of IT service quality*: provides measures for the IT service quality model.

<https://standards.iteh.ai/catalog/standards/iso/6681f67f-6a4e-4919-b395-8fcdd5bdd16a/iso-iec-25020-2019>
Figure 1 shows the relationship between this document and other standards in the ISO/IEC 2502n division.

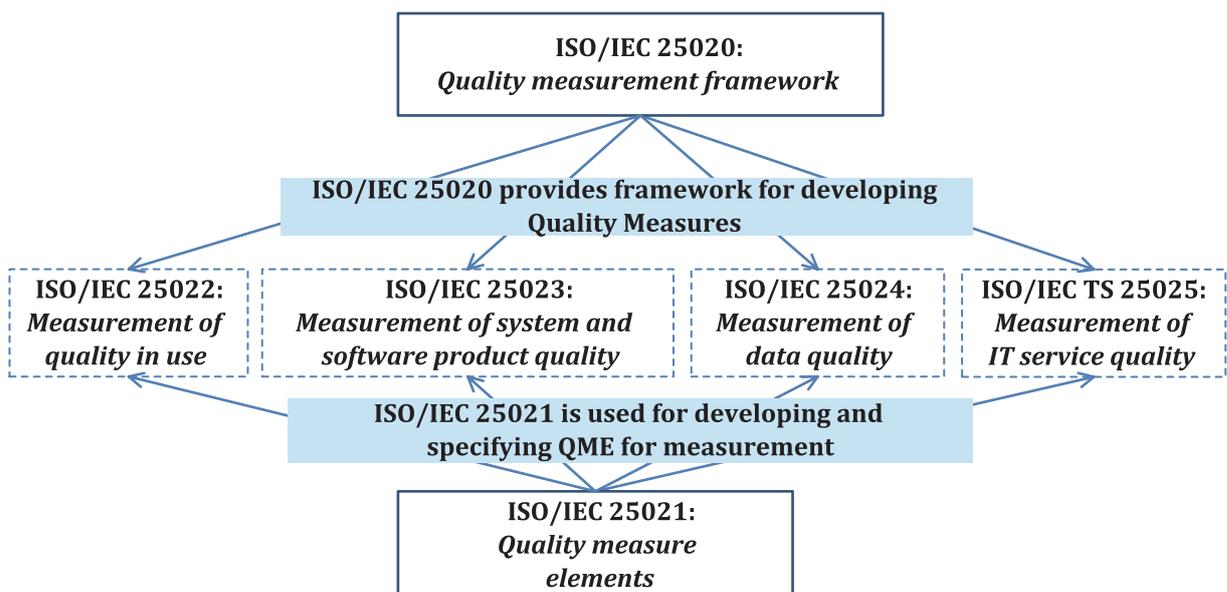


Figure 1 — Structure of the Quality Measurement Division

1) To be developed.