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Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Planning and management

Ingénierie du logiciel — Exigences de qualité et évaluation du produit logiciel (SQuaRE) — Planification et gestion

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

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of ISO/IEC 25001 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 25001 makes a part of SQuaRE series of standards and was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information Technology*, Subcommittee SC 7, *Software and system engineering.*

SQuaRE series of standards consists of the following divisions under the general title *Software product Quality Requirements and Evaluation:*

— Quality Management Division (2500n),

— Quality Model Division (2501n),

— Quality Measurement Division (2502n),

— Quality Requirements Division (2503n), and

— Quality Evaluation Division (2504n).

Introduction

ISO/IEC 25001 provides details about the planning and management requirements associated with software product quality requirements and evaluation.
While this standard is mainly concerned with product quality requirements and evaluation, wherever it is relevant the corresponding process requirements and evaluation activities are also discussed.

This standard aims to clarify the requirements which should be identified by the organization in order to ensure the success of specifying quality requirements and executing the evaluation.

This International Standard is intended to be used in conjunction with the other parts of the SQuaRE series (ISO/IEC 250nn) of standards, and with ISO/IEC 14598 and
ISO/IEC 9126-1 until superseded by the ISO/IEC 25000 series of standards.
This International Standard complies with the technical processes identified in ISO/IEC 15288 related to quality requirements definition and analysis.
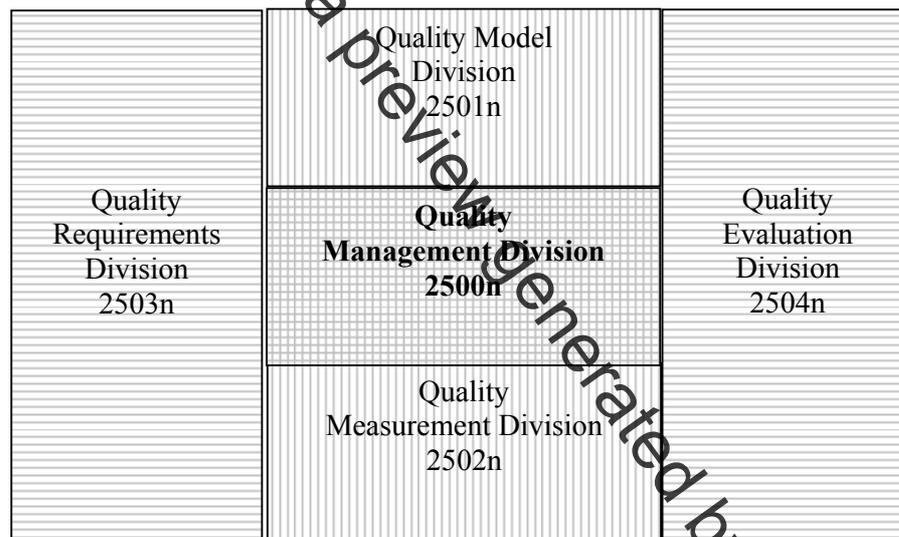

	Quality Model Division 2501n	
Quality Requirements Division 2503n	**Quality Management Division 2500n**	Quality Evaluation Division 2504n
	Quality Measurement Division 2502n	

Figure 1 — Organization of SQuaRE series of standards

Figure 1 (quoted after ISO/IEC 25000) illustrates the organisation of the SQuaRE series representing families of standards, further called Divisions.

The Divisions within SQuaRE model are:

- **ISO/IEC 2500n — Quality Management Division**. The standards that form this division define all common models, terms and definitions referred further by all other standards from SQuaRE series. Referring paths (guidance through SQuaRE documents) and high level practical suggestions in applying proper standards to specific application cases offer help to all types of users. The division

also provides requirements and guidance for an evaluation group which is responsible for the management of software product quality requirements specification and quality evaluation.

- **ISO/IEC 2501n — Quality Model Division**. The standard that forms this division presents a detailed quality model including characteristics for internal, external and quality in use. Furthermore, the internal and external software quality characteristics are decomposed into subcharacteristics. Practical guidance on the use of the quality model is also provided.

- **ISO/IEC 2502n — Quality Measurement Division**. The standards that form this division include a software product quality measurement reference model, mathematical definitions of quality measures, and practical guidance for their application. Presented measures apply to internal software quality, external software quality and quality in use. Quality measure elements forming foundations for the latter measures are defined and presented,

- **ISO/IEC 2503n — Quality Requirements Division**. The standard that forms this division helps specifying quality requirements. These quality requirements can be used in the process of quality requirements elicitation for a software product to be developed or as input for an evaluation process. The requirements definition process is mapped to technical processes defined in ISO/IEC 15288,

- **ISO/IEC 2504n — Quality Evaluation Division**. The standards that form this division provide requirements, recommendations and guidelines for software product evaluation, whether performed by evaluators, acquirers or developers. The support for documenting a measure as an Evaluation Module is also presented.

Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Planning and management

1   Scope

This International Standard provides requirements and recommendations for an organization responsible for implementing and managing the software product quality requirements specification and software quality evaluation activities through the provision of technology, tools, experiences and management skills.

The role of the evaluation group includes motivating people and training them for the requirements specification activities and the evaluation activities, preparing appropriate documents, identification or development of required methods, and responding to queries on relevant technologies.

Technology management is related to the planning and management of a software quality requirements specification and evaluation process, measures and tools. This includes the management of development, acquisition, standardization, control, transfer and feedback of requirements specification and evaluation technology experiences within the organisation.

The intended users of ISO/IEC 25001 are those responsible for:
—   managing technologies used for requirements specification and evaluation execution,
—   specifying software product quality requirements,
—   supporting software product quality evaluation,
—   managing software development organisations,
as well as those in a quality assurance function. It is also applicable to managers involved in other software related activities.

2   Conformance

In order to conform to ISO/IEC 25001, an organization shall apply requirements from Clause 6 giving the reasons for any exclusion, or describe its own recommendations and provide a mapping to the original requirements.

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3   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 25000, *Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Guide to SQuaRE*

ISO/IEC 25020, *Software and System Engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Quality measurement — Measurement reference model and guide*

ISO/IEC 25030, *Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Quality requirements*

ISO/IEC 25051, *Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Requirements for quality of Commercial Off-The-Shelf (COTS) software product and instructions for testing*

ISO/IEC 15288, *Systems engineering — System life cycle processes*