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Competence of standards professionals — Part 2: In standards-related organizations

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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).

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).

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.

International Workshop Agreement IWA/30-2 was approved at a workshop hosted by KATS (Korean Agency for Technology and Standards) and KSA (Korean Standards Association), held in Jeju, Korea, in May 2019.

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

Competence development and education for people performing a job or tasks related to standardization activities is naturally one of the key interests of national standards bodies, standards-developing organizations and industries involved in standardization activities, as well as for education providers such as universities, professional associations and consultancy firms. Effective competence development should be based on the competence requirements of these companies and standards-developing organizations.

This rationale is why efforts have been made to develop knowledge or skill sets and qualification programmes for standards professionals at the international, regional and national levels. At the international level, ISO created a task force team under the Technical Management Board (TMB) to develop capability requirements for chairs, secretaries and project editors. At the regional level, relevant projects and activities have been carried out with published results, such as APEC's Education Guideline 5^[20] and a research project undertaken by the European Commission (EC). At the national or organizational level, several countries or organizations have already tried to define a knowledge system, required skill sets and a qualification programme for standards professionals, including China, Japan, Korea and the United States.

These efforts have presented a need for competence requirements for standards professionals. To deliver objectivity in this document, a global survey was carried out to identify the common and specific competences required and then recommended for standards professionals in companies and standards-related organizations. This document is based on APEC's Education Guideline 6^[21], the responses to the global survey and an analysis of the responses. It presents the tasks and the related competences for standards professionals in two separate parts: in companies (this document) and in standards-related organizations (ISO/IWA 30-2).

This document includes the following topics:

- the structure of tasks and sub-tasks of standards professionals in standards-related organizations;
- the common competences for standards professionals in standards-related organizations;
- the competences by task for standards professionals in standards-related organizations;
- a career roadmap for standards professionals in standards-related organizations.

This document does not cover the certification of persons or qualifications for personnel issues. Also, this document in principle does not focus on competence for conformity assessment tasks because this aspect is defined in other existing ISO and IEC documents, e.g. ISO/IEC 17025.

This document is also the result of collecting the practices of different interested parties and common competence requirements. It is a voluntary guidance document intended for global use. This document, in its present or revised form, is intended to serve as a stepping stone for competence development and education programmes for both ISO and its members.

Competence of standards professionals —

Part 2: In standards-related organizations

1 Scope

This document specifies the competence, consisting of knowledge, skills and attributes, needed to perform the tasks of standards professionals.

This document is applicable to all personnel involved in some aspect of standardization in an organization performing standardization activities.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

attribute

inherent characteristic of a person

EXAMPLE Visual acuity; sensitivity to others; openness.

[SOURCE: ISO/IEC TS 17027:2014, 2.10]

3.2

competence

ability to apply *knowledge* (3.3), *skills* (3.5) and *attributes* (3.1) to achieve intended results

Note 1 to entry: “Competence” can also be referred to as “competency”.

[SOURCE: ISO 9000:2015, 3.10.4, modified — “attributes” and Note 1 to entry have been added.]

3.3

knowledge

facts, information, truths, principles or understanding acquired through experience or education

[SOURCE: ISO/IEC TS 17027:2014, 2.56]

3.4

responsibility

obligation to act and take decisions to achieve required outcomes

[SOURCE: ISO/IEC 38500:2015, 2.22]

**3.5
skill**

ability acquired through education, training, experience or other means to perform a *task* (3.8) or activity with a specific intended outcome

[SOURCE: ISO/IEC TS 17027:2014, 2.74, modified — The wording in the definition has been reordered.]

**3.6
standards professional**

person who has the *competence* (3.2) to perform a job or *tasks* (3.8) related to standardization activities in a company or an organization performing standardization activities

**3.7
standards-related organization**

organization that carries out standardization activities such as planning and evaluation, development, adoption, publication and/or dissemination of standards

Note 1 to entry: A standards-related organization is defined as a broader term than a standards-developing organization. Standards-related organizations include organizations involved in any part of the life cycle of standards, including planning, developing, publishing, disseminating, applying and evaluating. They include industry, national, regional and international organizations, both governmental and non-governmental organizations, and both formal and less formal organizations including consortia or fora.

Note 2 to entry: Some of the primary activities and staff of standards-related organizations are related to standards, but other activities of standards-related organizations may apply. The number of staff involved in standards in regulatory agencies or trade associations is limited, but their *tasks* (3.8) are described in this document. In that context, standards-related organizations may include governmental agencies and non-governmental organizations that have and undertake any standards-related function or division.

**3.8
task**

set of activities undertaken in order to achieve a specific goal

Note 1 to entry: These activities can be physical, perceptual and/or cognitive.

Note 2 to entry: While goals are independent of the means used to achieve them, tasks describe particular means of achieving goals.

[SOURCE: ISO 9241-11:2018, 3.1.11]

4 Tasks and competences

4.1 Tasks

The tasks of standards professionals in standards-related organizations generally include, but are not limited to, nine tasks that can be repeated or expanded throughout planning, developing and applying the standards.

The nine tasks of standards professionals in standards-related organizations are:

- a) T1: Standardization planning and evaluation;
- b) T2: Standards development: work programme management;
- c) T3: Standards Development: committee operation and assistance;
- d) T4: Standards development: drafting standards;
- e) T5: Participation in international standardization;
- f) T6: Editing and publication of standards;

- g) T7: Dissemination of standards;
- h) T8: Training and education about standards;
- i) T9: Public service related to standards.

NOTE T# represents a specific task.

In conducting standardization tasks in standards-related organizations, standards professionals should meet the expectations of the members, domestic interested parties including regulators and companies, and foreign partners.

Standardization tasks in standards-related organizations may involve planning, developing, publishing, disseminating, educating and providing relevant services.

NOTE The tasks of standards professionals in standards-related organizations can vary depending on what they perform in their standardization activities.

To perform the tasks of standards professionals successfully, these professionals need a certain competence. Competence can be defined as knowledge, skills and attributes, as shown in [Figure 1](#).

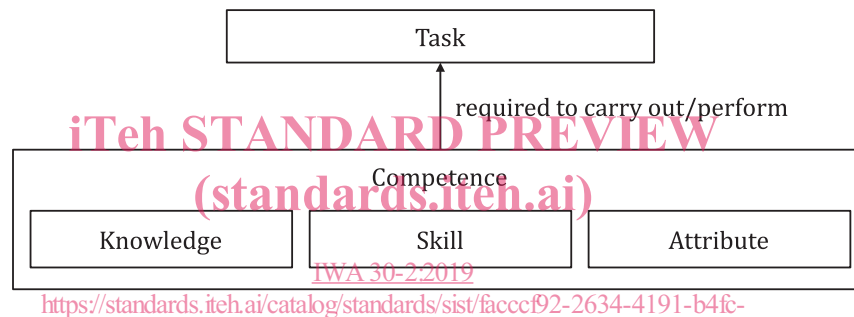


Figure 1 — Relationship between task and competence

4.2 Knowledge

The 20 recommended types of knowledge for standards professionals in standards-related organizations are:

- a) K1: Technical knowledge in a specified sector;
- b) K2: Knowledge of existing standards/technical regulations in a specified sector;
- c) K3: Knowledge of methodologies/methods for strategy development;
- d) K4: Knowledge of methodologies for performance management;
- e) K5: Knowledge of methods for standard/technology analysis and needs survey;
- f) K6: Knowledge of programme management;
- g) K7: Knowledge of harmonization with International Standards;
- h) K8: Knowledge of the principles, process and procedure for standards development;
- i) K9: Knowledge of project management;
- j) K10: Knowledge of the drafting rules for standards;
- k) K11: Knowledge of the validation methods for standards;

- l) K12: Knowledge of international standardization activities and organizations;
- m) K13: Knowledge of marketing and public relations;
- n) K14: Knowledge of IT systems and database management;
- o) K15: Knowledge of human resource development;
- p) K16: Knowledge of the laws and systems related to standardization;
- q) K17: Knowledge of the legislation process and methods;
- r) K18: Knowledge of standards application to the development of technical regulations;
- s) K19: Knowledge of responding to foreign technical regulations (WTO/TBT);
- t) K20: Knowledge of statistical methods.

NOTE K# represents a specific type of knowledge.

4.3 Skills

The 29 recommended skills for standards professionals in standards-related organizations are:

- a) S1: Ability to develop a strategic plan for standardization;
- b) S2: Ability to conduct performance measurement and analysis for standardization;
- c) S3: Ability to develop action plans for implementing the strategic plan;
- d) S4: Ability to identify the needs of standardization;
- e) S5: Ability to collect relevant information of standards and standardization;
- f) S6: Ability to quantify the needs and expectations of interested parties;
- g) S7: Ability to determine whether a standard(s) needs to be newly established or revised;
- h) S8: Ability to prepare standards development plans;
- i) S9: Ability to manage multiple projects;
- j) S10: Written and verbal communication and presentation skills;
- k) S11: Ability to work with committees and individuals;
- l) S12: Programme management abilities;
- m) S13: Project management abilities;
- n) S14: Ability to draft standards;
- o) S15: Ability to validate standards;
- p) S16: Leadership skills for committee operation;
- q) S17: Ability to derive agreement on proposed standards;
- r) S18: Ability to organize a committee;
- s) S19: Documentation skills of international standardization;
- t) S20: Language and communication skills;
- u) S21: Ability to edit and publish documents;

- v) S22: Ability to undertake standards marketing and sales;
- w) S23: Ability to manage IT systems and databases;
- x) S24: Ability to plan education and training programmes;
- y) S25: Teaching and training skills;
- z) S26: Ability related to drafting law;
- aa) S27: Ability to apply standards to technical regulations;
- bb) S28: Ability to interpret relevant documents and official letters related to WTO/TBT;
- cc) S29: Ability to communicate with organizations related to WTO/TBT.

NOTE S# represents a specific skill.

4.4 Attributes

The 20 recommended attributes for standards professionals in standards-related organizations are:

- a) A1: Accurate/precise/meticulous;
- b) A2: Adaptable/adjustable/flexible/versatile;
- c) A3: Analytical/logical/systematic;
- d) A4: Attentive/good listener;
- e) A5: Collaborative/cooperative/synergic;
- f) A6: Courteous/well-mannered/polite/respectful;
- g) A7: Culturally broad-minded/non-discriminatory/unprejudiced;
- h) A8: Decisive (able to reach timely conclusions);
- i) A9: Diplomatic;
- j) A10: Friendly/outgoing;
- k) A11: Globally minded (able to work with people worldwide);
- l) A12: Intellectual/fast learner;
- m) A13: Observant/eagle-eyed;
- n) A14: Open-minded;
- o) A15: Patient/uncomplaining/tolerant;
- p) A16: Perceptive/insightful/incisive;
- q) A17: Responsible/accountable;
- r) A18: Results-oriented/willing to improve and/or learn;
- s) A19: Self-reliant/self-directed;
- t) A20: Strong-willed/persistent.

NOTE A# represents a specific attribute.

5 Competence of standards professionals

5.1 General

Standards professionals should have the competence to conduct and support standardization activities at the international, national and organizational level based on their profile or assigned tasks so as to accomplish the mission and objectives of the organization performing standardization activities.

They do not have to be technical experts about the products, services and processes, but they should have sufficient knowledge about these areas to understand how these can benefit from standards and standardization, and to carry out the applicable standardization tasks.

The competence of standards professionals can be defined as adeptly using required or recommended technical and non-technical knowledge, managerial and operational skills and personal attributes including behaviours and attitudes.

5.2 Common competences

5.2.1 Common knowledge

The common knowledge recommended for standards professionals in standards-related organizations is defined in [Table 1](#).

Table 1 — Common knowledge recommended for standards professionals

Knowledge	Description
K2: Knowledge of existing standards/technical regulations in a specified sector	Standards professionals should have knowledge of relevant existing standards and/or technical regulations in a specified sector. IWA 30-2:2019
K1: Technical knowledge in a specified sector	Standards professionals should have basic technical and/or professional knowledge of a specific industry or a related field, at a level sufficient to understand the added value of standards and standardization, and to be able to carry out the applicable standardization tasks.
K8: Knowledge of the principles, process and procedure for standards development	Standards professionals should have basic understanding of the principles, process and procedure associated with standards development, and be able to provide appropriate advice. EXAMPLE Standards professionals developing standards with ISO and IEC are able to apply the ISO/IEC Directives[31][32][33][34][35].
K12: Knowledge of international standardization activities and organizations	Standards professionals should have practical knowledge of standardization activities and organizations at the international, regional, national or industrial level. Standards professionals participating in national standardization activities should be aware of council or technical management board decisions regarding the activities of the technical committees in general and of the committee for which s/he is responsible. NOTE 1 For basic information for standards professional participating in ISO's technical work, see Reference [37]. NOTE 2 For additional information on international standardization activities, see the ISO/IEC Directives[31][32][33][34][35].

5.2.2 Common skills

The common skills recommended for standards professionals in standards-related organizations are defined in [Table 2](#).

Table 2 — Common skills recommended for standards professionals

Skills	Description
S1: Ability to develop a strategic plan for standardization	Standards professionals should be able to identify and develop a strategic plan for standardization that harmonizes with the national plan for standards development.
S10: Written and verbal communication and presentation skills	Standards professionals should be able to communicate with committee members and related interested parties by written communication as well as by verbal communication when developing and disseminating standards.
S5: Ability to collect relevant information of standards and standardization	Standards professionals should be able to collect the relevant information of standards, standardization, market needs or other information to determine the establishment of a new standard(s) or the revision of an existing standard(s). Standards professionals should be able to search for standards (published or under development), e.g. by developing an inventory of standards in a specified sector. NOTE International Standards, graphical symbols, codes or terms and definitions can be searched for using ISO's Online browsing platform ^[38] .
S11: Ability to work with committees and individuals	Standards professionals should be able to cooperate and co-work with experts and interested parties from different perspectives and backgrounds in terms of culture and technology. NOTE For additional information on participating in IEC as a committee member, see Reference ^[25] .

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5.2.3 Common attributes

The common attributes recommended for standards professionals in standards-related organizations are defined in [Table 3](#).

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Table 3 — Common attributes recommended for standards professionals

Attributes	Description
A5: Collaborative/cooperative/synergic	Standards professionals should be able to facilitate cooperation among interested parties to reach consensus, which is an essential procedural principle and a necessary condition for the development of standards. Standards professionals should adhere to the code of conduct, where applicable. NOTE 1 For additional information for standards professionals participating in ISO, see Reference ^[28] . NOTE 2 For additional information for standards professionals participating in IEC, see Reference ^[24] .
A1: Accurate/precise/meticulous	Standards professionals should be able to manage the whole process for standards development according to agreed target dates and in accordance with the development plan from preparation to completion.
A3: Analytical/logical/systematic	Standards professionals should have extensive analytical ability and talent for a logical and systematic approach to integrate technical and non-technical knowledge into drafting standards that will be accepted and widely used.
A2: Adaptable/adjustable/flexible/versatile	Standards professionals should have good flexibility and ongoing adaptability to adjust to working with people with different cultural and technical backgrounds both inside or outside of an organization.