

INTERNATIONAL STANDARD

ISO
15188

First edition
2001-07-15

Project management guidelines for terminology standardization

*Lignes directrices pour la gestion de projets de normalisation
terminologique*

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2001



Reference number
ISO 15188:2001(E)

© ISO 2001

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2001

© ISO 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

	Page
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Project management for terminology standardization	2
5 International terminology standardization project management	8

Annexes

A A terminology standardization project.....	10
B Organizational models for terminology standardization projects.....	11
C Criteria for the acceptance of terminology projects.....	13
D Project management for terminology standardization.....	14
Bibliography.....	15

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2001

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

International Standard ISO 15188 was prepared by Technical Committee ISO/TC 37, *Terminology (principles and coordination)*, Subcommittee SC 2, *Layout of vocabularies*.

Annexes A, B, C and D of this International Standard are for information only.

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2001

Introduction

The use of consistent terminology upon which users publicly agree reflects the quality of the final version of a document in technical subjects. The objective of terminology standardization, which is the unification and harmonization of concepts, concept systems, terms and definitions, is to obtain a normative vocabulary in which only one term corresponds to one concept and only one concept corresponds to one term (ISO 10241), thus reducing ambiguity caused by polysemy, synonymy or homonymy and allowing for the creation of new terms in accordance with the principles and methods of terminology (ISO 704).

Standardized terminology, which results from the process of terminology standardization, consists of sets of single-concept designations belonging to special languages (ISO 1087-1) used in the various subject-fields of human knowledge. It improves communication and provides better access to and management of information. There are economic benefits to be derived when general consensus is achieved on the meaning of terms. This in turn contributes to the harmonization of concepts and terms (ISO 860), which facilitates trade and improves national productivity and access to international markets. Inconsistent use of terminology may lead to misunderstandings and potential economic losses.

The aim of standardization in terminology project management is to facilitate terminology standardization and to avoid the cost that would result from reworking proposed or existing standardized terminologies, and also from producing a terminology that lacks uniformity or fails to meet the requirements of the user. The ultimate objective is to keep the project productive and cost-efficient.

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2001

STANDARDSISO.COM : Click to view the full PDF of ISO 15188:2007

Project management guidelines for terminology standardization

WARNING — It is of primary importance that technical committees carrying out terminology work follow the principles laid down by ISO/TC 37 (see Bibliography). Other terminology standardization projects should be subject to the same principles.

The ISO/TC 37 documents form the basis for terminology standardization and ensure a common understanding of policies and procedures with respect to terminology work. They should be used to ensure consistency in the standardization of terminologies.

Experienced terminologists should be consulted whenever possible. For information and assistance in terminology work, contact a national terminology organization or the ISO/TC 37 Secretariat at the following address:

Simmeringer Hauptstrasse 24
A- 1110 Vienna, Austria
Telephone: +43 1 74040 441
Fax: +43 1 74040 740
E-mail: infopoint@infoterm.org

1 Scope

This International Standard specifies guidelines setting out the phases and procedures to be followed in terminology standardization projects, as well as harmonization and uniformity projects, both inside and outside the framework of international standardization. It is divided into two sections, the first one dealing with terminology standardization in general, and the second dealing with terminology standardization within international standards bodies (ISO, for example). It answers a need expressed by many members of national and international standards bodies and managers of terminology working groups for a standard on the management of terminology standardization projects, rather than solely on the processes of terminology work, project management or quality assurance, which are covered in other standards.

It does not stipulate the principles of terminology work, which are treated in other ISO/TC 37 standards (see ISO 704 for example), nor the methodological approach to international harmonization of concepts, concept systems, terms and definitions, which are treated in ISO 860. It also does not deal with the rules for the preparation and layout of international terminology standards, outlined in ISO 10241, or provide advice for creating and using terminological databases, found in ISO/TR 12618. Finally, it does not deal with the guidelines on quality in project management found in ISO 10006.

These guidelines should be applied to all phases of terminology standardization projects, from the initial identification of needs to the final satisfaction of requirements and user expectations.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 704:2000, *Terminology work — Principles and methods*

ISO 860:1996, *Terminology work — Harmonization of concepts and terms*

ISO 1087-1, *Terminology work — Vocabulary — Part 1: Theory and application*

ISO 10006:1997, *Quality management — Guidelines to quality in project management*

ISO 10241:1992, *International terminology standards — Preparation and layout*

ISO/TR 12618:1994, *Computational aids in terminology — Creation and use of terminological databases and text corpora*

ISO 12620, *Computer applications in terminology — Data categories*

ISO/IEC Guide 2:1996, *Standardization and related activities — General vocabulary*

ISO/IEC Guide 51:1999, *Safety aspects — Guidelines for their inclusion in standards*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in the standards mentioned in the normative references and the following apply.

3.1 terminology project
project aimed at collecting, developing, analysing and recording the terminology of one or more subject fields

3.2 standardization project
project aimed at establishing provisions for common and repeated use

3.3 verification
confirmation by examination of evidence that specified requirements have been met

3.4 international standardization
standardization in which involvement is open to relevant bodies from all countries

[Guide 2:1996, 1.6.1]

3.5 terminology standardization
establishment of terminology standards or of terminology sections in technical standards, and their approval by an authoritative body

3.6 risk
combination of the probability of occurrence of harm and the severity of that harm

[Guide 51:1999, 3.2]

4 Project management for terminology standardization

4.1 General

The management process through which a terminology project evolves, from its beginning to its completion and particularly when applied to standardization, unfolds through a sequence of phases: preparation, design,

implementation and review (annex A). The breakdown of the phases and responsibilities depends on the scope of the particular project.

4.2 Preparation phase

4.2.1 Introduction

This phase includes an evaluation of the feasibility of the project, a description of its legal, financial, and organizational framework and the preparation of specifications based on the feasibility study and framework (see Table 1).

Table 1 — Preparation phase

Phase		Requirements
Preparation	Feasibility	Establish the purpose of the project and its objectives Identify the potential user(s) Identify the users' needs Identify situations where significant risk could be incurred should misunderstandings arise and user groups require harmonization
	Framework	Define the legal aspects Define the financial aspects Identify the organizations participating in the project Identify language planning policies Define the national variants
	Specifications	Prepare a specifications document Develop acceptance criteria

4.2.2 Feasibility

An evaluation of the feasibility of a project in terminology standardization involves:

- establishing the purpose of the project (who wants to do what for whom?);
- identifying the potential user(s) and their needs. This may be done by interviewing or administering a questionnaire to the members of the group involved;
- identifying situations where significant risk could be incurred should misunderstandings arise and user groups require harmonization (ISO 860).

4.2.3 Framework

The description of the legal, financial and organizational framework of the project involves:

- defining the legal aspects of the terminologies to be researched and standardized. Who owns the information? Who has the right to sell it, in part or in its entirety? Who is entitled to access the information and when?
- defining the financial aspects of the project. Who contributes financially to the project? What are the terms and conditions of this contribution? What are the amounts involved? Has a lump sum been allocated to the project or does budgeting depend on a detailed cost analysis which takes into account the number of terms to be researched, scheduling and human resources?
- identifying the organizations participating in the project and the conditions of their participation;
- identifying pertinent language planning policies;
- identifying which national variants within one language will be included.

4.2.4 Specifications

Based on the identified purpose and the framework of the terminology standardization project, specifications should be prepared in the form of a document stating all the requirements essential to complete the project. This document, particularly important for standardized terminology which has to meet a well-defined need and purpose, will facilitate the planning activities scheduled under the design phase.

The document should also contain a justification for the completion of the project, a detailed description of its context and background, an outline of the origin and the circumstances of the request, goals and objectives to be attained, and potential user(s) and their needs.

Criteria for the acceptance of the project should be developed and compared with previously established criteria for similar circumstances. See annex C for an example of acceptance criteria.

4.3 Design phase

4.3.1 Introduction

This phase includes project leadership and project planning (see Table 2).

Table 2 — Design phase

Phase		Requirements
Design	Project leadership	Select a leader
	Project planning	Set up a working group Establish a work plan: assign responsibilities and time frames delimit the scope of the project develop contingency plans establish work methods identify work tools establish the types of data to be recorded Record decisions Hold periodic meetings, as required

4.3.2 Project leadership

Given the importance of the role of project leaders in the management of terminology standardization projects, it is important to select a leader familiar with the subject field under study and also with the principles and methods of terminology work.

4.3.3 Project planning

Project planning for terminology standardization involves setting up the working group, establishing a work plan with time frames for completing the project, establishing project work methods and identifying work tools.

4.3.4 Working group

The project leader should select the working-group members, taking into account the subject field to be studied, user needs and the general representation of all parties concerned. It is essential that the standardized vocabulary be validated by subject-field experts. The members should also be chosen for their experience, motivation, language knowledge, potential to influence their respective professional communities regarding the implementation of standardized terminology and their ability to defend positions and resolve differences of opinion.

The size of the group should be as limited as possible in order to encourage good communication and cooperation, and thus maximize efficiency within the project. Usually, a working group has five to eight subject-specialist members. The presence of an experienced terminologist will improve the efficiency of the work and the accuracy of the resulting terminology. It is important that all participants involved in the preparation of standardized vocabularies understand the tasks they are expected to perform and how those tasks support the overall mandate of the group.

There are various organizational models for terminology standardization. Some of them follow the committee work pattern and others are “terminology-centred”. The traditional committee work models are: A) a terminologist as a consultant outside the working group, and B) a terminologist as a member of the working group. The “terminology-centred” models are: C) a terminologist producing a vocabulary with a specialist, and D) (a) terminologist(s) working with specialists as consultants. The terminologist may be a project leader in models C) and D). In some situations, it may be useful to divide the tasks between a terminologist and a terminographer (responsible for the recording and presentation of terminological data). Terminology standardization projects generally follow the committee pattern. Whenever possible, a professional terminologist should be selected. (See annex B for details concerning roles and responsibilities of each participant in the various models.)

The project leader should take appropriate measures to ensure that the members are familiar with the principles and methods of terminology work. To this end, an introductory tutorial in practical terminology work should be arranged for all the group members. The project leader should ensure that all members have ready access to ISO/TC 37 standards, general language dictionaries, technical vocabularies and other appropriate resources.

The management of terminology standardization projects should take into account the mandates and objectives of all participants in the project. Open lines of communication should be maintained among all interested parties.

4.3.5 Work plan

A detailed schedule should be prepared for the project and included in the work plan. The schedule should include the specific responsibilities of each working-group member, a time frame for each phase of the project, and a target date for each process (see ISO 10241). An electronic project management system will greatly facilitate this task.

The scope of the project should be clearly defined at the project's outset according to the group's mandate and user-group considerations derived from needs analysis (see ISO 10241). This will aid in delimiting the subject field and the scope of the work (e.g. the number of concepts to be included in the project).

The work plan should include a detailed description of the subject field, with a justification of the subfields to be covered and those to be excluded, the choice of languages to be covered and the number of concepts to be included. For these important aspects of terminology work, see ISO 10241. The plan should also outline the tasks to be accomplished in the implementation phase (see 4.3) with their time frame, and define the relevant working methods. Preliminary provisions for maintenance of the terminology should be established. An itemized budget forecast for each task of the terminology project should be outlined, and cost control mechanisms developed. Mechanisms for disseminating the standardized terminology and ensuring its implementation should be considered.

Terminology standardization projects require a full assessment of possible delays and the development of contingency plans should such situations occur (e.g. the resignation or absence of working-group members, publication delays, scheduling).

4.3.6 Work methods

As outlined in ISO 10241, a working group should examine a limited number of concepts. Experience has shown that if the number of concepts is well over 200, a subdivision of the project into parallel or successive sub-projects becomes necessary.

The working group should apply the principles and methods of terminology work described in ISO 704. The group should also follow the various phases of the standardization process outlined in ISO 10241.

To avoid duplication of effort and reduce cost, all applicable terminology standardization work should be taken into consideration. Authoritative written and oral sources in the field should also be consulted.

4.3.7 Work tools

The work plan should also describe which recording medium and record format have been selected for the recording of terminological data. If deemed feasible, a terminology database should be established using terminology management software for version control and for ensuring uniformity within one set of standardized terminologies and between sets. For smaller terminology standardization projects, text processing software may be used. For types of terminological data to be included in an entry of a terminology standard, see ISO 10241:1992 clause 5.1, and ISO 12620 for a complete list of data categories. For information on the creation of a terminology database, see ISO/TR 12618.

4.3.8 Meetings

If needed, meetings should be convened to resolve issues which cannot be settled through correspondence. Terminology standardization meetings prepare the groundwork for reaching agreements on concepts, terms and their definitions. This includes establishing concept systems, preparing detailed terminology standardization files with recommendations on usage, and setting up task forces, brainstorming sessions or discussion groups to resolve particular difficulties.

An established meeting management methodology should be employed. Agendas should list items to be discussed such as problem concepts and recommended solutions, the time allowed for each item and who will lead the discussion. Information should therefore be distributed to allow participants sufficient time to prepare their recommendations.

E-mail, discussion groups, Internet forums or teleconferencing should be used to facilitate meeting management and to accelerate the flow of information between the participants. An up-to-date database of information about working-group members, past meetings, correspondence and project status should be maintained. Names, addresses, telephone and fax numbers and e-mail addresses should be circulated to all working-group members.

4.4 Implementation phase

This phase consists of collecting and recording terminological data. It involves identifying documentation in which relevant terms and conceptual information may be found, evaluating this documentation for its reliability and relevance, establishing term lists, developing concept fields and systems, formulating definitions, searching for terms and their equivalents in multilingual projects and structuring entries according to the recording medium and format chosen by the working group during the design phase (see Table 3).

Table 3 — Implementation phase

Phase	Requirements
Implementation	Comply with ISO/TC 37 standards for terminology standardization Respect the specifications and the work plan Evaluate the work continuously Document difficulties Record decisions

For a description of the working procedure for terminology standardization and the establishment of term lists, see ISO 10241; for the development of concept fields and systems, ISO 704 and ISO 860; for the formulation of definitions, ISO 704 and ISO 10241; and for the establishment of equivalents, ISO 860.

Throughout the implementation phase, the project leader should ensure, on a continual basis, that project management procedures for terminology standardization are followed (annex D), and that the terminology work is being completed in compliance with ISO/TC 37 standards, the specifications (clause 4.2.4) and the work plan (clause 4.3.5).

The project leader, in consultation with the working group, should ensure that the work plan is adhered to in order to reduce the time spent preparing the terminology product and to lower costs. If necessary, the project leader should

modify the work plan to take into account such factors as time, cost and efficiency. The work plan should provide a framework for review and evaluations at each phase of the development process.

During the project, evaluations should be carried out at each phase of the work plan to ensure satisfactory completion of the work and compliance with the statement of requirements. Verifications at each phase should relate directly to the final product.

Sources of information should be clearly indicated. To the extent possible, terms and definitions should be updated directly at meetings and updated hard copies distributed to the participants to save time and avoid delays.

The project leader should insist that comments be well-supported and provide concrete solutions to specific problems. These comments should then be compiled in the form of a synopsis giving the original text, the comments and the project leader's observations. The synopsis should then be analysed by working-group members, taking into account the potential impact on production costs, quality costs, reliability and user satisfaction, and used to correct problems.

4.5 Review, evaluation and verification phase

4.5.1 Introduction

This phase includes a review and evaluation of the terminology product by terminologists, subject-field specialists and users of the terminological data collection, as well as an evaluation of the terminology standardization project (see Table 4).

Table 4 — Review, evaluation and verification phase

Phase		Requirements
Review, evaluation and verification	Product evaluation and verification	Comply with measures outlined in ISO/TC 37 standards for terminology standardization Verify the accuracy and clarity of terminological data Verify the technical accuracy of the data
	Project evaluation	Comply with ISO 10006

4.5.2 Product evaluation and verification

Quality assurance of the terminology product is established by its compliance with measures outlined in ISO 704, ISO 860, ISO 1087-1, ISO 10241, and ISO/TR 12618. This should ensure the accuracy and completeness of the terminological data collection (see Table D.1).

Verification for the accuracy and clarity of all entries of the terminological data collection should be accomplished by subject-field specialists, and preferably with the assistance of a terminologist.

Verification of the technical accuracy of the final product should ensure that it meets established criteria (e.g. consistency in the spelling of words and cross-references). Verification of the terminological data collection may be carried out by computer so as to check the formal requirements of the entries more efficiently.

Members of the user group should be asked to verify whether the product meets their needs. Tests should contain questions about exhaustiveness, reliability and the user-friendliness of the terminological data collection.

4.5.3 Project evaluation

ISO 10006 provides the quality management guidelines for all phases of terminology standardization projects, including control (activity control, schedule control, budgeting and cost control), risk identification and user response against which the project may be evaluated.

4.6 Final phase

4.6.1 Introduction

The final phase includes preparation of a final report on the project and completion of a financial review (see Table 5).

Table 5 — Final phase

Phase		Requirements
Final phase	Final report	Analyse all the phases of the project and accompanying documentation
	Financial review	Compare cost estimates with actual expenditure

4.6.2 Final report

A final report documenting the history of the project should be prepared by the project leader. This report summarizes the project's objectives, provides an analysis of all the phases of the project and references sources used for its completion. This will make revisions of the project easier by providing examples and lessons on how to proceed effectively. It will also provide reusable data for similar projects.

4.6.3 Financial review

The project leader should review the cost estimates established during the planning phase, compare them with the actual expenses incurred during the project and include the results in the final report. Any discrepancies in expenditure should be documented for the benefit of future projects or the revision of the standardized terminology (see ISO 10006).

5 International terminology standardization project management

5.1 General

International terminology standardization being conducted at ISO and other organizations follows the above-mentioned guidelines, with a few additional requirements outlined in this section.

International Standards should take into account the mandates and objectives of all the participants in the terminology standardization project [e.g. ISO Central Secretariat, ISO/TC 37 and the Technical Committees (TC), Subcommittees (SC) and Working groups (WG) on terminology]. Open lines of communication should be maintained among all interested parties.

5.2 Preparation phase

5.2.1 Numbering

All relevant documents should be numbered for traceability purposes.

5.2.2 Feasibility

The TC/SC/WG should determine how its terminology standardization project will support the work of other SCs and WGs within the TC. This may be done by asking the technical experts in other WGs to complete a terminology information request form, identifying their needs.

5.2.3 Framework

Member bodies and interested parties should determine their degree of involvement in the project. Estimations of the total cost of the project should include expenditure by national bodies and the office of the Chief Executive Officer, travel costs and the value of the time spent by experts in the TC/WG meetings.

The appropriate ISO forms should be used to justify the proposed terminology standardization project, and the criteria outlined in the ISO guidelines should be used as the basis for acceptance of the project.

5.3 Design phase

5.3.1 Project leadership

Given the importance of the role of the project leader in the management of international terminology projects, the TC/SC secretariat should carefully select an individual capable of providing direction and guidance, skilled at facilitating group work and whose candidacy will be accepted by members of the standardization committee.

5.3.2 Project planning

To avoid duplication of effort and reduce costs, all applicable international terminology standardization work completed or being conducted by other TCs should be considered. Appropriate liaisons should be established. Other authoritative organizations in the field should also be consulted.

The project leader should ensure that all members have ready access to ISO/TC 37 standards and ISO Directives and other appropriate resources.

Problem concepts should be decided jointly by the group on the basis of equal participation of all group members, and particular attention should be paid to the principle of equal representation. If necessary, special provisions should be made to ensure that all members understand, from a language point of view, what has been discussed at a meeting.

It is essential that a feedback mechanism be established between the terminology SC/WG and the other SCs and WGs within the TC, and that the terminology SC/WG meet the expressed needs of the other groups within the TC. It is also important that the other WGs make consistent use of standardized terminology and that they recognize the importance of the terminology standardization process.

5.3.3 Work plan

Target dates should take the ISO directives into account.

5.4 Implementation phase

Throughout the preparatory, committee, and approval phases, the project leader, in collaboration with the TC and SC secretariats, should ensure, on a continual basis, that the terminology work is being completed in compliance with ISO/TC 37 standards, the ISO directives, the specifications and the work plan.

All the comments and observations on the working and committee drafts should be noted in the appropriate manner and submitted by the deadline. Comments should not be based on personal or national preferences and prejudices. Comments should be submitted in a previously agreed-upon electronic format. Periodic progress reports should be made to the TC by the SC and the WG.

Annex A (informative)

A terminology standardization project

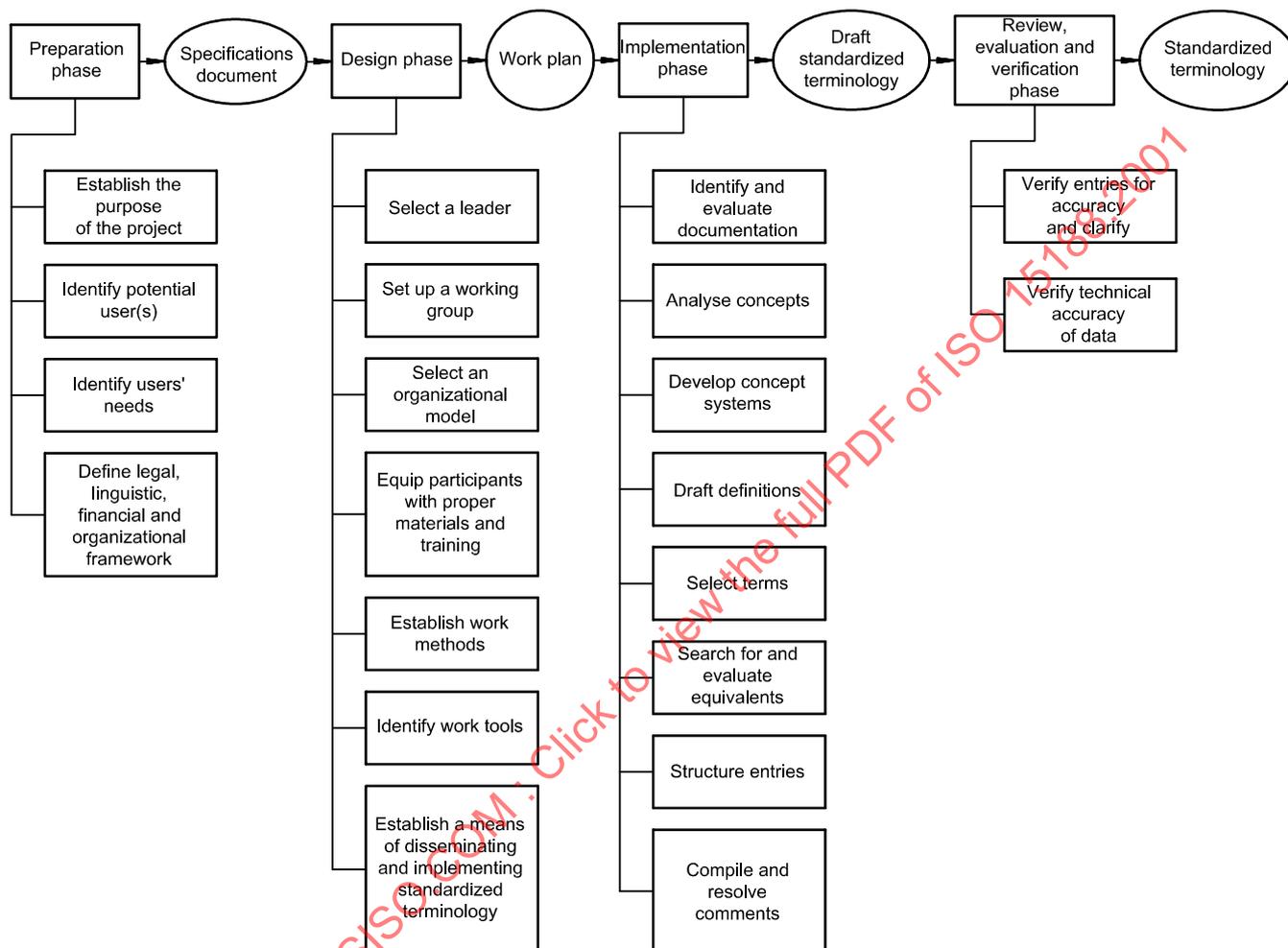


Figure A.1

Annex B (informative)

Organizational models for terminology standardization projects

Model A: A terminologist as a consultant outside the working group

Model B: A terminologist as a member of the working group

Model C: A terminologist producing a vocabulary with (a) specialist(s)

Model D: (A) terminologist(s) working with specialists as consultants

Table B.1

Roles and responsibilities	Model A	Model B	Model C	Model D
Convenes meetings	project leader	project leader	—	terminologist
Prepares agenda	project leader	project leader	—	terminologist
Organizes and coordinates work	project leader	project leader	terminologist	terminologist
Defines work responsibilities and assignments	project leader	project leader	—	terminologist
Suggests sources of specialized documentation and general language references	terminologist, working-group experts	terminologist, working-group experts	terminologist, specialist	terminologist, specialist
Ensures quality requirements are met	project leader	project leader	terminologist	terminologist
Provides recommendations and observations on comments received for discussion	project leader	project leader	—	terminologist
Conducts meetings with a view to reaching a consensus	project leader	project leader	—	terminologist
Organizes meetings	secretary	secretary	terminologist	terminologist
Circulates documentation	secretary	secretary	—	terminologist
Records decisions	secretary	secretary	terminologist	terminologist
Compiles comments	secretary	secretary	—	terminologist
Prepares minutes	secretary	secretary	—	terminologist
Prepares working drafts, incorporating modifications	secretary	secretary	terminologist	terminologist
Maintains files	secretary	secretary	terminologist	terminologist
Identifies concepts to be studied and standardized	working-group experts	terminologist, working-group experts	terminologist	terminologist
Develops concept systems	working-group experts	terminologist	terminologist	terminologist
Provides comments on concept systems	terminologist	working-group experts	specialist	specialist
Drafts definitions	working-group experts	terminologist	terminologist	terminologist
Determines designations for concepts (terms)	working-group experts	working-group experts	terminologist	terminologist
Provides comments on draft definitions and selected designations	terminologist	specialist	working-group experts	specialist
Prepares standardization files for problem cases including identification of difficulty and recommendation	terminologist	terminologist	terminologist	terminologist
Provides advice on overall project organization	terminologist	terminologist	—	terminologist