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**CEN/BT/WG 185**

Title

"eAccessibility"


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Requested action

☐ For information only

☐ For discussion at

☐ For comments (Deadline: )

☐ For voting (Deadline: )

☒ Other action: for approval at the CEN/BTWG 185 meeting 2008-10-08

# CEN/BT WG 185 Project Team Final Report for Approval

# European accessibility requirements for public procurement of products and services in the ICT domain (European Commission Mandate M 376, Phase 1)

# CEN/BT WG 185 Project Team
# Final draft report

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# Introduction

It's becoming increasingly clearer today that accessibility is not just a new concept, a matter of solidarity or a strange unknown term. Accessibility, design for all and their related issues are now greater rights than ever in modern society. Every citizen should have the right to access the different services that their respective countries provide through the respective authorities.

The information and communication technology (ICT) sector plays a major accessibility-related role, because it is growing in importance due to the massive development of the communication technologies. There is a patent risk of excluding groups of users – in their roles as citizens and employees – from the understanding, the use and the access to the ICT-based services. This is why various states are taking actions to get as many of their citizens as possible to use the new ICT elements that the technology offers to achieve a better quality of life. In addition, ICT accessibility is even more important for the employment of people with disabilities as a major means of promoting social integration.

In December 2005 the Commission issued a mandate M/376 [EC, 2005b] to CEN, CENELEC and ETSI. The key objective of this mandate was

> To harmonise and facilitate the public procurement of accessible ICT products and services by identifying a set of functional European accessibility requirements for public procurement of products and services in the ICT domain, and
>
> To provide a mechanism through which the public procurers have access to an electronic toolkit, enabling them to make use of these harmonised requirements in the procurement process.

The mandate is to be carried out in two phases:

- Phase I – Inventory of European and international accessibility requirements and assessment of suitable testing and conformity schemes
- Phase II – Standardization activities.

The reader is referred to the mandate text for further information on the rationale for and organization of the work, time schedule, etc.

This Final Draft Report has been produced by the project team assigned to carry out "an analysis of testing and conformity schemes of products and services meeting accessibility requirements", according to its terms of reference in response to Phase I of the mandate.

The scope of this Final Draft Report is to fulfil Task 12 of the Terms of Reference, i.e. to produce a "final draft taking into account any feed-back from open meeting".

The project team has decided to use the term "conformity assessment scheme" instead of "testing and conformity scheme" to comply with the terminology standard EN ISO/IEC 17000:2004 [ISO, 2004]. "Testing" is one of a set of assessment types defined in the standard; hence, "conformity assessment scheme" covers testing.

The project team has also decided to use the term "product" as defined in ISO 9000:2005 [ISO, 2005] (and also in EN ISO/IEC 17000:2004). The above international standard refers to four categories of products: service, software, hardware and processed material. Thus, in this report, the term "product" includes services.

In its interpretation of the words "of this nature", the project team, encouraged by the Steering Committee, has taken the position of not restricting the analysis to accessibility

schemes only. The team members have brought into the project working knowledge of conformity assessment schemes for other domains which may serve as models for accessibility schemes.

One of the tasks contracted by the project team is to maintain a public register of stakeholder issues. The purpose of the register is to provide a transparent qualitative view of the stakeholder commitment to the project team and project team performance in dealing with stakeholder issues. This task has been accomplished by setting up a web site to publish comments and questions regarding the project team's work and the project team's responses. The following text was published on this web site:

> "Any stakeholder is welcome to send comments, contributions and questions to the project team assigned to provide the analysis, by using the e-mail address m376conformance@econformance.eu. The project team will consider the submitted issue and decide how to deal with it. The response on how the issue will be dealt with, and the resulting impact on the output delivered from the team, will be published on this web page together with the source and date of the issue. The web page will be reviewed regularly by the BT WG who will be the final arbiter of any conflicts about the resolution of an issue or its entry into the register."

The site's address is: http://econformance.eu

The project members are:

- Loïc Martínez-Normand, Technical University of Madrid, Computer Science School, Madrid, Spain
- Clas Thorén, Swedish Administrative Development Agency, Stockholm, Sweden, project leader
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- Klaus-Peter Wegge, Siemens Accessibility Competence Centre, Paderborn, Germany

An additional expert joined the project team from March:

- Stephan Corvers, Corvers Procurement Services BV, 's Hertogenbosch, Netherlands

Another complementary report is being produced by ETSI STF 333, where STF means "specialist task force". This second report focuses on functional accessibility requirements, standards, and the current state of public procurement of accessible ICT [ETSI, 2008]. More information about this work can be found at the STF 333 web page: http://portal.etsi.org/stfs/STF_HomePages/STF333/STF333.asp

# 1 Scope

The scope of this report was defined in Mandate M/376 as follows:

> (The ESOs will) prepare a report that will present an analysis of testing and conformity schemes for products and services meeting accessibility requirements. The analysis shall refer to existing schemes of this nature at European and international level. The analysis shall consider the full range of possible solutions, including supplier self-declaration, certification/accreditation of suppliers, and third party certification schemes.
>
> The analysis shall also address existing or propose requirements for suppliers' technical capacities and abilities in the accessibility domain, which can be used for the selection of suppliers or in support of the conformity process.

The key stakeholder group for the concept of accessibility is users. For conformity assessment of accessibility within the framework of public procurement, which is the context of this report, there are two other major stakeholders: public procurers and suppliers.

# 2 Definitions and abbreviations

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

### 2.1 Accessible design

Design focused on principles of extending standard design to people with some type of performance limitation to maximize the number of potential customers who can readily use a product, building or service. This may be achieved by

- designing products, services and environments that are readily usable by most users without any modification,
- making products or services adaptable to different users (adapting user interfaces), and
- making standardized interfaces compatible with special products for persons with disabilities.

(ISO/IEC Guide 71 = CEN/CENELEC Guide 6)

NOTE: Terms such as design for all, barrier-free design, inclusive design and transgenerational design are used similarly but in different contexts.

NOTE: Accessible design is a subset of universal design where products and environments are usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

### 2.2 Assistive technology

Piece of equipment, product system, hardware, software or service that is used to increase, maintain or improve the functional capabilities of individuals with disabilities.

(ISO/IEC Guide 71 = CEN/CENELEC Guide 6)

NOTE 1: This can be acquired commercially off-the-shelf, modified or customized. The term includes technical aids for persons with disabilities. Assistive devices do not eliminate an impairment but may lessen the difficulty an individual has in carrying out a task or activity in specific environments.

NOTE 2: The new terminology used in ISO 9999:2007 is “support technologies”. The project team has decided to continue using “assistive technology” as it is the term used in the referenced documents.

### 2.3 Attestation

Issue of a statement, based on a decision following the review that fulfilment of specified requirements has been demonstrated.

(EN ISO/IEC 17000:2004)

### 2.4 Conformity assessment

Demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.

(EN ISO/IEC 17000:2004)

**2.5 Conformity assessment scheme**

Conformity assessment system related to specified objects of conformity assessment, to which the same specified requirements, specific rules and procedures apply.

(EN ISO/IEC 17000:2004)

**2.6 Conformity assessment system**

Rules, procedures and management for carrying out conformity assessment.

(EN ISO/IEC 17000:2004).

**2.7 Contracting authority**

The state, regional or local authorities, bodies governed by public law, associations formed by one or several of such authorities or one or several of such bodies governed by public law.

(Directive 2004/18/EC Article 1)

**2.8 Customer**

Person, company, or other entity that buys goods and services produced by another person, company, or other entity.

(Source: Project Team)

**2.9 Product**

Result of a process.

(ISO 9000:2005)

NOTE: ISO 9000:2005 denotes four generic product categories: services (e.g. transport); software (e.g. computer program, dictionary); hardware (e.g. mechanical part); processed materials (e.g. lubricant). Many products comprise elements belonging to different generic product categories. Whether the product is then called service, software, hardware or processed material depends on the dominant element.

**2.10 Public procurement**

Process starting with a decision by a contracting authority to acquire a product from an external supplier, ending with the signing of a contract with the awarded supplier.

(Source: Project Team)

**2.11 User**

Person who interacts with the product, service or environment.

(ISO/IEC Guide 71 = CEN/CENELEC Guide 6)

NOTE: Users may be customers, but often they are users of products, services or an environment purchased, provided or offered by customers. Employees are users using products and environments provided by their employer.

# 3 Approach and methodology

## 3.1 General approach

The initial approach for analysing conformity assessment schemes was to generate a matrix similar to the one presented in the IDC report [IDC, 2007]. This was to consist of applying several criteria to a pre-defined set of types of conformity assessment schemes (self-declaration of conformity with internal determination, self-declaration of conformity with external determination, third party assessment, accredited third party assessment, and so on).

The approach changed during the preparation stages of the various drafts of this report. First, there was some debate about making a distinction between the involved parties (first, third) and whether assessment is mandatory or voluntary. In the light of those debates, it was decided to further decompose conformity assessment schemes into properties, called **dimensions**. They were decomposed based on the functional approach for conformity assessment presented in ISO/IEC 17000:2004 [ISO, 2004]: there are dimensions for selection, determination, review and attestation, and surveillance. In addition, there is one more dimension outside the four functions.

These dimensions have been successfully applied to describe the properties of generic conformity assessment systems, existing conformity assessment schemes for ICT accessibility, and other systems or schemes outside of the domain of accessible ICT.

The next step of the general approach was to define a set of properties that describe public procurement contexts: **criteria**. These criteria influence the decision on the preferred value for each dimension (i.e. should the scheme include first, second or third party attestation? Should the conformity be voluntary or mandatory? Should the determination be based on testing, inspection or a combination or both?). The decomposition of a public procurement context into a set of criteria is based on five main categories: the product to be procured, the market the product belongs to, the public administration (or contracting authority), the users of the product and the public procurement itself.

The third step would be to model the **influence between criteria and dimensions**, i.e. to analyse the influence that each value of each criterion has on the preferred values of each dimension. This analysis should lead to the completion of several tables (one per dimension). The columns of the table would be the values of the dimensions, the rows would be the criteria, and the inner cells would represent the values of the criteria (the row) that make the current value of the dimension (the column) the preferred value.

Given the complexity due to the huge diversity of procurement situations, conflicts are likely to arise between the preferred values for the dimensions derived from each criterion for any given procurement context. Thus, a **multi-criteria decision support system** should be developed to help public procurers to decide which conformity assessment system or scheme better fits any given situation.

This multi-criteria decision support system would have the following components (Figure 1):

1. The definition of the dimensions that are used to describe conformity assessment systems and schemes, including the definition of the values for each dimension (dimensions vocabulary).

2. A database of existing conformity assessment systems and schemes, described using the above dimensions (DB-CA-D, which stands for “database of conformity assessment dimensions”).
3. The definition of the criteria that are used to describe public procurement contexts, including the definition of the values for each criterion (criteria vocabulary).
4. A knowledge base describing the relationship between the criteria and the dimensions (KB-CR-DI, stands for “knowledge base of criteria vs. dimensions”).

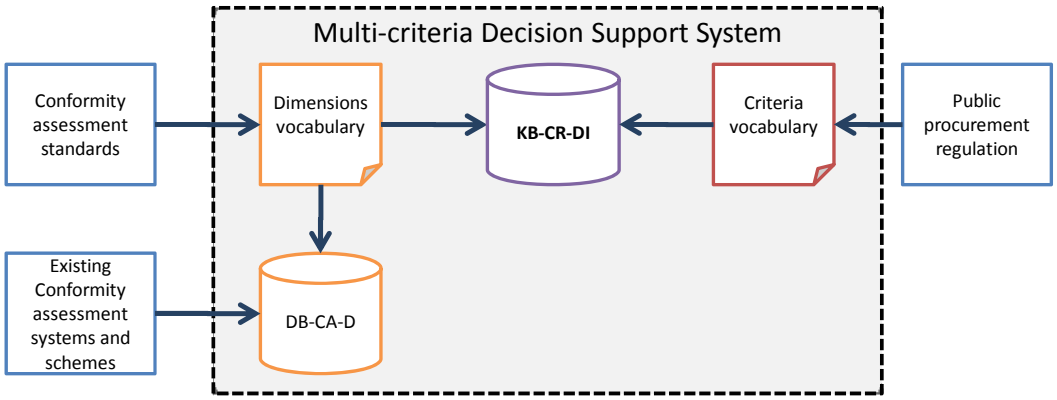


**Figure 1.** The components of a multi-criteria decision support system for recommending conformity assessments

This decision support system would be used as follows (Figure 2):

1. The user asks for an evaluation of a procurement situation.
2. The system asks for the values of the criteria defining the current procurement situation.
3. The user enters those values.
4. The system uses the KB-CR-DI knowledge base to infer the preferred values for each dimension. This inference would probably imply the resolution of conflicts between the preferred dimension values. The result is shown to the user.
5. The system performs a matching process with the DB-CA-D database to recommend the conformity assessment system(s) or scheme(s) that best fit the current situation. Presumably, only a limited number of alternatives should be available for recommendation.

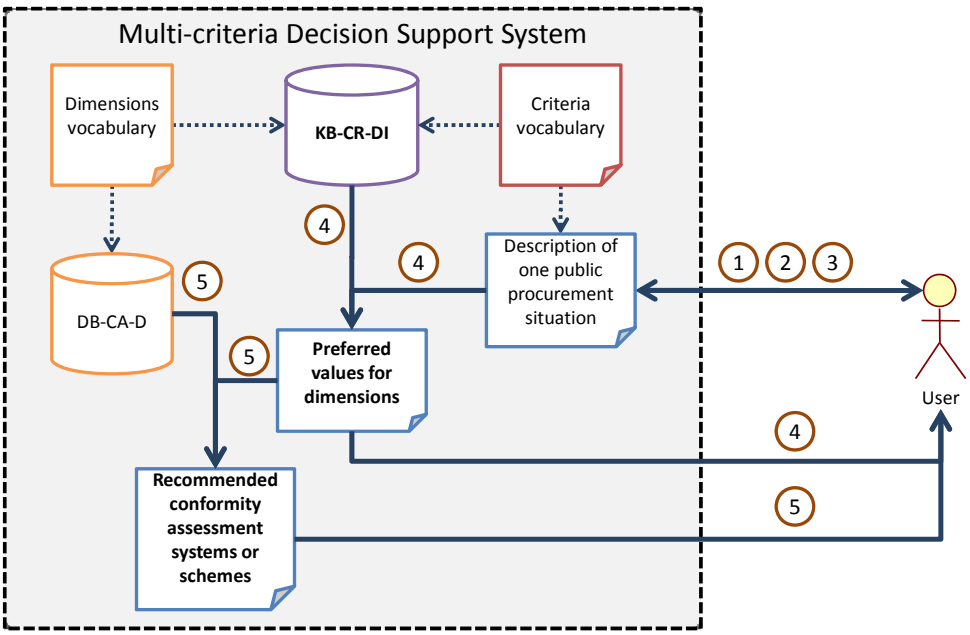


**Figure 2.** Usage of the multi-criteria decision support system for recommending conformity assessments

The development of such a multi-criteria decision support system would call for a lot of time and resources that were not available during the work on phase 1 of M/376. The project team's understanding of the phase 1 terms of reference is that it is not necessary to fully analyse the general relationship between criteria and dimensions, and that a description of the general approach and its application to the scenarios would be enough.

According to the text of M/376, the development of this system should be part of the results of phase 2, particularly deliverables II.4 (guidance and support materials for public procurers) and II.5 (online accessible toolkit).

## 3.2 Approach taken in this report

Having decided not to develop the full influence model between the criteria of public procurement situations and the dimensions of conformity assessment systems and schemes, the main goals for this report are:

1. To define a set of dimensions describing conformity assessment schemes (clause 5)
2. To apply these dimensions to key examples of existing schemes (clause 6)
3. To define a model for representing the public procurement context based on a set of criteria as described above (time to market, life-span, confidence in attestations, risk of social exclusion, etc.). This model is described in clause 8.
4. To apply this model in a set of scenarios. The description of the influence of criteria on dimensions will be confined to these scenarios (clause 9).

There follows a description of the steps taken during the development of this report and the history of the different evolving versions of this report.

## 3.3 Steps for developing this report

The approach taken by the project team consisted of the following seven steps:

1. Search for existing conformity assessment schemes in the field of ICT product accessibility. The result of this step was described in the interim technical report, which was finished in March 2008. The method used to identify schemes was twofold:
    a. On the one hand, we searched the web for accessibility schemes using keywords such as "certification", "declaration", “conformity assessment" in combination with "accessibility".
    b. On the other hand, we invited stakeholders to provide inputs on this matter.
2. Search for systems or schemes in other domains that could be applicable to the accessibility of ICT products. The result of this step was described in the interim technical report, which was finished in March 2008.
3. Define a model to analyse the different properties of one conformity assessment system or scheme. These properties of the systems or schemes are called “dimensions” in this report. The result of this step is described in clause 5. The definition of this model is based on the study of the standards related to conformity assessments. This study was first presented in the interim technical report and is also described in clause 4 of this final draft report.
4. Apply this model to describe the conformity assessment systems and schemes that have been found in steps 1 and 2. This step is described in clause 6.
5. Define a model to analyse the properties of one public procurement context. These properties are called “criteria” in this report, because they influence the type of conformity assessment scheme that best fits each situation. The criteria are described in clause 8. The definition of this model is based on the study of the current framework of public procurement in the European context. This study was first presented in the interim technical report and is also described in clause 7 of this Final Draft Report.
6. Apply this model of public procurement analysis to describe a small set of scenarios. The details of the influence of the public procurement context criteria on the dimensions of conformity assessment schemes will be confined to these scenarios (see clause 9).
7. Finally, analyse existing models for stating the ability and capacity of suppliers, presented in clause 10. This is a key issue to be dealt with when the public procurement is for products (including services) to be developed. In this case, the procurers have need of tools to identify the suppliers with demonstrated capacity to develop accessible solutions.

## 3.4 History of the reports

In the process, the project team has produced several reports at different stages of completion:

- December 2007. An initial report was produced, containing the early results of the analysis of existing conformity schemes. This report was sent to the CEN/CENELEC BT/WGs and to ETSI TC HF, the bodies responsible for implementing mandate M/376. The initial report described the results of steps 1 and 2 of the above approach, plus general information about conformity assessment and public procurement, as described in steps 3 and 5.

- March 2008. An interim technical report was produced. This report was based on the initial report and on the comments received from the members of the CEN/CENELEC BT/WGs. This interim technical report was sent to the relevant bodies and was also made publicly available at the project team's web site.
- April 2008. A draft pre-final report was produced. This is the first version of the full report, with content related to all the steps of the above approach. This pre-final report was sent to the relevant bodies for comment.
- May 2008. A final draft report was produced, taking into account the comments received from the members of the relevant bodies. This final draft report was made available for a public comment process at the project team's web site and through an open meeting that was held in Brussels on June, 3rd and 4th.
- September 2008. An updated Draft Final Report (this document) is produced, taking into account both the comments received from the members of the relevant bodies and the comments received during the public comment period. This Draft Final Report will be presented to the relevant bodies for a cross-approval process in October.

# 4 Conformity assessments

## 4.1 Standards

Conformity assessment generally is defined in a set of standards:

EN ISO/IEC 17000:2004, *Conformity assessment - Vocabulary and general principles* [ISO, 2004] specifies general terms and definitions relating to conformity assessment, including accreditation of conformity assessment bodies. It also includes an informative annex describing a functional approach to conformity assessment to give a better understanding of the matter.

EN ISO/IEC 17020:1998, *General criteria for the operation of various types of bodies performing inspection* [ISO, 1998] specifies general criteria for the competence of impartial bodies performing inspection irrespective of the sector involved. It also specifies independence criteria.

EN ISO/IEC 17021:2006, *Conformity assessment -- Requirements for bodies providing audit and certification of management systems* [ISO, 2006] contains principles and requirements for the competence, consistency and impartiality of audit and certification of management systems of all types (e.g. quality management systems or environmental management systems) and for bodies providing these activities. Certification bodies operating to this international standard need not offer all types of management system certification.

EN ISO/IEC 17024:2003, *Conformity assessment -- General requirements for bodies operating certification of persons* [ISO, 2003] specifies requirements for a body certifying persons against specific requirements, including the development and maintenance of a certification scheme for personnel.

EN ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories* [ISO, 2005b] specifies the general requirements for the competence of carrying out tests and/or calibrations, including sampling. It is applicable to all organizations performing tests and/or calibrations. These include, for example, first, second and third party laboratories, and laboratories where testing and/or calibration forms part of inspection and product certification.

EN ISO/IEC 17050-1:2004, *Conformity assessment - Supplier's declaration of conformity - Part 1: General requirements* [ISO, 2004b] specifies general requirements for a supplier's declaration of conformity in cases where it is desirable, or necessary, that conformity of an object to the specified requirements be attested, irrespective of the sector involved. For the purposes of this standard, the object of a declaration of conformity can be a product, process, management system, person or body.

EN ISO/IEC 17050-2:2004, *Conformity assessment - Supplier's declaration of conformity - Part 2: Supporting documentation* [ISO, 2004c] specifies general requirements for supporting documentation to substantiate a supplier's declaration of conformity, as described in ISO/IEC 17050-1.

EN 45011:1998, *General requirements for bodies operating product certification systems* [CEN, 1998] (ISO/IEC Guide 65:1996 [ISO, 1996]) specifies general requirements that a third party operating a product certification system shall have to meet if it is to be recognized as competent and reliable.

There are other international and European standards covering conformity assessment of specific issues, e.g. environmental management systems and information security.

For conformity assessment within the framework of the New Approach Directive, the reader is referred, for example, to the Guide to the implementation of directives based on the New Approach and the Global Approach [EC, 2000].

## 4.2 Definition of conformity assessment

For the purpose of this project, the terminology of the standards listed in clause 4.1 will be used. It is, however, recognized that some of the terms are used in everyday language in a broader sense and with a wider range of meanings. It is recognized that Member States may implement conformity assessment standards in different ways but this will introduce market fragmentation. All stakeholders will benefit from both harmonized technical requirements and harmonized means of demonstrating conformance with those requirements.

### 4.2.1 Conformity assessment

The standard EN ISO/IEC 17000 defines conformity assessment as “a demonstration that specified requirements relating to a product, process, system, person or body are fulfilled”.

The expression “object of conformity assessment” or “object” is used throughout EN ISO/IEC 17000 to encompass any particular material, product (including service), installation, process, system, person or body to which conformity assessment is applied. In the context of this report an object of conformity assessment is typically a product.

Typically, conformity assessment involves:

- A set of specified requirements
- A procedure for assessing the conformity of a product against the requirements
- A statement that fulfilment of the requirements has been demonstrated.

In general, conformity implies that all requirements shall be fulfilled. Permissible exclusions are defined in some specifications, e.g. certification against ISO 9001.

A conformity assessment system is a set of “rules, procedures and management for carrying out conformity assessment”. A conformity assessment scheme is a “conformity assessment system related to specified objects to which the same specified requirements, rules and procedures apply”. This means that a conformity assessment scheme is the application of a conformity assessment system to a specific situation in which the type of objects (products) and the requirements are always the same. For instance, an example of a conformity assessment system would be third party attestation (certification), whereas its application to web content, based on the web content accessibility guidelines, would be one of the available conformity assessment schemes.

Conformity assessments may be performed by different parties, as described in the following.

#### 4.2.1.1 First party assessment

A first party assessment is a done by a supplier or manufacturer to assess the fulfilment of specific requirements. The assessment is done by the supplier or manufacturer, based on first or third party services.

#### 4.2.1.2 Second party assessment

A second party assessment is done by a second party, usually the buyer or user of the product. Mostly, this term applies to a company controlling its subcontractors.

#### 4.2.1.3 Third party assessment

ISO/IEC 17000 defines “third party conformity assessment activity” as “performed by a person or body that is independent of the person or organization that provides the object and of user interests in that object”. The key concept of a third party assessment in the standards is “independent”. Relevant standards are EN 45011 specifying general requirements for bodies operating product certification systems and ISO/IEC 17020 specifying general criteria for bodies performing inspection. The difference between inspection and certification is explained in clause 4.2.5.5.

Third party assessment is sometimes used by a manufacturer or supplier to support a first party declaration.

#### 4.2.1.4 Assessment by accredited bodies

A conformity assessment body of any type (first, second and third) can apply for accreditation. Accreditation is the procedure by which an authoritative body gives formal recognition that a body or person is competent to carry out a specific conformity assessment. Conformity assessment bodies seek accreditation when they need an independent third party to assess and declare their competence. However, conformity assessment bodies may comply with the relevant requirements without having to be accredited. The requirements for accreditation are stated in the respective standards EN ISO/IEC 17020, EN ISO/IEC 17025 and EN 45011. These requirements are very detailed and concern organization, competence, independence, impartiality and general principles for how to carry out conformity assessments.

### 4.2.2 Functional model of conformity assessment

EN ISO/IEC 17000 uses a functional model to illustrate how conformity assessment systems may be set up. It is comprised of four functions: selection, determination, review and attestation, and surveillance (Figure 3). Below is a short description of the four functions taken from EN ISO/IEC 17000.

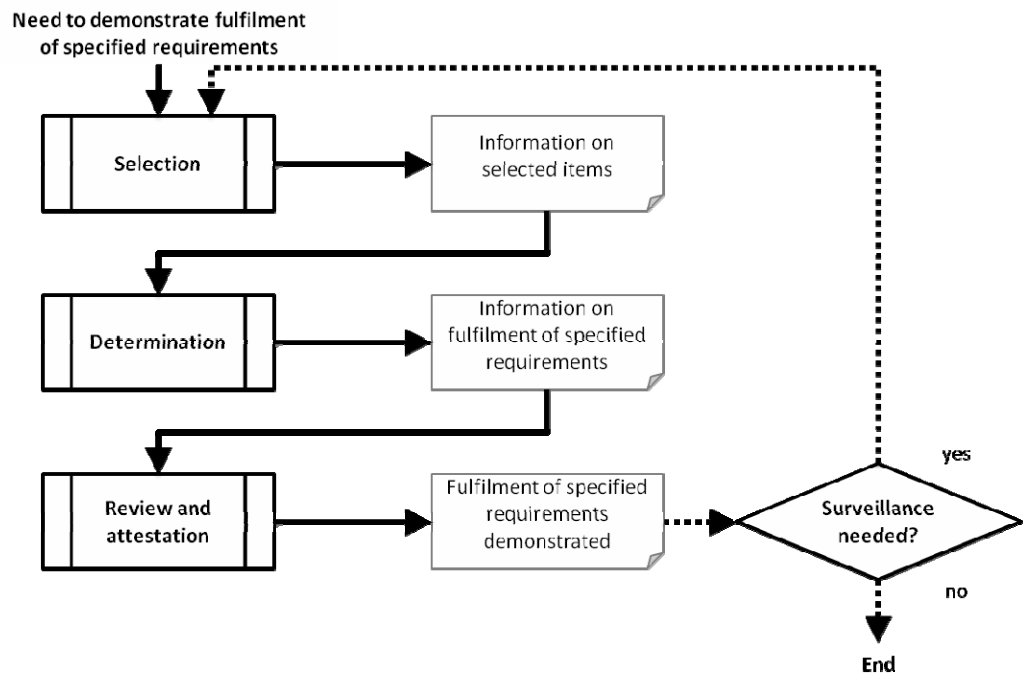


**Figure 3.** The functional model of conformity assessment (EN ISO/IEC 170000:2004)

The first function is *selection*, and it involves planning and preparing activities in order to collect or produce all the information and input needed for the subsequent determination function. This includes selecting the object of conformity assessment (sampling may be necessary to select a part of the entire object that is representative of the whole), consideration of the specified requirements and choice of the most appropriate procedures to be used for determination activities. Figure 3 represents all the information, samples (if sampling is used), decisions and other output from the selection function as "information on selected items".

The second function is *determination*. Determination includes the activities that are undertaken to develop complete information regarding fulfilment of the specified requirements by the object of conformity assessment or its sample. Some examples of determination activities are testing, inspection, audit and peer assessment. Figure 3 represents all the output from the determination function as "information on fulfilment of specified requirements". The output is a combination of all the information created by the determination activity, as well as all the input to the determination function. The output is usually structured to facilitate review and attestation activities.

The third function is *review and attestation*. Review constitutes the final stage of checking before taking the important decision as to whether or not the object of conformity assessment has been reliably demonstrated to fulfil the specified requirements. Attestation is the conformity statement, usually presented in a form that most readily reaches all of the potential users. Figure 3 represents all the output from the review and attestation function as "fulfilment of specified requirements demonstrated".

The fourth function is *surveillance*. Conformity assessment can end when attestation is performed. In some cases, however the assessment functions may need to be systematically iterated to maintain the validity of the statement resulting from attestation. User needs drive such activities. For example, an object of conformity assessment may change over time. This could affect its continuing fulfilment of specified requirements. The activities undertaken in surveillance are planned in order to

satisfy the need to maintain the validity of an existing statement resulting from attestation. To satisfy this need, a complete repeat of the initial assessment is not usually necessary in every surveillance iteration. Thus, during surveillance, the activities in each function illustrated in Figure 3 may be abridged, or different from, the activities undertaken in the initial assessment.

### 4.2.3 Selection: requirements

#### 4.2.3.1 General

EN ISO/IEC 17000 defines a specified requirement as a "need or expectation that is stated". Specified requirements may be stated in normative documents such as regulations, standards and technical specifications.

#### 4.2.3.2 Accessibility requirements

Several normative documents exist for ICT product accessibility, stating various accessibility requirements: formal standards, informal standards, guidelines, informative documents. Some are national, some are international. Well-known examples are WCAG 1.0 for web sites, ISO 9241-171 [ISO, 2008] for software, and the Section 508 standards for electronic and information technology. A detailed description of these accessibility requirements for ICT is presented in the complementary ETSI report, ETSI TR 102 612 [ETSI, 2008].

### 4.2.4 Determination

#### 4.2.4.1 General

The determination can be carried out in many ways. ISO/IEC 17000 defines two types of activities aimed at developing full information regarding the fulfilment of the specified requirements by the object concerned: testing and inspection.

Testing is defined as the "determination of one or more characteristics of an object of conformity assessment, according to a procedure". The requirements given in EN ISO/IEC 17025 are applicable to testing laboratories. When testing laboratories have (or need) to demonstrate their competence to conduct specific tests and choose a third party accreditation body, the requirements of EN ISO/IEC 17025 apply.

Inspection is defined as the "examination of a product design, product, process or installation and determination of its conformity to specific requirements or, on the basis of professional judgement, general requirements". The requirements given in EN ISO/IEC 17020 are applicable to inspection bodies. When inspection bodies have (or need) to demonstrate their competence to conduct inspections and choose a third party accreditation body, the requirements of EN ISO/IEC 17020 apply.

The definitions of inspection, testing and product certification overlap where these activities have common characteristics. However, an important difference is that many types of inspection involve professional judgement to determine acceptability against general requirements.

Note that an inherent element of the concepts of declaration, inspection and certification is that the requesting procurer should have confidence in the attestation; if not, he should not ask for it. This implies that the procurer should not state any requirements on how to determine whether a product conforms to accessibility requirements. For a suppliers' declaration of conformity, this is up to the supplier. For inspections and certifications, this is up to the inspection body and the certification body.

#### 4.2.4.2 Determination of accessibility

One or more of the many existing methods for accessibility evaluation can be used to assess the design and development of accessibility features in ICT products. These methods, aimed at providing feedback to a design team during product development and design, are called formative methods. Such methods are used to detect accessibility problems or improve accessibility. Formative methods can, of course, be applied by the manufacturer during the development phase in order to ensure that the specified requirements will be met.

To assess ICT product conformity to accessibility requirements, other methods, called summative methods, are designed to determine if a product meets a set of specified requirements. A summative method should be used for a product pass or fail assessment, which is typically the objective of a conformity assessment of a product placed onto the market.

The determination process may be done via automatic, expert and user testing. The different types of evaluation methods have a number of strengths and weaknesses. Tools may support the determination process. Examples of tools for the web can be found at [W3C, 2006].

Automatic evaluation can only test for conformity to the requirements that are fully automatable. In most cases, the coverage of automatic conformity assessment as an overall indicator of accessibility is mostly low, but it can be applied efficiently to test very large numbers of resources. Some tools can also act as support systems in an expert conformity assessment process. The tools provide reliable results for a subset of tests, and not only can they speed up the process by performing some tasks automatically, but they can also provide hints about barrier locations, indicate areas the expert evaluators should focus on. User testing is able to identify barriers that are not caught by other testing means. However, user testing is quite specialized. [WAB Cluster, 2007] states that "The best approach to conformity assessment is to use a combined approach encompassing all evaluation methods: automatic, expert evaluation and user testing".

### 4.2.5 Review and attestation: statements

After an assessment is finished, a review shall be carried out to check that all the activities involved are suitable, adequate and effective. EN ISO/IEC 17050 recommends and EN 45011 obliges (clause 4.2(f)) the review to be carried out by person(s) other than those who made the determination. Based on a decision following the review, a statement can be issued assuring that fulfilment of the specified requirements has been demonstrated. EN ISO/IEC 17000 refers to this issued statement as an attestation.

The attestation can be made by the supplier. In the context of conformity assessments, the stakeholder that places the product onto the market is called the first party. Therefore, this is a first party attestation, also called declaration. A customer or user, the second party, can also issue an attestation. When an attesting person or organization is independent of both the supplier and the customer, this person or organization is referred to as a third party. The manufacturer or service provider is still responsible for conformance with requirements, even if a third party is involved in the assessment.

These attestations are described in the following.

#### 4.2.5.1 First party attestation

A first party attestation is a statement issued by a supplier or manufacturer, based on a decision following review, that fulfilment of specific requirements has been

demonstrated. The decision and the review are made by the supplier or manufacturer. The supplier may refer to assessments, if any, made by other first, second or third parties, but the supplier is entirely responsible for the attestation.

#### 4.2.5.2 Supplier's declaration of conformity

A supplier's declaration of conformity (SDoC) is a first party attestation with details compliant with the standard EN ISO/IEC 17050. Part 1 of EN ISO/IEC 17050 contains general requirements. Part 2 specifies supporting documentation, i.e. information on how the attestation is carried out. Anyone should be able to repeat the attestation and arrive at the same result using this information. A SDoC may be based on first or third party determination.

#### 4.2.5.3 Second party declaration

A second party declaration is an attestation of conformity issued by a second party, usually the buyer or user of the product. Mostly, this term applies to a company controlling its subcontractors or a large buyer or government agency carrying out the assessment itself.

#### 4.2.5.4 Third party declaration

EN ISO/IEC 17000 defines certification as "third party attestation related to products, processes, systems or persons". A keyword here is "independent". The standard defines "third party conformity assessment activity" as "performed by a person or body that is independent of the person or organization that provides the object and of user interests in that object". Applicable standards include EN 45011 for certification and ISO/IEC17020 for inspection. The difference between the two is explained in clause 4.2.5.5.

##### *4.2.5.4.1 Certification*

The EN 45011 standard specifies general requirements for bodies operating product certification systems. Paragraph 4 (o) of EN 45011 states that a certification body shall not supply or design products of the type it certifies, and not give advice or provide consultancy services to the applicant (the party applying for a certificate) as to methods of dealing with matters. These practices are contrary to the requirements of independence and would be barriers to obtaining certification.

A commonly used term is "third party certification". According to EN ISO/IEC 17000 this is a tautology since certification is, by definition, a third party activity. Both terms will be used in this report.

##### *4.2.5.4.2 Inspection*

The ISO/IEC 17020 standard specifies general criteria for the operation of several types of bodies performing inspection. The standard specifies general criteria for the competence of impartial bodies performing inspection irrespective of the sector involved. It also specifies independence criteria.

#### 4.2.5.5 Difference between inspection and certification

Generally, inspection involves direct determination of the conformity of unique —often complex or critical— products or small series of products with specific or general requirements, whereas product certification primarily involves indirect determination of the conformance of products manufactured in long series to specific requirements. While the inspection of products in use (in-service inspection) is a well-established

discipline, there is no such thing as certification (ISO/IEC Guide 65) of products in use (from [IAF, 2004]). “Products in use” means individual instances of a product, purchased and used by a customer.

The IAF/ILAC *Guidance on the Application of ISO/IEC 17020* provides a clear description of the differences between inspection (ISO/IEC 17020) and product certification (ISO/IEC Guide 65), as shown in Table 1.

| **Activity** | **Inspection** | **Product Certification** |
|---|---|---|
| Nature of operation | Inspection of individual products, and not necessarily by third party (direct determination of conformance) | Certification of series of products and always by third party (indirect determination of conformance) |
| Conformity | Examined against standards or other normative documents and/or general requirements | Assessed against standards or other normative documents |
| Assurance | Report provides condition at the time of inspection | Certification normally provides continuing assurance of compliance |
| Decisions | No need for separation of those taking inspection decisions from those performing inspection | Certification decisions taken by a different person(s) from those who have carried out evaluation |
| Issuing of licences | No licences issued | Grants licence to suppliers to issue certificate |
| Marking of products | Marks put only on products covered by inspection | Marks may be put on a certified product under licence |
| Surveillance | Only where required in order to support inspection | Normally necessary to provide continuing assurance of compliance |
| In-service inspection of products | Always by inspection | Not by product certification |

**Table 1.** Difference between inspection (ISO/IEC 17020) and product certification (ISO/IEC Guide 65) [IAF, 2004]

#### 4.2.5.6 Accredited attestation

A conformity assessment body can apply for accreditation (as described in 4.2.1.4) and thus produce accredited attestations.

# 5 An analysis model for conformity assessment systems and schemes

The initial goal of the analysis of conformity assessment systems and schemes for public procurement of accessible ICT products was to generate a matrix similar to the one presented in the IDC report [IDC, 2007]. That report applied several criteria to only two types of conformity assessment: mandatory third-party certification vs. voluntary self- declaration of conformity.

This was considered to be a limited approach given the diversity of conformity assessment systems that can be applied. For instance, a distinction has to be made between the involved parties (first, third) and whether the assessment is mandatory or voluntary.

After an in-depth study of the components of conformity assessment systems and schemes, the project team decided to further decompose conformity assessment systems into several dimensions. Figure 4 provides an overview of these dimensions, which will be detailed in the following clauses.

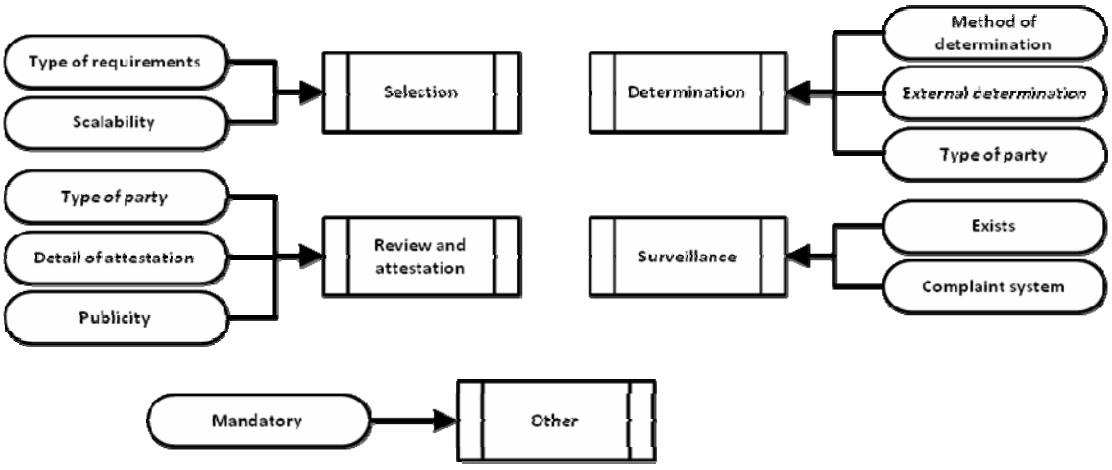


**Figure 4.** The dimensions defined to describe conformity assessment systems and schemes

This decomposition has been made based on the functional approach to conformity assessments presented in clause 4.2.2. For each of the four functions there is a set of dimensions that define a conformity assessment scheme, plus a final category for other dimensions that do not fall into any of the conformity assessment functions. For each dimension below the following items will be given: name, description, source and possible values (listed from the less to the most restrictive values). In addition, some notes may be added.

## 5.1 Dimensions for selection

The following dimensions can be defined for the selection function:

- **Type of requirements**:
    - Description: the type of requirements that will be used in the assessment. The requirements can be based on international standards, on European standards, on national standards, on de facto standards (recommendations produced by non-official standard bodies such as the W3C) or on other sources (like organizations of people with disabilities,

etc.). For the definition of standard, see annex VI of the Directive 2004/18/EC.

- Source: EN ISO/IEC 17000:2004 and project team.
- Values: other, de facto standard, national standard, European standard, international standard
- Note 1: the full reference to the source of requirements can be added in brackets. For instance a value for this dimension could be “international standard (ISO 9241-171)”.
- Note 2: if the requirements have several levels of conformity, the value of this dimension can specify which levels of conformity are covered. For instance a value for this dimension could be “de facto standards (WCAG 1.0, level AA)”.

- **Scalability**:
  - Description: whether the conformity assessment scheme is scalable. Scalability is a capability of a scheme to enable its application to products of varying degrees of complexity. Scalability depends on the selection of the object of assessment (or parts or functions of it) and on the selection of the determination methods to be used. A scalable scheme can be applied equally well to simple and complex products with reasonable effort.
  - Source: EN ISO/IEC 17000:2004 and project team.
  - Values: no, yes
  - Note 1: from the viewpoint of selection of the object of assessment, scalable schemes include techniques (such as scope definition and sampling) that enable them to be applied to any size products of any size, including small as well as large and complex products.
  - Note 2: another example of scalability is when products are assessed against a carefully selected set of assistive technologies, known to cover most use cases. This selection should take into account the current state of technology and the market share. For instance, a potentially good way of selecting screen readers would be to choose the latest versions of the two screen readers that, together, cover most of the market.
  - Note 3: non-scalable conformity assessment schemes cannot be applied to the full spectrum of product sizes and complexity. If some non-scalable schemes best suited for small products are applied to complex products, then assessment may require large budgets and a lot of resources.

    Likewise, if some non-scalable schemes best suited for large and complex products are applied to small and simple products, then the assessment may require proportionally unreasonable amounts of process overhead.

## 5.2 Dimensions for determination

The following dimensions can be defined for the determination function:

- **Method of determination**:
  - Description: the method that is used to determine the resulting value for each requirement. Some types of determination activities defined in EN ISO/IEC 17000:2004 are:
    - *testing* (determination of one or more characteristics of an object of conformity assessment according to a procedure),
    - *inspection* (examination of a product design, product, process or installation and determination of its conformity with specific requirements or, on the basis of professional judgement, general requirements),
    - *audit* (systematic, independent, documented process for obtaining records, statements of fact or other relevant information and assessing them objectively to determine the extent to which specified requirements are fulfilled), and
    - *peer assessment* (assessment of a body against specified requirements by representatives of other bodies in, or candidates for, an agreement group).

    In the case of ICT products, only testing and inspection are applicable. The other two types of determination activities (audit and peer assessment) are best suited for assessing management systems or organizations.
  - Source: EN ISO/IEC 17000:2004 and project team.
  - Values: testing, inspection, mixed
  - Note 1: the value "mixed" implies that some requirements are evaluated using testing and others using inspection.
- **External determination**:
  - Description: whether the determination activities are done by the same organization that will provide the attestation (external=no) or by an external entity (like a laboratory) that is contracted by the organization providing the attestation (external=yes).
  - Source: EN ISO/IEC 17000:2004 and project team.
  - Values: no, yes.
- **Type of party:**
  - Description: type of party doing the determination. It can be:
    - a *first party*: (the person or organization that provides the object)
    - a *second party*: (person or organization that has a user interest in the object, like purchasers, users of products, potential customers…) and
    - a *third party*: (person or body that is independent of the person or organization that provides the object and of user interests in that object). For third parties, their independence will be measured using the types identified in EN ISO/IEC 17020:

- *type A*: a fully independent body, which is not linked to a party directly involved in design, manufacture, supply, installation, purchase, ownership, use or maintenance of the items inspected or similar competitive items,
- *type B:* either (1) a demonstrably separate and identifiable part of an organization that is involved in the design, manufacture, supply, installation, use or maintenance of items that they inspect; or (2) a body supplying inspection services only to their parent organization, and
- *type C:* an identifiable part of the organization, involved in the design, manufacture, supply, installation, use or maintenance of items that they inspect).

Another possibility is to note whether the party is accredited, according to clause 4.2.5.6.

- Source: EN ISO/IEC 17000:2004, EN ISO/IEC 17020:1998
- Values: first, second, third;
  - If third, it can be combined with C, B, A independence
  - It also can be combined with "accredited"
- Note 1: An organization may (and frequently does) have an internal assessment function that is independent of the development function.
- Note 2: Some examples of values follow:
  - Accredited third (A): this is a fully independent body that has been accredited.
  - Third (B): this is a third party that is not totally independent.
  - First: a first party.

## 5.3 Dimensions for review and attestation

The following dimensions can be defined for the review and attestation function:

- **Type of party**:
  - Description: type of party responsible for the attestation. The values are the same as described above for determination: first party, second party and third party, combined with the types of independence (A, B, C) and the accreditation of the organization.
  - Source: EN ISO/IEC 17000:2004, EN ISO/IEC 17020:1998
  - Values: first, second, third;
    - If third, it can be combined with C, B, A independence
    - It also can be combined with "accredited"
  - Note 1: Some examples of values follow:
    - Accredited third (A): this is a fully independent body that has been accredited.
    - Third (B): this is a third party that is not totally independent.

        - First: a first party.
    - Note 2: As this dimension describes who is responsible for the attestation, the whole range of values is permitted.

- **Detail of attestation**:
    - Description: this dimension represents the level of detail of the attestation that is generated as a result of the conformity assessment process. Three values are considered:
        - Firstly, the attestation may address only the product conformity question only, without giving further details of about which requirements it fulfils or does not fulfil.
        - Secondly, the attestation may provide detailed information about the fulfilment of each requirement and the procedure that has been followed to reach the final decision.
        - Thirdly, the attestation may provide the same level of detail but in a machine-readable format (like EARL [W3C, 2007]) that can then used by software to compare the results obtained by different products or generated by different evaluators.
    - Source: Project team.
    - Values: no detail, detailed human, detailed machine.
    - Note 1: there may be several levels of details in an attestation (for instance, a lowly detailed attestation may only provide a yes/no answer for each requirement, on the contrary, a highly detailed attestation may add a description of the inspection/testing actions taken in the evaluation of each requirement). For simplicity reasons, this report will only differentiate between non detailed and detailed attestation.
    - Note 2: for the detailed machine-readable attestations a common language is needed to specify conformity with respect to a given set of requirements. Such languages could be developed in phase 2 of the Mandate.

- **Publicity**:
    - Description: this dimension indicates whether the resulting attestation is made publicly available to external bodies (such as, for example, the public procurers or users).
    - Source: Project team.
    - Values: private, public.
    - Note 1: in the context of public procurement, this dimension is especially relevant when the attestation is detailed.

## 5.4 Dimensions for surveillance

The following dimensions can be defined for the surveillance function:

- **Existence**:

- Description: this dimension indicates whether or not the conformity assessment scheme includes surveillance.
- Source: EN ISO/IEC 17000:2004 and project team.
- Values: no, yes
- Note 1: this dimension generally depends on the type of product under assessment, although there can be some variation. Web sites have a high change rate. For this reason, some conformity assessment schemes include surveillance. However, there are conformity assessment schemes for web sites that do not include surveillance.

- **Complaint system**:
  - Description: this dimension indicates whether the conformity assessment scheme includes a complaint system that is maintained by the customer (the contracting authority), by the provider of the attestation or by a mediation party (like a disability rights office).
  - Source: project team.
  - Values: no, yes
  - Note 1: a complaint system can provide further detail. In such cases it is important to know if the complaint system is managed by the customer, the provider of the attestation or a mediator.

## 5.5 Other dimensions

The following dimensions do not belong to any of the conformity assessment functions. Nonetheless they are important for assuring that the conformity schemes analysis is complete:

- **Mandatory**:
  - Description: this dimension indicates whether or not the conformity assessment scheme is mandatory. Mandatory systems are the ones regulated by national laws.
  - Source: project team.
  - Values: no, yes

# 6 Analysis of existing conformity assessment systems and schemes

This clause contains a detailed description of existing conformity assessment systems and schemes inside and outside the ICT accessibility domain. This detailed description is presented in tabular form according to the dimensions described in clause 5.

Besides the dimension values, an introductory text for each system or scheme provides information about its organization, country, reference, object of assessment, description, implementation and similar schemes, where applicable.

The existing conformity assessment systems and schemes have been divided into three groups in the following clauses: general systems as described by standards, existing schemes for ICT accessibility and, finally, systems or schemes outside the ICT domain that may be of interest.

In the tables below the value “Not specified” is used for dimensions that have no specified value in the given conformity assessment system or scheme. Where the value of “Types of requirements” is “not specified”, the requirements as such need to be specified.

## 6.1 General

The following are conformity assessment systems as defined by international and European standards. This clause also includes a generic methodology for conformity assessment of the accessibility of web sites.

### 6.1.1 Generic first party assessment

Details: First party assessments are done by a supplier or manufacturer to assess the fulfilment of specific requirements. The supplier is entirely responsible for the assessment.

| **Selection** | |
|---|---|
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | First |
| Detail of attestation | Not specified |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.2 Supplier's declaration of conformity (EN ISO/IEC 17050-1:2004)

Details: A supplier's declaration of conformity is a form of first party assessment. ISO/IEC 17050 specifies the requirements applicable when the individual or organization responsible for fulfilling specified requirements (supplier) provides a declaration that a product (including service), process, management system, person or body is in conformity with specified requirements. This can include normative documents such as standards, guides, technical specifications, laws and regulations. A supplier's declaration of conformity can be substantiated by supporting documentation for which the supplier is responsible.

| | |
|---|---|
| **Selection** | |
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Quality assurance during product development (direct and immediate impact), quality assurance through construction, testing, inspection, mixed |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | First |
| Detail of attestation | detailed human, detailed machine |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.3 Generic second party assessment

Details: A second party assessment is usually done by the buyer or user of the product. Mostly, this term applies to a company controlling its subcontractors or a large buyer or government agency carrying out the assessment itself.

| | |
|---|---|
| **Selection** | |
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Second |
| Detail of attestation | Not specified |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.4 Generic third party assessment

Details: A third party assessment is performed by a person or body that is independent of the person or organization that provides the product. Relevant standards include EN 45011 and ISO/IEC 17020.

| | |
|---|---|
| **Selection** | |
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | third / C, B, A / accredited |
| **Review and Attestation** | |
| Type of party | third / C, B, A / accredited |
| Detail of attestation | detailed human, detailed machine |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.5 Inspection (EN ISO/IEC 17020:1998)

Details: ISO/IEC 17020 specifies general criteria for the operation of various types of bodies performing inspection. The standard specifies competence and independence criteria. Generally, inspection involves direct determination of the conformity with specific or general requirements of unique —often complex or critical— products or of small series of products.

| | |
|---|---|
| **Selection** | |
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | first, second, third / C, B, A / accredited |
| **Review and Attestation** | |
| Type of party | first, second, third / C, B, A / accredited |
| Detail of attestation | detailed human, detailed machine |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.6 Product certification (EN 45011:1998)

Details: EN 45011 specifies general requirements for bodies operating product certification systems. Certification primarily involves indirect determination of the conformance of products manufactured in long series to specific requirements.

| **Selection** | |
|---|---|
| Type of requirements | Not specified |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | yes |
| Type of party | third / accredited |
| **Review and Attestation** | |
| Type of party | third / accredited |
| Detail of attestation | detailed human, detailed machine |
| Publicity | Not specified |
| **Surveillance** | |
| Exists | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Not specified |

### 6.1.7 UWEM

Organization: WAB Cluster. A cluster of three European projects: Support EAM, EIAO, BenToWeb produced this definition of a conformity assessment scheme for better harmonization between European organizations working in the field of conformity assessment of web sites.

Country: undefined, but European.

Object of assessment: web sites.

Description: Unified Web Evaluation Methodology (UWEM) [WAB Cluster, 2007] is the definition of a conformity assessment scheme (a methodology) for evaluating web site accessibility. It provides guidance on conformity assessment: selection (including sampling), determination (including test cases for each checkpoint), review and attestation (including aggregation of results and templates for accessibility reports) and surveillance. UWEM, as currently defined, is an assessment scheme for Web Content Accessibility Guidelines 1.0. A plan for migration to Web Content Accessibility Guidelines 2.0 is available. Some dimensions below have undefined values because they depend on the implementation of UWEM in definite situations.

Implementation: UWEM is scalable in that it can be implemented in different ways depending on (local) wishes and regulations. For instance, it can be used for first, second or third party. It supports machine-only evaluation but also manual-only evaluation, larger and smaller samples etc. It has been applied, for instance, as part of the Drempelvrij quality mark (see 6.2.2) and Euracert.

Details:

| **Selection** | |
|---|---|
| Type of requirements | De facto standard (WCAG 1.0) |
| Scalability | Yes |

| **Determination** | |
|---|---|
| Method of determination | Mixed |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Not specified |
| Detail of attestation | Detailed (human) |
| Publicity | Not specified |
| **Surveillance** | |
| Existence | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | No |

## 6.2 Existing schemes specific to ICT accessibility

The project team has selected key examples of accessibility conformity assessment schemes for ICT products. Each of the selected examples corresponds to a different category of conformity assessment schemes. The main differences between examples are due to the following factors:

- Type of product: most of the examples found deal with web sites, but some others deal with other types of ICT products.
- Type of party: there are schemes performed by different types of party, from accredited fully independent third parties, to first parties.
- Mandatory: one scheme is mandatory in one European Member State.
- Public funding: one other example is publicly funded to ease its adoption by small-sized organizations.

More examples were identified during the preparation work on this report. For each example below, a reference will be given to other similar conformity assessment schemes.

### 6.2.1 Web sites. Certification by accredited type A third party (AENOR)

Organization: AENOR, the Spanish Standards Body.

Country: Spain.

Reference: http://www.accesible.aenor.es/ (in Spanish)

Object of assessment: web sites.

Description: AENOR offers a web site accessibility certification scheme, which conforms to EN 45011:1998 and ISO/IEC Guide 65. The determination stage is performed by external organizations (CTIC foundation and the European Software Institute) that are not fully independent, as they offer other services such as consulting. Nevertheless, it is AENOR that provides the final attestation, and AENOR is a fully independent body. The certification is based on the Spanish standard UNE 139803:2004. This standard is based on and compatible with WCAG 1.0. AENOR certifies the web site accessibility by inspecting the web pages (both automatically and manually), and also conducts an audit of the processes put into practice to ensure accessibility maintenance and improvement (a web accessibility management system). This certification scheme has been referenced in Spanish legislation (Royal Decree

1494/2007 on basic accessibility conditions for the information society, and Act 56/2007 on measures to promote the information society), but it is not mandatory.

Implementation: this certificate has been issued for several public and private web sites.

Similar schemes: none found. It is the only official accessibility certification of products that has been found in the ICT domain.

Details:

| | |
|---|---|
| **Selection** | |
| Type of requirements | National standard (UNE 1390803:2004, based on WCAG 1.0) |
| Scalability | Yes (sampling) |
| **Determination** | |
| Method of determination | Inspection and audit |
| External | Yes |
| Type of party | Third (type C) |
| **Review and Attestation** | |
| Type of party | Accredited third (type A) |
| Detail of attestation | No details |
| Publicity | Public |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes (double: web site owner + AENOR) |
| **Other** | |
| Mandatory | No |

### 6.2.2 Web sites. Inspection by accredited type A third party (Drempelvrij)

Organization: Foundation Quality Mark drempelvrij.nl

Country: Netherlands

Reference:

- http://www.drempelvrij.nl/waarmerk (in Dutch)
- http://www.accessibility.nl/toetsing/waarmerkdrempelvrij?languageId=2 (in English)

Object of assessment: web sites.

Description: It is a web site accessibility quality mark, based on WCAG 1.0. It includes the 16 priority-1 checkpoints. The drempelvrij.nl quality mark has been set up at the request of and in cooperation with the Dutch government and all stakeholders involved. The Bartiméus Accessibility Foundation led the project, but transferred it to the drempelvrij.nl Quality Mark Foundation in 2005. The drempelvrij.nl Quality Mark Foundation took responsibility from then onwards for guaranteeing the quality and transparency of the Quality Mark and related documents with all stakeholders. Fifteen organizations contributed to the creation of the drempelvrij.nl quality mark. The quality mark includes an inspection service offered by accredited third parties and a resulting logo specifying the achieved accessibility level. This quality mark uses the UWEM evaluation methodology (see clause 6.1.7).

Implementation: More than 180 web sites participate in the drempelvrij mark. Details can be found at http://www.accessibility.nl/toetsing/deelnemers/sites?languageId=2.

Similar schemes:

- Accessibility Foundation, Netherlands. This Foundation also uses UWEM to provide a web accessibility inspection service.

Details:

| | |
|---|---|
| **Selection** | |
| Type of requirements | De facto standard (WCAG 1.0) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Inspection |
| External | No |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Accredited third (type A) |
| Detail of attestation | No |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes |
| **Other** | |
| Mandatory | No |

### 6.2.3 Web sites. Publicly-funded assessment (BITV-test)

Organization: BIK (Barrierefrei Informieren und Kommunizieren).

Country: Germany.

Reference:

- http://www.bitvtest.de (in German)
- http://www.bik-online.info (in German)

Object of assessment: web sites

Description: The BIK project is carried out by 3 Partners, one SME and two NGOs (German associations of visually impaired and blind persons). The project is funded by the German Federal Ministry of Labour and social affairs.

The BIK test has been developed to support the implementation of the Amendment BITV of the German equal opportunities act (based on WCAG 1.0) which covers Web sites, software and information material on CDs.

The test has been developed in close collaboration with organisations of people with disabilities, web providers and accessibility experts.

The test contains 52 test steps, basically covering the requirements of Priority 1 of BITV (corresponding to level AA of WCAG). The test requirements are published completely and explained in detail (http://www.bitvtest.de/index.php?a=dl&t=s).

The assessment of the requirements is done predominantly manually by expert evaluation. To ensure the reliability of the assessments, results of independently performed tests are compared and variations are discussed.

The resulting test report explains the assessment of the 52 test items in detail. Certified web sites are "well accessible" or "very well accessible" and are listed on http://www.90plus.de.

A successful BIK test is also basis for admission to the 95plus list (http://www.plus95.de), a list of providers, who have demonstrated their ability to develop accessible web services.

Web providers and developers can perform the test also by themselves. An adequate toolkit for assessment of own web services and a form for self declaration of conformity are available for free.

Implementation: The test was already performed more than 600 times (until mid 2008).

Similar schemes: none found.

Details:

| | |
|---|---|
| **Selection** | |
| Type of requirements | Amendment of German equal opportunities act (BITV, based on WCAG 1.0) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | No |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Accredited third (type A). Optional SDOC. |
| Detail of attestation | Detailed human |
| Publicity | Public |
| **Surveillance** | |
| Existence | No |
| Complaint system | No |
| **Other** | |
| Mandatory | No |

### 6.2.4 Web sites. Assessment by type C third party (Segala)

Organization: Segala

Country: Ireland

Reference: http://segala.com

Object of assessment: web sites

Description: Segala is an Irish company that offers an accessibility conformity assessment service for web sites. It may use different requirements depending on customer needs (WCAG, 508, the UK's DDA). The result of the process is a mark on the customer's web site, which links to a detailed report that is stored in the Segala servers. In addition they use semantic data (content labels) so that software can detect the declared accessibility level.

Implementation: We have found several web sites bearing the Segala mark.

Similar schemes: there are many private organizations across the world offering accessibility conformity assessment for web sites. Segala stands out because it manages the certificates and offers details in the attestation. Some similar examples follow, listed in alphabetical order:

- Access for All Foundation, Switzerland

- AccessibilitéWeb, Canada
- Funka nu, Sweden
- RampWEB, USA
- Sidar Foundation, Spain
- SIUG, Switzerland
- SJA, Iceland
- WebAIM, USA

Details:

| **Selection** | |
|---|---|
| Type of requirements | Variable (depending on customer needs):<br>• De facto standard (WCAG 1.0)<br>• Other (Section 508 or UK's Disability Discrimination Act 1995 (c. 50)) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | No |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Third (type B) |
| Detail of attestation | Detailed machine |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes |
| **Other** | |
| Mandatory | No |

### 6.2.5 Web sites. Mutual recognition between European parties (Euracert)

Organization: Euracert (AnySurfer, Accessiweb, Technosite)

Country: Belgium (AnySurfer), France (Accessiweb), Spain (Technosite)

Reference: http://www.euracert.org

Object of assessment: web sites

Description: Euracert is a unique example of mutual recognition between conformity assessment bodies in Europe. It is an agreement between three private organizations: AnySurfer in Belgium, Accessiweb in France and Technosite in Spain. They share the same accessibility requirements (WCAG 1.0) and the same method for accessibility evaluation (UWEM).

Euracert defines a general framework allowing mutual recognition. In an initial phase, existing national labels become more valued as they are recognized in other countries. For instance, if AnySurfer issues a label in Belgium, the other two organizations will recognize this result. The members of the Euracert consortium expect that, in the future, all European labels could be harmonized into one.

Concerning the label issuing process, there are two cases for a Web site owner who wishes to obtain the Euracert label:

- If there is a label issuing organization in the site's country then the local process is followed. The Euracert label is awarded in addition to the local label if the Web site passes the labelling process.
- If no label issuing organization exists for the applicant's country, another partner organisation issues the label.

Implementation: several sites currently have the Euracert label in participating countries. These sites are from different sectors: government, bank, industry, assurance, etc.

Similar schemes: none found. It is a unique case of mutual recognition between conformity assessment bodies in de field of ICT accessibility.

Details:

| **Selection** | |
|---|---|
| Type of requirements | De facto (WCAG 1.0) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | No |
| Type of party | |
| **Review and Attestation** | |
| Type of party | Third (type C) |
| Detail of attestation | Detailed human |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes |
| **Other** | |
| Mandatory | No |

### 6.2.6 Web sites. Assessment by second party (See it right)

Organization: Royal National Institute for the Blind (RNIB)

Country: United Kingdom

Reference:
http://www.rnib.org.uk/xpedio/groups/public/documents/publicwebsite/public_sirlogo.hcsp

Object of assessment: web sites

Description: The See it Right audit is a service provided by the RNIB in the UK. As RNIB is an organization representing blind and visually impaired users, it can be considered to be a second party: it is an organization that has a user interest in the object of assessment.

The See it Right accessibility guidelines for the web are based on WCAG 1.0. To receive RNIB's 'See it Right' Accessible Website logo, sites must comply with all but one of the priority one checkpoints (14.1 "Use the clearest and simplest language

appropriate for a site's content", because this checkpoint is difficult to assess objectively), with a range of priority two checkpoints, and with a few priority three checkpoints. RNIB also includes some recommendations not specifically referred to in the WAI guidelines, but which stem from their experience of working with access technology and those who use it.

RNIB's Web Accessibility Consultants supervise all of the See it Right website accessibility audits. The site is first checked using one or more automated checking tools. A representative sample of pages from the website are then examined in detail with reference to the WAI guidelines and RNIB recommendations for accessible design, using a selection of browsers and access software.

Implementation: RNIB provides a listing of web sites that have been awarded with the See it Right Logo. In September, 2008 this list contained more than 30 web sites:

http://www.rnib.org.uk/xpedio/groups/public/documents/PublicWebsite/public_accessiblewebsites.hcsp#P21_1658

Similar schemes: none found

Details:

| **Selection** | |
|---|---|
| Type of requirements | Other (See it Right guidelines by RNIB, based on WCAG 1.0) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | No |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Second |
| Detail of attestation | Detailed human |
| Publicity | Yes |
| **Surveillance** | |
| Existence | No |
| Complaint system | No |
| **Other** | |
| Mandatory | No |

### 6.2.7 ICT. Mandatory conformity assessment scheme (PubliAccesso)

Organization: Several organizations recognized by the Italian government and listed by the National Centre for Informatics in Public Administration (CNIPA). The full list is available at (in Italian):

http://www.cnipa.gov.it/site/it-IT/Attivit%c3%a0/Elenco_valutatori_accessibilit%c3%a0/

Country: Italy

Reference: http://www.pubbliaccesso.gov.it/english/index.htm

Object of assessment: web sites, hardware and software

Description: There are a number of pieces of legislation establishing ICT accessibility in the Italian public administration:

- Act n. 4, January 9, 2004. *"Provisions to support the access of the disabled to information technologies"*, specifies the general ICT accessibility requirements for the public administration and private organizations managing public information or services, such as transport and telecommunications.
- Decree of the President of the Republic, March 1, 2005, No. 75. *"Enforcement Regulations for Law 4/2004 to promote the access of the disabled to information technologies"*, establishes a third party conformity assessment system where the evaluators have to be recognized by the Italian government. Private subjects must use this system, whereas public subjects may opt for internal assessments.
- Ministerial Decree, July 8, 2005. *"Technical Rules of Law 4/2004"*, contains the technical web accessibility requirements, the methodology for evaluating web sites and the requirements for accessible hardware and software.

Implementation: CNIPA today lists 139 sites/portals:

http://www.pubbliaccesso.gov.it/logo/elenco.php

Similar schemes: none found. It is the only example of a conformity assessment scheme that is mandatory by law.

Details:

| **Selection** | |
|---|---|
| Type of requirements | Other (national legislation; requirements are based on WCAG 1.0 for web sites and Section 508 for hardware and software) |
| Scalability | No (no complexity management is specified) |
| **Determination** | |
| Method of determination | Mixed |
| External | No |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Third (type A) – for private subjects<br>First or second – for public subjects |
| Detail of attestation | Detailed human |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Not specified |
| Complaint system | Not specified |
| **Other** | |
| Mandatory | Yes, for private subjects carrying out public tasks |

### 6.2.8 ICT hardware. Assessment by privately-recognized third party (TCO Development)

Organization: TCO Development

Country: Sweden

Reference: http://www.tcodevelopment.com/

Object of assessment: displays, printers, mobile phones.

Description: TCO Development is a subsidiary of a Swedish office workers' union. It operates in the field of work environments and environmental issues with regard to the effects of technological developments within the IT sector, primarily computer displays.

It issues quality and environmental office equipment labelling. “Quality” encompasses ergonomics to some extent covering accessibility.

Implementation: The TCO label is recognized worldwide and widely used for computer displays.

Similar schemes: there are other conformity assessment schemes that apply outside of the web site domain. However, they do not enjoy the international acceptance and history that the TCO label does. Some examples, listed in alphabetical order, follow:

- Applus+, Spain
- ITS logo scheme, Netherlands
- Software in Zicht, Netherlands
- SSB Bart, USA
- U mark, Japan
- UsersAward, Sweden

Details:

| **Selection** | |
|---|---|
| Type of requirements | International standards (ISO and IEC) |
| Scalability | No |
| **Determination** | |
| Method of determination | Testing |
| External | Yes |
| Type of party | Testing laboratory accepted by TCO |
| **Review and Attestation** | |
| Type of party | Testing laboratory accepted by TCO |
| Detail of attestation | Detailed human |
| Publicity | Public |
| **Surveillance** | |
| Exists | Yes |
| Complaint system | ? |
| **Other** | |
| Mandatory | No |

### 6.2.9 ICT. First party attestation (VPAT)

Organization: any supplier or manufacturer of ICT products

Country: USA (also used in other countries)

Object of assessment: software applications and operating systems, web-based intranet and internet information and applications, telecommunication products, video and multimedia products, self-contained and closed products, desktop and portable computers.

Description: The Voluntary Product Accessibility Template (VPAT) was developed by US industry and government to show conformance to Section 508. The US Government uses it in its federal procurement process to assist agencies in complying with Section 508 requirements. It provides information in a uniform manner so that government buyers can determine: (1) the level of conformance to the standards for a given product and (2) how different products compare to one another. It is a document generated by

the supplier (or manufacturer) to disclose to what extent the product addresses requirements. Therefore, a VPAT does not provide a clear yes/no answer for each requirement and for product accessibility. Public procurers mainly use VPATs to guide them in learning what there is on the market during market research and often as required documentation to support Section 508 compliancy assertions made in proposals submitted in response to a government procurement opportunity.

Implementation: VPATs are commonly used by the suppliers of manufactures that want to sell products to US federal agencies.

Similar schemes: none found.

Details:

| **Selection** | |
|---|---|
| Type of requirements | Other (508 standards) |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Mixed |
| External | Variable, depends on supplier needs |
| Type of party | Variable |
| **Review and Attestation** | |
| Type of party | First |
| Detail of attestation | Detailed human (although there is not a clear conformity statement) |
| Publicity | Yes |
| **Surveillance** | |
| Existence | No |
| Complaint system | Directly through company |
| **Other** | |
| Mandatory | No |

## 6.3 In other domains

This clause describes conformity assessment systems or schemes existing in other domains that could be applied to the context of public procurement of accessible ICT products. The examples below are of very different types and characteristics, and they are grouped here only because they do not apply to the ICT domain.

Clause 6.3.1 shows the results of a survey of existing quality mark models performed by the European Support-EAM project (Support eAccessibility Marking). Clauses 6.3.2 – 6.3.5 describe some relevant conformity assessment systems or schemes in alphabetical order.

### 6.3.1 Quality labels

Support-EAM [Support-EAM, 2007], a Specific Support Action under the 6th Framework Programme, conducted a survey of existing models for quality marks, as input for setting up a web accessibility mark (Deliverable 3.1, State-of-the-art of Certification Scheme in Europe).

It described the following models:

- The European Ecological Label (environmental efficiency)
- TickIT (quality system for software suppliers)
- European Computer Driving License (basic computer knowledge)

- Blue Flag (eco-label for beaches and recreational ports)
- IQNet (a network with a wide variety of certifications)
- Q*For Certification (assesses customer satisfaction with suppliers of training)
- Social Accountability 8000 (social and ethical aspects of company activities)
- Keymark (see 6.3.5 below)
- CENCER (see 6.3.3 below)
- eHealth code of Ethics (code of conduct for a number of business areas)
- Health on-the-Net and ICRA (code of conduct for content providers on the Internet)
- MedCIRCLE (health information on the Internet)

### 6.3.2 CE marking

Organization: suppliers or manufacturers

Country: Europe (where the product is sold, not manufactured)

Reference: http://www.berr.gov.uk/dius/innovation/regulations/cemark/page11646.html

Object of assessment: products under New Approach Directives

Description: CE marking symbolizes conformity to all the legal and regulatory obligations incumbent on manufacturers for the product by virtue of the Community directives providing for its affixing [EC, 2000]. The CE mark is not a third party certification mark. When affixed to products it is a declaration by the natural or legal person having affixed or been responsible for the affixing of CE marking that the product conforms to all applicable provisions, and that it has been subject to the appropriate conformity assessment procedures. Hence, Member States are not allowed to restrict the placing on the market and putting into service of CE marked products, unless such measures can be justified on the basis of evidence of product noncompliance.

The directives providing for the affixing of the CE marking mostly follow the New Approach and the Global Approach principles, but this is in itself irrelevant for the application of the CE marking. In fact, CE marking can be introduced in Community legislation as legal conformity marking if:

- the method of total harmonization is used, which means that diverging national regulations that cover the same public interests as the directive are prohibited; and
- the directive contains conformity assessment procedures according to Decision 93/465/EEC

As a general rule, all New Approach Directives provide for the affixing of the CE marking. In duly justified cases a directive that provides for total harmonization under Decision 93/465/EEC may provide for a different marking instead of the CE marking.

The CE marking is mandatory and must be affixed before any product subject to it is placed on the market and put into service, save where specific directives require otherwise. Where products are subject to several directives, which all provide for the affixing of the CE marking, the marking indicates that the products are presumed to

conform to the provisions of all these directives. A product may not be CE marked, unless it is covered by a directive providing for its affixing.

Implementation: it is being applied to a large number of products in many fields, including ICT. Examples include electrical safety and electromagnetic compatibility.

Details:

| **Selection** | |
|---|---|
| Type of requirements | Harmonized European standards |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | First |
| Detail of attestation | Not detailed |
| Publicity | Yes (it is a visible mark on the product) |
| **Surveillance** | |
| Existence | Yes (market surveillance) |
| Complaint system | Yes |
| **Other** | |
| Mandatory | Yes |

### 6.3.3 Cencer

Organization: CEN

Country: European CEN member countries (some are not members of the European Union).

Reference: http://www.cen.eu/cenorm/conformityassessment/cen+mark+/index.asp

Object of assessment: several types of products, none of them ICT-related.

Description: The CENCER Mark is a certification mark for demonstrating conformity of products to European standards or other specifications approved by CEN. The mark is owned by CEN. Like the Keymark, the other European system for assessing conformity to European standards, the CENCER Mark is a voluntary third party certification mark, giving users confidence that a product complies with the requirements of approved documents [CEN, 2008b].

As stated in the CEN Strategy 2010 [CEN, 2007], CEN will improve its visibility and activities in the area of conformity assessment by developing the Keymark as the preferred mark of conformity to European standards and by gradually replacing the CENCER Mark with the Keymark in order to strengthen the Keymark.

Implementation: there are many CENCER-marked products (see [CEN, 2008b].

Details:

| **Selection** | |
|---|---|
| Type of requirements | European standards and specifications |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |

| | |
|---|---|
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Third (A) |
| Detail of attestation | Not detailed |
| Publicity | Yes (it is a visible mark on the product) |
| **Surveillance** | |
| Existence | No |
| Complaint system | No |
| **Other** | |
| Mandatory | No |

### 6.3.4 Common criteria

Organization: several, both suppliers and purchasers

Country: international

Reference: http://www.commoncriteriaportal.org/

Object of assessment: ICT products and systems (only security-related requirements)

Description: One interesting scheme, (parts of) which might be used as a model for accessibility requirements conformity assessment, is based on the requirements of the ISO/IEC 15408:2005 standard [ISO, 2005c], also known as *Common Criteria*.

The Common Criteria for Information Technology Security Evaluation (CC), and the companion Common Methodology for Information Technology Security Evaluation (CEM) are the technical basis for an international agreement, the Common Criteria Recognition Agreement (CCRA). This agreement ensures that:

- Products can be evaluated by competent and independent licensed laboratories to determine the fulfilment of particular security properties, to a certain extent or assurance;
- Supporting documents are used within the Common Criteria certification process to define how the criteria and evaluation methods are applied when certifying specific technologies;
- The certification of the security properties of an evaluated product can be issued by a number of Certificate Authorizing Schemes, where this certification is based on the result of their evaluation;
- These certificates are recognized by all the signatories of the CCRA.

Common Criteria is a framework with:

- A method specifying how to define functional security requirements on classes of products with reference to specified environments. This may result in sets of requirements called Protection Profiles, which can be registered and published in a catalogue for reuse. Protection Profiles are the purchaser's document.
- A method specifying how to define the security characteristics of a product, the Security Target. This is the supplier's document, which expresses the characteristics that the supplier (manufacturer) decides that the product shall have.

- Methods specifying how to evaluate products against requirements specified in Protection Profiles and Security Targets.
- Two organizational third party roles: the Evaluation organization (laboratories), which evaluates a product or system against specified requirements; and the Certification body (or validation body), which issues a certificate verifying that a specified product complies with specified requirements.

Implementation: there are many examples of the application of common criteria:

- A list of certified products is available at:

  http://www.commoncriteriaportal.org/products.html
- A list of national certificate authorizing schemes is available at:

  http://www.commoncriteriaportal.org/schemes.html
- A list of licensed laboratories is available at:

  http://www.commoncriteriaportal.org/labs.html

Details:

| **Selection** | |
|---|---|
| Type of requirements | Other (defined in Protection Profiles and Security Targets) |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Third |
| Detail of attestation | Not detailed |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Undefined |
| Complaint system | Undefined |
| **Other** | |
| Mandatory | No |

### 6.3.5 Keymark

Organization: CEN

Country: European CEN member countries (some are not members of the European Union).

Reference: http://www.cen.eu/cenorm/conformityassessment/keymark+/index.asp

Object of assessment: several products, but no ICT as yet.

Description: Keymark is the pan-European voluntary third party certification mark, demonstrating to users and consumers that a product is in conformity with the applicable European standard. Keymark can also be used for services [CEN, 2008].

At the moment 25 certification bodies located in 15 different European countries already operate Keymark schemes on the basis of almost 150 European standards for 28 product groups. No ICT product has been awarded the Keymark as yet (May 2008).

The Keymark can only be granted by certification bodies that have been 'empowered' by the CEN Certification Board. Such an empowerment is granted for a specific European standard, or group of European standards. These bodies shall follow rules, procedures and management to certify products on the basis of European standards adopted by CEN or CENELEC. These rules, called the Keymark System, are defined in CEN/CENELEC Internal Regulations – Part 4, and in the annexes A and B of the CEN Internal Regulations – Part 3.

The Keymark should not be confused with CE marking, described in 6.3.2.

Implementation: Keymark is applied to almost 150 European standards for 28 product groups.

Details:

| | |
|---|---|
| **Selection** | |
| Type of requirements | European standards |
| Scalability | Not specified |
| **Determination** | |
| Method of determination | Not specified |
| External | Not specified |
| Type of party | Not specified |
| **Review and Attestation** | |
| Type of party | Third (A) |
| Detail of attestation | Not detailed |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Undefined |
| Complaint system | Undefined |
| **Other** | |
| Mandatory | No |

# 7 Legal framework for public procurement as regards e-accessibility and conformity assessment

In this clause we describe the legal framework for public procurement which facilitates the use of e-accessibility and relevant conformity assessment criteria. Clause 7.1 sets out the general rules applicable to all public procurements. Clause 7.2 describes the possibilities of including e-accessibility and conformity assessment criteria at different stages of the procurement procedure.

## 7.1 General rules for all public procurements

The Public Sector Directive (2004/18/EC) and the Utilities Directive (2004/17/EC) constitute the main European Community (EC) legislation on public procurement. These Directives set out procedures for public authorities or utilities to purchase goods, services or works. These procedures must be followed before awarding a contract worth more than the thresholds provided for in the Directives, unless a specific exception is stated. The EC Treaty is applicable to the procurement procedures falling entirely or partly outside the scope of the above Directives. Additionally, this Treaty's provisions on freedom of movement, and the principles derived therefrom, apply to situations covered by the Directives where some aspects have not been comprehensively regulated ([ECJ, 2002], [ECJ, 2006]).

The Procurement Directives regulate the procedures to be followed when buying the required products, services or works, i.e. how to buy them. They do not prescribe the specific characteristics of the products or services to be purchased, i.e. they do not prescribe what to buy. Community directives do regulate product characteristics for some products as regards environmental, health risks, etc. The directives do contain provisions on conformity assessment, which are relevant for the purposes of this project. The mutual recognition principle is applicable to other products that are not covered by this type of Community regulations. This principle says that a member state may not refuse products or services lawfully produced and/or marketed in another member state, unless justified by public interest.

Non-mandatory European Commission recommendations supplement these mandatory rules. The Commission's recent eGovernment Action Plan is case in point. This action plan stresses the importance of extending the use of electronic procurement. The plan remarks that

> "electronic procurement and invoicing could result in savings in total procurement costs of around 5% and reductions in transaction costs of 10% or more, leading to savings of tens of billions of euros annually. In particular, SMEs can benefit from easier access to public procurement markets and increasing their ICT-capabilities and thereby competitiveness. The Action Plan concludes that a high level of take-up of eProcurement is therefore highly desirable. Following these recommendations, the Member States have committed themselves to giving all public administrations across Europe the capability of carrying out 100% of their procurement electronically (where legally permissible) and to ensuring that at least 50% of public procurement above the EC threshold is carried out electronically by 2010."

The extended use of electronic procurement means that conformity attestations (primarily pre-market attestations), including attestations on accessibility, should be able to be stored and submitted electronically. The IDABC programme has set up an action plan for e-procurement. Work is in progress on designing approaches on how to handle certificates, declarations of conformity and other documents electronically.

The work on conformity assessment in Phase 2 should be influenced by the outcome of the action plan on electronic procurement.

### 7.1.1 Community legislation on specifications

Different national product specifications/standards have been one of the most significant problems that the EC has come up against as regards setting up a single European market. In response to this problem, the Community initially adopted the practice of including detailed standards in directives. This regulative approach proved to be very time-consuming and cumbersome as regards amendments. In the mid-1980s the Community switched to an alternative strategy, called the 'New Approach'. This strategy presupposes that the European directives only set out broad performance requirements ('essential requirements') instead of detailed requirements regarding subjects such as health, environment, consumer protection, etc. Further, the directives mandate the adoption of European standards on the basis of these 'essential requirements'. The standards develop more detailed requirements for the respective products and they usually contain additional requirements agreed upon by the stakeholders involved in the adoption process. After adoption, these standards are published in the Official Journal of the EU. The date of their publication marks the time when they start providing a presumption of conformity with the respective directive. The standards are not mandatory, as they represent only one solution complying with the essential requirements. If a manufacturer applies other technical specifications to meet the essential requirements, this manufacturer may prove conformity through one of the conformity assessment mechanisms referred to in the respective directive. However, the CE marking mandated by the New Approach Directives is obligatory. It also guarantees conformity with the essential requirements, but not necessarily with the mandated standard.

The New Approach Directives also provide for a Global Approach to conformity assessment by devising modules for the various phases of conformity assessment procedures and by laying down criteria for using these procedures, for designating bodies to operate these procedures, and for using the CE marking.

e-accessibility is outside the scope of application of all the New Approach Directives. Therefore, the mutual recognition principle applies, as explained above. This means, for example, that a computer should be accepted as accessible, if it is certified as accessible in the member state of origin, even if the domestic rules on accessibility are different. In the field of public procurement the mutual recognition principle was transposed in the two Directives into the specific rule to accept equivalent proof of conformity with the specifications, both when the specifications are formulated by reference to standards and in terms of performance or functionality. For example, if a contracting authority has formulated e-accessibility specifications by reference to a national standard, it should accept as a proof of conformity a technical dossier of the manufacturer showing that his solution is equivalent to the one described in the standard.

### 7.1.2 Treaty obligations regarding specifications

The impact of the EC Treaty on public procurement derives from the rules on free movement. The Treaty has a significant impact on the field of public procurement for two reasons. Firstly, as suggested by the European Court of Justice's (ECJ) case-law (e.g. Unix), the use of a single specification in a single contract may constitute a violation of the Treaty. Secondly, the ECJ confirmed that the Treaty applies to

procurement contracts falling entirely or partially outside the scope of the Directives and also to situations falling under the scope of the Directives with regard to aspects that are not comprehensively regulated. In Beentjes [ECJ,1988], the Court pointed out that the Procurement Directives do not constitute a comprehensive code of rules regulating all aspects of procurement. National laws or procurement practice may complement these rules, provided they are consistent with the provisions of the Directives and the Treaty. Even so, the detailed obligations of the Directives are not duplicated for contracts or obligations falling outside their scope. Also, contract types expressly excluded from the application of certain obligations in the Directives are likewise exempted from meeting the same obligations under the Treaty[1]. For example, procedures where no advertisement is placed beforehand are also exempted from the obligation to advertise when the value of these contracts is under the threshold (i.e. only subject to the application of the Treaty's free movement obligations) if the same grounds for exemption from publication as provided for in the Directives are applicable. Finally, it is noteworthy that contracts not subject to the Directives are reviewed only 'in the event that such contracts are of certain cross-border interest' (paragraph. 29, [ECJ, 2006]).

Besides the applicable provisions of the Treaty on freedom of movement, some principles derived therefrom apply to all procurement procedures:

- The principle of *equal treatment* implies that all suppliers shall be given equal opportunities and conditions. For example, accessibility requirements of all products shall be verified and evaluated in an equal manner for all tenderers.
- The principle of *non-discrimination* prohibits all discrimination based on locality. No contracting authority may, for example, give preference to a local company simply because it is located in the city where the authority is based. However, if, for example, a local company better comply with some accessibility requirements than foreign companies, this would not necessarily equal to discrimination.
- The principle of *mutual recognition* means that products lawfully produced and marketed in one Member State should generally be admitted into circulation in other Member States, unless otherwise justified. In the Procurement Directives this principle was expressly translated into the rule that the contracting authority must accept equivalent proof of compliance issued by recognized non-national bodies. In relation to e-accessibility criteria, this implies the 'mutual recognition' of equivalent national standards or conformity assessment schemes.
- The principle of *proportionality* means that the contracting authority must not set out stricter requirements than necessary to meet the needs in the procurement in question. In relation to the requirements on e-accessibility and conformity assessment, this principle means that a balance must be struck between the importance of procuring/assessing accessibility and the resources (personnel, financial resources and administrative burdens) needed for procurement/assessment.
- The principle of *transparency* concerns the contracting authority's obligation to provide information on the procurement and on how it is going to be carried out,

1 Commission interpretative communication on the Community law applicable to contract awards not fully subject to the provisions of the Public Procurement Directives, (2006/C 179/02)

and convey that information to all potential tenderers. Regarding the assessment of how a requirement is complied with, transparency is ensured by referencing/using predictable and repeatable assessment procedures, such that anyone running a check would most likely get the same result.

### 7.1.3 E-accessibility and conformity assessment in the Procurement Directives

The Directive encourages procurers to use accessibility criteria when defining the technical specifications of a desired product/service. Article 23, paragraph 1 specifies that:

> "whenever possible these technical specifications should be defined so as to take into account accessibility criteria for people with disabilities or design for all users".

The Directive contains no equivalent to the concept of undue burden. Undue burden is one of the key concepts in the US Section 508 legislation. Undue burden means significant difficulty or expense, which would exempt the contracting authority from pursuing such procurement. In determining whether an action would result in an undue burden, an agency shall consider all agency resources available to the program or component for which the product is being developed, procured, maintained, or used. Even so, the Directive leaves the accessibility criteria largely to the contracting authority's discretion. The words *'whenever possible'* confirm the freedom of choice it is given to trade off costs against accessibility considerations.

Furthermore, both Directives specify general rules on technical specifications and on the acceptance of proof that tenders satisfy the requirements set out in the technical specifications. However, this clause only illustrates the key provisions of the Public Sector Directive.

*"Technical specification"* means the characteristics of a product or service that the contracting authority wishes to buy. Annex VI, paragraph 1b, of the Directive provides a non-exhaustive list of possible technical specifications:

> "the required characteristics of a product or a service, such as quality levels, environmental performance levels, design for all requirements (including accessibility for disabled persons) and conformity assessment, performance, use of the product, safety or dimensions, including requirements relevant to the product as regards the name under which the product is sold, terminology, symbols, testing and test methods, packaging, marking and labelling, user instructions, production processes and methods and conformity assessment procedures;"

The principles applicable to technical specifications (non-discrimination, equal treatment, transparency) are defined in Clause 29 of the preamble:

> "The technical specifications drawn up by public purchasers need to allow public procurement to be opened up to competition. To this end, it must be possible to submit tenders which reflect the diversity of technical solutions.
>
> "The technical specifications should be clearly indicated, so that all tenderers know what the requirements established by the contracting authority cover."

Article 23, paragraph 1 specifies that technical specifications shall be set out in the contract documentation.

Article 3, paragraph 7 details the application of the mutual recognition principle:

> "contracting authorities shall accept certificates from recognized bodies established in other Member States."

The key rule on technical specifications is stated in art. 23, paragraph 3, of the Directive. This means that contracting authorities are free to formulate e-accessibility and conformity assessment specification by referring, in order of preference, to national standards implementing European standards, international standards, or performance/functional specifications. When there are no European or international standards, contracting authorities *must* formulate the e-accessibility and conformity assessment specifications in performance or functional terms. Where referring to standards, each reference shall be followed by the words "or equivalent".

### 7.1.4 The means of 'proof'

Related to the means of proof, art. 23, paragraph 4, specifies that, where a contracting authority refers to standards, it "cannot reject a tender on the grounds that the products and services tendered for do not comply with the specifications to which it has referred, once the tenderer proves in his tender to the satisfaction of the contracting authority, by whatever appropriate means, that the solutions which he proposes satisfy in an equivalent manner the requirements defined by the technical specifications".

If the contracting authority refers to standards, it must accept functionally equivalent alternatives to the listed standards.

Paragraph 5 specifies the opposite case. Where a contracting authority refers to functional and performance requirements, it cannot reject a tender for products that comply with standards addressing these requirements: "In his tender, the tenderer must prove to the satisfaction of the contracting authority and by any appropriate means that the work, product or service in compliance with the standard meets the performance or functional requirements of the contracting authority".

Both paragraphs 4 and 5 specify that "an appropriate means might be constituted by a technical dossier of the manufacturer or a test report from a recognized body". In paragraph 7, recognized bodies are defined as "test and calibration laboratories and certification and inspection bodies which comply with applicable European standards".

From the Public Sector Directive's definition of technical specification, it appears that a contracting authority may, but does not have to, request proof of compliance with technical specifications in the form of conformity assessments. However, some EC Court decisions (e.g., Unix-case [ECJ, 1995]) lay down that "in order for the criterion to be acceptable, it should be controllable, which would imply that the contracting authority requires – through the submission of certificates for example– elements enabling it to control the information forwarded by the bidder in relation to the criteria." The same rule was confirmed for the award criteria (Wienstrom C-448/01, [ECJ, 2003]). In this context, it is relevant to point out that art. 23, paragraph 7, requires contracting authorities to 'accept certificates from recognized bodies established in other Member States."

Accordingly, the Directive does not exhaustively list the means of proof that a contracting authority may require and does not allow the contracting authority to require one specific means of proof in place of any other appropriate one. This means that each contracting authority must set out its interpretation in order to ensure that the principle of equal treatment is applied.

Therefore, the contracting authority itself may choose to verify whether the tender conforms to the stated requirements, provided that it has the necessary knowledge and equipment to carry out this verification in a way that treats the tenders equally. Where the authority does not have the adequate knowledge and equipment, it can use a consultancy service to carry out the verification.

If the contracting authority does not want to do the verification during the evaluation of the tenders (e.g. because it would be too time-consuming), the authority may state that the supplier should provide proof (i.e. a conformity assessment) of compliance with the requirement in question in the call for tender. The authority may ask for either a first party attestation, a supplier's declaration of conformity or a third party certification as defined in EN ISO/IEC 17000.

Where requirements on conformity assessments are specified, the contracting authority has to respect the same obligations stemming from the Directives of either referring to standards "or equivalent" or formulating these criteria in terms of functions and performance. It follows from art. 23, paragraph 4, that a specific conformity assessment scheme cannot be specified as mandatory. The tenderer has the option of using another method of proof, provided this party can prove to the contracting authority's satisfaction that it yields equivalent results. The CE mark is an exception. The CE mark provides a presumption of conformity with the mandatory essential requirements of the New Approach Directives. Therefore, when the contracting authority decides to buy a product covered by a New Approach Directive requiring the CE marking, it does not need to specify 'or equivalent'.

## 7.2 E-accessibility and conformity assessment in the public procurement procedure

When contracting authorities decide to purchase accessible ICT, they also need to consider the stage in the procurement procedure at which the 'accessibility requirement could legally be most effectively included:

- at the contract documentation stage (during the formulation of the technical specifications);
- at the selection stage (during the formulation of the selection criteria; see clause 10);
- at the award stage (during the formulation of the award sub-criteria);
- at the contract management stage (as contract performance clauses).

Including e-accessibility criteria at such a late stage as the contract management phase is arguably not the most effective manner for the contracting authority to achieve its objectives. Therefore, this part will not be discussed in detail. As clauses 7.1 and 10 detail the integration of accessibility and conformity assessment requirements through specifications and qualification and selection criteria, the following clause will focus only on the use of accessibility and conformity assessment at the award stage (as a sub-criterion for identifying the most economically advantageous tender).

### 7.2.1 E-accessibility at the award stage

Article 53 of Directive 2004/18/EC sets out that the criteria on which the contracting authorities shall base the award of public contracts shall be either:

> (a) when the award is made to the tender most economically advantageous tender from the point of view of the contracting authority, various criteria linked to the subject-matter of the public contract in question, for example, quality, price, technical merit, aesthetic and functional characteristics, environmental characteristics, running costs, cost-effectiveness, after-sales service and technical assistance, delivery date and delivery period or period of completion, or
>
> (b) the lowest price only.

The list of criteria in alternative (a) is not exhaustive. Thus, accessibility can be used as an award criterion provided that it is linked to the subject-matter of the contract. As an award criterion, there is nothing unique about accessibility. The purpose of the award stage in the procurement process is to allow the contracting authority to compare the tenders and assess which tender best meets its needs. The chosen award criteria should help the contracting authority to do this. They should relate to the intrinsic qualities of each of the tenders.

Example:

When a contracting authority procures a web site construction service, it can ask for award criteria related to **accessible ICT;**

What a contracting authority cannot do is require the economic operator to produce **only accessible ICT!** This is because this accessibility requirement has nothing to do with the subject matter of the procurement in question.

Additionally, the technical specifications could be all translated into award criteria. The contracting authority may also decide that any product/service/work performing better than the minimum level can be granted extra points at the award stage, provided that this information was given to the tenderers in the contract documentation.

# 8 An analysis model for public procurement

This clause defines a model for analysing the properties of one public procurement context. This report refers to these properties as "criteria", because they influence the type of conformity assessment scheme that best fits each situation. This model was defined from a study of the current framework of public procurement in the European context. Before dealing with the analysis model, a distinction should be made between acquisition and procurement.

## 8.1 Acquisition vs. procurement

The acquisition process starts with a decision that a problem shall be solved or a need fulfilled by acquiring a product and ends with the product being put into use. The product can be acquired by means of procurement, be developed in-house or by some other means. The procurement process starts with a decision to acquire the product from the market and ends with the signing of a contract with a supplier.

Table 2 shows various steps in the acquisition process, indicating where specification of requirements, evaluation of accessibility and attestation of conformity may take place. The procurement process covers the activities in rows 9 to 18.

Table 2 shows the steps of a procurement procedure for quite complex products. For more straightforward procurements, e.g. procurements of additional software licence units, some steps would be very simple or omitted.

| | **Purchaser activities** | **Supplier activities** | **Specified accessibility requirements** | **Accessibility evaluation process** | **Attestation of conformity** |
|---|---|---|---|---|---|
| 1 | | Development, design, manufacturing, assembly, system integration, … | Requirements may have been adopted in corporate policy or other document | Assessment of conformity to specifications may take place | A supplier's declaration of conformity or a third party certification may be set up depending on market demands. |
| 2 | A need or a problem is detected. A manager decides to take measures. | | | | |
| 3 | Feasibility study. Business needs, user needs are identified. Some technical requirements may be identified. | | Some accessibility requirements identified | | |
| 4 | A concept or solution is determined. Functions, performance and technical requirements are identified. | | Some accessibility requirements identified | | |

| | | | | | |
|---|---|---|---|---|---|
| 5 | Depending on what is available on the market, the purchaser decides to procure products and services or development, or to develop in-house. If development is in-house, this table no longer applies. | | | | |
| 6<br>Where required by the procurement procedure | Pre-qualification of candidates to submit tender. An invitation to participate is produced | | Specification of supplier's required technical capacity and ability as regards accessibility | | |
| 7<br>Where required by the procurement procedure | | Response to the invitation to participate | | | Supplier submits proof of technical capacity and ability, possibly as attestations of conformity |
| 8<br>Where required by the procurement procedure | Responses to invitation are evaluated | | | Verification of supplier's claimed technical capacity and ability | |
| 9 | Call-for-tender is produced, including technical specifications, and sent to suppliers. | | Accessibility requirements are specified. May refer to standards. | | |
| 10 | | Planning of tender. | | | |
| 11 | | Potential tenderer sends specification to subcontractor. | Specified accessibility requirements. Not necessarily the same as in the call-for-tender. The tenderer may need supplementary equipment. | | |
| 12 | | Subcontractors select products and services and offer to tenderer | | | Subcontractor submits declarations or certificates |
| 13 | | Tenderer decides which components to offer | | | |
| 14 | | Tenderer integrates products and services into a package | | Assessment of the whole tender against accessibility requirements specified in the call-for-tender | Tenderer attaches declarations or certificates to the tender |
| 15 | | Tenderer sends tender to the purchaser | | | |
| 16 | Tenders are evaluated | | | Tender is checked for fulfilment of specified requirements | |
| 17 | Negotiation | Negotiation | | | |
| 18 | Award of contract, contract is signed | Contract signature | | | |
| 19 | | Delivery | | | |

| | | | | | |
|---|---|---|---|---|---|
| 20 | | Customization, development, where applicable | | Product, service or work is checked for fulfilment of specified requirements | |
| 21 | Acceptance test | | | Product, service or work is checked for fulfilment of specified requirements | A statement can be used to trigger the payment |

**Table 2.** Steps in the acquisition process

## 8.2 Elements defining the context of public procurement

The context of a public procurement process can be divided into several elements:

- The product to be procured (product includes service, according to ISO 9000);
- The market the product belongs to;
- The public administration procuring the product;
- The users that will be using the product;
- The public procurement characteristics.

In the following clause, a set of criteria is identified for each of these elements. For each criterion, the following items will be detailed: name, description, source and possible values. In addition to these items, some notes may be added.

## 8.3 Product-dependent criteria

The product to be procured defines the following set of criteria:

- **Type of product**: the type of product, as defined in ISO 9000, combined with the applicable CPV codes (Common Procurement Vocabulary [EC, 2002], amended by [EC, 2003])
    - Source: ISO 9000:2000, Regulation 2151/2003 December 16th , 2003.
    - Values: service, software, hardware, processed materials; combined with CPV code(s) in brackets.
    - Note 1: If one procedure covers the procurement of a combination of products, a list of values needs to be put together with a category and a CPV code for each individual element.
    - Example 1: The value for one personal desktop computer should be “Hardware (30213000)”
    - Note 2: The products in Example 2 below can be sold and purchased as a service, i.e. the supplier owns all the hardware and software and manages all updating and maintenance.
    - Example 2: When procuring several personal computers, plus their operating systems and office applications, several printers and the installation and maintenance service, the value of this criterion should be: “Hardware (30213000), Software (30241400, 30241200), Service (50961100, 72254000)”.

- **State of technology**: describes the state of the product's technology on the market. It may be an existing technology, an existing technology applied to a new domain or a completely new technology.
    - Source: project team.
    - Values: existing technology, new technology, existing technology applied to a new domain.
- **Time to market**: the time that a new product is under development before it reaches the market.
    - Source: project team.
    - Values: short (less than six months), medium (between six and twenty-four months), long (more than twenty-four months).
    - Note 1: this criterion is applicable to all product types.
    - Note 2: this criterion is not applicable for procuring products under development (service, software …).
- **Life span**: the time that a product remains on the market before being replaced. Several things may affect life span: legislation, security, user requirements, etc.
    - Source: project team.
    - Values: short (less than six months), medium (between six and twenty-four months), long (more than twenty-four months).
    - Note 1: this criterion is closely related to "time to market" (for instance, if time to market is long then the life span cannot be short, it wouldn't make sense). Not all combinations of time to market and life span are possible.
- **Rate of changes**: how often the product can change (e.g. new features be added) during its use
    - Source: project team.
    - Values: none, low (less than ten changes per year), medium (between ten and fifty changes per year), high (more than fifty changes per year).
    - Note 1: this criterion is not usually applicable to hardware.
    - Note 2: this criterion is only applicable when "adaptability" is "yes".
- **Adaptability**: whether the product can be adapted to better suit the needs of its users. Adaptations can be easy (like user preferences) or hard (like major changes to user interface behaviour) to make.
    - Source: project team.
    - Values: no, yes.
    - Note 1: Closed products, i.e. systems that do not allow users to modify them (apart from adjustment of the user interface) or connect a peripheral, cannot be adaptable. A product may be closed on the grounds of technical limitations (i.e., a mobile phone), intellectual property rights (i.e., patents, closed-source software) or policies (i.e., a computer in a public library that is closed to the installation of software components).

- **Interoperability with assistive technologies**: whether the product can be connected to assistive technologies
  - Source: project team.
  - Values: no, only hardware, only software, both hardware and software.
  - Note 1: this criterion is applicable to all product types.
  - Note 2: for the "only hardware" case, the product should provide means of communication and control by assistive technologies (including connectors, protocols and so on).
  - Note 3: for the "only software" case, the product should be able to provide multimodal communication (for instance, both visual and audible output).
- **Total cost of ownership**: the addition of product-related direct and indirect costs. Not only does it reflect the cost of purchase but also aspects in the further use and maintenance of the equipment, device, or system considered.
  - Source: project team.
  - Values: amount in euros.
  - Note 1: this criterion is applicable to any product type.

## 8.4 Market-dependent criteria

- **Competition**: the degree of product market competitiveness.
  - Source: IDC white paper.
  - Values: none (only one supplier), low (short number of available suppliers, under five), normal (over 5).
  - Note 1: this criterion is applicable to any product type.
- **Market awareness**: level of awareness of accessibility issues among companies, customers and users.
  - Source: IDC white paper.
  - Values: none, low, intermediate, high.
  - Note 1: this criterion is applicable to any product type.
- **Market surveillance**: existence of product conformity assessment after the product goes to the market (see 11.2 for details). This criterion also covers who is responsible for the market surveillance.
  - Source: IDC white paper.
  - Values: none, third-party assessors, consumer organizations, government.
  - Note 1: this criterion is not applicable when procuring products to be developed.
  - Note 2: currently market surveillance is conducted at a national level. See clause 11 for details.
- **Competitor's surveillance**: existence of conformity surveillance performed by the competitors.

  - Source: project team.
  - Values: no, yes.
  - Note 1: this criterion is applicable to any product type.
  - Note 2: See clause 11 for details.

- **Barriers to trade**: whether the assessment of accessibility could generate barriers to trade by promoting local suppliers.
  - Source: IDC white paper.
  - Values: no, yes.
  - Note 1: this criterion is applicable to any product type.

- **Independent expertise on accessibility**: whether there is expertise on product accessibility and accessibility conformity assessment. This expertise has to be independent of suppliers and manufacturers for accessibility requirements to be defined for public procurement.
  - Source: project team.
  - Values: no, yes.
  - Note 1: this criterion is applicable to any product type.

- **Size of product suppliers**: the type of enterprises dominating the marketplace by size. SMEs and big worldwide companies do not all have the same resources for conducting conformity assessments. Remember that at least 95 per cent of the enterprises in the EU are SMEs.
  - Source: project team.
  - Values: Micro enterprises (less than 10 employees), small enterprises (less than 50 employees), medium enterprises (51 – 250 employees), big enterprises (251 employees or more), mixed (variability of sizes).
  - Note 1: this criterion is applicable to any product type.

## 8.5 Public administration-dependent criteria (contracting authority)

- **Public task**: the tasks of the public administration. They can be driven by policy, execution or control.
  - Source: project team.
  - Values: policy, execution, control.

- **Geographical focus**: the geographical level of competence of the contracting authority: local, regional, Member State or European.
  - Source: project team.
  - Values: local, regional, Member State, European.

- **In-house expertise on accessibility**: whether the procurer has expertise for evaluating suppliers' accessibility claims in-house.
  - Source: project team.

- Values: no/yes.
- Note 1: this criterion is related to “independent expertise on accessibility” under “market-dependent criteria”. If there is no expertise on the market, then the contracting authority is unlikely to have in-house expertise.

- **Legal requirements**: whether the public administration has to comply with accessibility-related legal requirements.
  - Source: project team.
  - Values: no/yes.
  - Note 1: not all the public administrations have to comply with accessibility requirements (for instance, small local authorities may not have to procure accessible ICT products).
  - Note 2: this criterion depends on the type of product. Legal requirements for different products vary.
  - Note 3: the value can also describe what the legal requirements are.

## 8.6 User- dependent criteria

- **Risk of harm**: level of potential risk of producing adverse effects on users. In this report the 'risk-of-harm' criteria is related only to accessibility-based adverse effects, and not to safety regulations.
  - Source: IDC white paper.
  - Values: low, intermediate, high.
  - Note 1: in the accessibility context and for ICT products the risk of physical harm is generally low, except for photosensitive epilepsy.
  - Note 2: on the contrary, the risk of economic harm can be high. For instance, a person with disabilities could lose his or her job due to the implementation of new non-accessible tools.

- **Risk of social exclusion**: the risk of a non-accessible ICT product producing social exclusion of users with disabilities, because there are no alternatives.
  - Source: ANEC, CEAPAT, project team.
  - Values: low, intermediate, high.
  - Note 1: the value of this criterion depends on the existence of alternatives for users and on the accessibility of these alternatives.

- **Confidence**: the users’ level of confidence in accessibility attestations.
  - Source: project team.
  - Values: low, intermediate, high.
  - Note 1: this criterion indicates whether the users are confident about accessibility declarations (for instance, the confidence in web sites is low).

## 8.7 Public procurement characteristics-dependent criteria

- **Type of procurement**, according to Hommen's matrix [Hommen]: direct procurement (based on needs intrinsic to the procuring organization, e.g. e-government services), cooperative procurement (based on shared needs, congeneric to multiple users, e.g. energy efficient lighting or buildings), catalytic procurement (based on needs extrinsic to the procuring organization, i.e. needs of other users, e.g. new sustainable technologies).
    - Source: project team.
    - Values: direct, cooperative, catalytic.
- **Type of procedure**: the type of public procurement process, from direct purchase to fully fledged procurement.
    - Source: project team.
    - Values:
        - When the procurement is above the threshold amount defined by the directives: open procedure, restricted procedure, negotiated procedure, contract following a framework agreement, competitive dialogue, dynamic purchasing system.
        - When the procurement is below the threshold amount: direct (small procurements without call-for-tender or tender from one supplier), limited number of invited suppliers, call-for-tender open to any supplier.
    - Note 1: the typical values for procurement above the threshold are open and restricted procedure. The other values are exceptional processes to be used in specific situations.
    - Note 2: the values for procurement below the threshold are extremely difficult to generalize because they depend on national legislation. The above values are just a suggestion.
- **Electronic procurement**: whether or not the procurement is electronic. Electronic procurements have specific characteristics and should be analysed separately. There are electronic procurements both below and above the threshold amount.
    - Source: project team.
    - Values: no, yes.
- **Prior existence of the product**: whether the product to be procured exists on the market or has to be developed.
    - Source: project team.
    - Values: no, yes.
    - NOTE 1: if the product has to be developed ( "no" value), then the procurement is for the service of developing the product. In this case, the values for the criteria of the "product-dependent" criteria will be related to the result instead of the development service.

- **Number of units**: the number of product units (or licences) to be procured. This information is part of the needs analysis performed in preparation for public procurement.
    - Source: project team.
    - Values: low, medium, high.
    - Note 1: quantitative values (i.e. number of units) can be used instead of the qualitative values.
    - Note 2: if the product has to be developed then the amount of units is typically one (qualitative value “low”).
- **Budget**: the amount of money that the procurer is expecting to invest.
    - Source: project team.
    - Value: budget in euros.
    - Note 1: qualitative values can be used, based on the thresholds defined by the European Union (see art. 7, Directive 2004/18/EC and art. 16, Directive 2004/17/EC for the latest values) or by Member States
    - Note 2: the budget is related to the type of procurement, depending on the thresholds.
    - Note 3: the relevance of this criterion is that the cost of the procurement, including – where applicable – the customer’s conformity assessment cost, should not exceed a percentage of the purchase sum. For example, if the cost of a software package is 100 000 euros, it is not reasonable to spend 30 000 euros on conformity assessment activities.
- **Liability and accountability**: whether the supplier is liable for not providing an accessible product (risk mitigation procedure…)
    - Source: IDC white paper, project team.
    - Values: no, yes.
    - Note 1: Liability for accessibility issues is presumed not to exist in all cases.
    - Note 2: Worthy of note is the cost of sanctions.

# 9 Scenarios

The intention of this clause is to apply the analysis model of the procurement contexts (the criteria), as described in clause 3. These scenarios detail the influence of the criteria of the public procurement contexts on the dimensions of conformity assessment systems. The scenarios were selected to cover four different procurement cases:

- A set of units of desktop laser printers, which is a procurement of off-the-shelf products
- A frame contract for mobile communication, including a set of units of mobile phones, which is a procurement of a service including off-the-shelf products
- Development of a web site, which is a common procurement case
- A road traffic management system, which is a complex object of procurement.

In all four cases, accessibility requirements need to be stated and conformity assessment carried out.

The descriptions below focus on accessibility-related issues, without going into details over other technical specifications that should be defined for a complete description of the scenarios.

The scenarios below are merely illustrative. The intention is to show how the criteria are used within the decision-making process and the type of recommendations they output concerning the best conformity scheme to adopt. Note that this reasoning is only illustrative and has not been subjected to formal development and evaluation.

Notice also that, according to clause 7, tenderers have the option of using another method of proof as long as they can demonstrate that it produces equivalent results. So, even though the scenarios recommend conformity assessment systems or schemes, the public procurer should accept alternative means of proof.

## 9.1 Procurement of desktop laser printers units

### 9.1.1 Description

This scenario consists of the procurement of 50 desktop laser printers by a Spanish regional parliament. The laser printers will be used by the employees of the contracting authority. Maintenance-related activities (like changing the toner) will be done by the contracting authority's IT people.

The laser printers will be monochrome printers with double-sided printing and without network connection (meaning that they have to be connected directly to computers).

The regional authority employs a small percentage of people with disabilities, but this number is likely to change in the future, due to the local authority's legal obligation to employ a percentage of people with disabilities.

The contracting authority is not under a legal obligation to procure accessible desktop laser printers. But these devices will have to be used by all the employees. For this reason, the contracting authority has established that the procurement should conform to the relevant requirements taken from the European standard on accessibility requirements for public procurement of ICT. This means that this hypothetical scenario

take place after Phase 2 of Mandate M/376 is finished. The accessibility requirements taken from the European standard are stated as part of the technical specifications.

This scenario makes a distinction between manufacturers and suppliers. Manufacturers of laser printers are big companies that participate in a global market. Suppliers (resellers of laser printers) may be of different sizes, including SMEs, as any small supplier of computing products should easily be able to provide 50 laser printers.

### 9.1.2 Values assigned to the public procurement criteria

| **Product** | | |
|---|---|---|
| Type of product | Hardware (30213000) | This is the CPV code for printers. |
| State of technology | Existing technology | The technology used in the system already exists. |
| Time to market | Medium | Laser printers usually take more than 6 months to market. |
| Life span | Long | Laser printers are used for a long time. |
| Rate of changes | None | Laser printers do not change during their life time. |
| Adaptability | No | Laser printers cannot be adapted. |
| Interoperability with AT | Only software | The laser printer driver software should be interoperable with AT. |
| Total cost of ownership | 2,000 € per unit | The cost includes the price of the printer and an estimate of the toner needed during the printer's lifetime. This cost may be bigger if the printer is used a lot. |
| **Market** | | |
| Competition | Normal | There are more than 5 laser printer suppliers. |
| Market awareness | • Manufacturers: low<br>• Suppliers: none | Manufacturers have a low level of awareness of accessibility issues, mostly related to the US Section 508 requirements.<br>Local suppliers have no awareness of accessibility at all. |
| Market surveillance | None | There is no market surveillance for accessibility-related requirements. |
| Competitor's surveillance | No | Competitors do not carry out surveillance of accessibility requirements. |
| Barriers to trade | Yes | Given that the contracting authority is using European requirements, there is a risk of market fragmentation regarding a globalized market. |
| Independent expertise | Yes | There is independent expertise on the accessibility issues of laser printers. |
| Size of suppliers | Mixed | Suppliers of laser printers can be of various sizes. |
| **Contracting authority** | | |
| Public task | Policy | It is the regional parliament. |
| Geographical focus | Regional | See above. |
| In-house expertise | No | There is no in-house expertise on accessibility. |
| Legal requirements | No | There are no legal requirements for procuring accessible ICT, but the contracting authority has to provide support for its employees. |

| | | |
|---|---|---|
| **Users** | | |
| Risk of harm | Low | Risk of harm using a laser printer is very low. |
| Risk of social exclusion | Low | There is almost no risk of social exclusion in the workplace due to limitations in the use of the printer. |
| Confidence | Low | There is not much knowledge of peripherals accessibility and thus the confidence level in accessibility attestations is low. |
| **Public procurement** | | |
| Type of procurement | Direct | It is direct procurement. |
| Type of procedure | Limited number of invited suppliers | It is a procurement below the threshold. In Spain, for this amount of money, only three competitors' offers are required. |
| Electronic procurement | No | It is not an electronic procurement. |
| Prior existence of the product | Yes | The laser printers exist prior to the procurement. |
| Number of units | Medium | It is a procurement of 50 units. |
| Budget | 12,000 € total | This is an estimate based on current laser printer prices. |
| Liability and accountability | No | No specific liability and accountability mechanisms exist for accessibility issues. |

### 9.1.3 Recommended values for the dimensions of conformity assessment

#### 9.1.3.1 Dimensions for the selection function

- **Type of requirements** = European standard (EN resulting from Phase 2 of M/376). In this case the accessibility requirements are part of the technical specifications. This value for the dimension is consistent with the following criteria:
    - *Type of product*: computer peripherals, like printers, should be covered by the EN standard.
    - *State of technology*: the technology currently exists and thus the requirements stated in the EN standard are valid.
    - *In-house expertise*: the non-existence of in-house expertise favours the adoption of standardized requirements, in this case a European standard (an international one would be preferable, but it is not considered to exist for this scenario).
- **Scalability** = no. Desktop laser printers are simple devices from the point of view of user interaction and thus a detailed determination process can be applied. This value for scalability is consistent with:
    - Type of product: as mentioned above, desktop laser printers are simple devices.

#### 9.1.3.2 Dimensions for the determination function

- **Method of determination** = mixed. Given the features of laser printers, a combination of inspection and testing is required. Some accessibility requirements can be inspected (such as buttons having a non-slippery surface), whereas others require some testing (colour, brightness and contrast should be

adjustable so as to adapt to background conditions). This value for the dimension is consistent with the following criteria:

- *Type of product*: most accessibility features of laser printers can be inspected, but testing is required for some of the accessibility requirements.
- *Rate of changes*: as the interactive elements of laser printers do not change during their use, inspection can be safely applied.
- *Adaptability*: as laser printers do not change, inspection can be safely applied.
- *Interoperability with AT*: laser printers are connected to AT through the printer drivers. Inspection can be used to look for accessibility information, but testing is required to demonstrate compatibility with AT.
- *Independent expertise*: both inspection and testing can be carried out, as there is independent expertise.
- *In-house expertise*: there is no in-house expertise, in which case the results of inspection are easier to interpret and accept.
- *Prior existence of the product*: as the product exists prior to the public procurement process, the determination can be done before the public procurement starts and both inspection and testing can be applied.

- **External determination** = yes. Confidence in attestations is low, and an external determination could raise this confidence. Note that, in this scenario, the determination is the responsibility of the manufacturer rather than the supplier. This value for the dimension is consistent with the following criteria:
  - *Confidence*: confidence in accessibility attestations is low. An external determination could raise this confidence.
  - *Independent expertise*: as there is independent expertise it is possible to run an external determination.
- **Type of party** = third (C). There are no strict requirements on the external party performing the determination activities being fully independent. Thus, any type of third party (A, B or C) would be good enough. Consequently, the recommended value is the least restrictive (C). This value for the dimension is consistent with the following criteria:
  - *Confidence*: confidence in accessibility attestations is low. Any external determination could raise this confidence, even if the organization doing the determination is not fully independent.
  - *Independent expertise*: as there is independent expertise, it is possible to have any type of third party do the external determination.

#### 9.1.3.3 Dimensions for the review and attestation function

- **Type of party** = first (manufacturer). An attestation provided by the manufacturer is enough in this case. Criteria that influence this dimension are:

- *Type of product*: laser printers are manufactured by large organizations that can provide first party attestations with a confidence level equal to the confidence that customers have in the manufacturer.
- *State of technology*: it is a current and well-tested technology whose accessibility can be attested by the manufacturer.
- *Time to market*: as laser printers have a medium time to market, a first party conformity activity on accessibility can easily be integrated into the product's development process.
- *Life span*: as laser printers have a long life span, the first party attestations of accessibility will remain valid for a long time, and can be reused over time for other public procurements.
- *Rate of changes*: as laser printers do not change, the manufacturer can provide a first party attestation that will remain valid over time.
- *Independent expertise*: as there is independent expertise, manufacturers can find people with enough experience to perform the accessibility attestations.
- *Confidence*: the fact that the manufacturers are big organizations inspires confidence in their results and is likely to raise the low confidence level.
- *Prior existence of the product*: the product exists prior to the procurement and thus the manufacturer can provide first party attestations before the procurement process begins.

- **Detail of attestation** = detailed (human). The attestations have to be detailed for comparison by the procurers, but, as there are not many invited suppliers, it is enough to have human-readable detailed attestations. Criteria that influence this dimension are:
  - *Type of product*: the accessibility features of laser printers can be fully documented.
  - *Independent expertise*: there is independent expertise, which implies that the contracting authority can hire external experts to analyse the detailed attestations.
  - *In-house expertise*: as there is no in-house expertise, a detailed attestation helps the procurer to analyse the accessibility features of the printers.
  - *Confidence*: the low level of confidence can be improved if the attestations provide detailed information.
  - *Type of procedure*: the limited number of invited suppliers eases the comparison of the accessibility features described in a detailed human-readable attestation.
- **Publicity** = yes. The attestations of accessibility have to be made public for the procurers. Criteria that influence this dimension are:
  - *Type of product*: laser printers are products that exist on the market prior to procurement. In this case the manufacturers can produce early accessibility attestations that, if made public, could improve the effectiveness and efficiency of the public procurement process.

- *Rate of changes*: as laser printers do not change over time, the accessibility attestations remain valid and can be made public when a new product hits the market.
- *Independent expertise*: as there is independent expertise, public accessibility attestations can be subject to independent surveillance.
- *Confidence*: making the attestations public could raise confidence in the accessibility features of the laser printers.

#### 9.1.3.4 Dimensions for the surveillance function

- **Existence** = no. Laser printers do not change and thus surveillance is not required. Criteria that influence this dimension are:
  - *Type of product*: laser printers, like many hardware products, do not change over time, and so surveillance is not needed.
  - *Life span*: laser printers are used unchanged for a long time and thus surveillance on accessibility features is unnecessary.
  - *Rate of changes*: as laser printers do not change over time, surveillance is not required.
  - *Adaptability*: as laser printers cannot be adapted, the accessibility attestations continue to be valid over time, and thus surveillance is not needed.
  - *Interoperability with AT*: as interoperability is based on software only and the features of the printers do not change, surveillance of accessibility attestations is not required.
- **Complaint system** = no. A complaint system is not needed in this case, mainly because of the low level of risk of harm and social exclusion. Criteria that influence this dimension are:
  - *Competition*: as the level of competition is normal, a complaint system is not required. This complaint system would have been helpful if there were a low level of competition.
  - *Market surveillance*: there is no market surveillance that could benefit from a conformity assessment complaint system.
  - *Competitor's surveillance*: there is no competitor's surveillance that could benefit from a complaint system.
  - *Legal requirements*: there are no legal requirements, so a complaint system is not required.
  - *Risk of harm*: the risk of harm is very low, meaning that there is no need for a complaint system.
  - Risk of social exclusion: the risk of social exclusion is also low, and thus a complaint system on accessibility features is unnecessary.

#### 9.1.3.5 Other dimensions

- **Mandatory** = no. The conformity assessment system does not need to be mandatory because there are no legal requirements and because there is a low risk of harm and social exclusion. Criteria that influence this dimension are:

- *Legal requirements*: there are no legal requirements so the conformity assessment system or scheme can be voluntary.
- *Risk of harm*: the risk of harm is very low, meaning that there is no need for a mandatory conformity assessment system or scheme.
- *Risk of social exclusion*: the risk of social exclusion is also low, and thus the conformity assessment system or scheme can be voluntary.

#### 9.1.3.6 Summary table

The above discussion has produced a recommended value for each conformity assessment system and scheme dimension, as summarized in the table below.

| **Selection** | |
|---|---|
| Requirements | European standard (result of Phase 2 of M/376) |
| Scalability | No |
| **Determination** | |
| Method of determination | Mixed |
| External | Yes |
| Type of party | Third (C) |
| **Review and attestation** | |
| Type of party | First (manufacturer) |
| Detail of attestation | Detailed (human) |
| Publicity | Yes |
| **Surveillance** | |
| Existence | No |
| Complaint system | No |
| **Other** | |
| Mandatory | No |

### 9.1.4 Recommended conformity assessment system

Once the recommended values for the dimensions have been specified, a pattern-matching process can be applied to the existing conformity assessment systems and schemes described in clause 6 (mainly clauses 6.1 and 6.2). A system or scheme matches the recommended dimensions when the following conditions apply:

- None of the dimensions of the system or scheme marked as “not specified” are taken into account.
- All the other dimensions have values that agree with or do not contradict the recommended values of the scenario.

For this scenario, none of the existing conformity assessment schemes in clause 6.2 can be applied, either because they do not deal with hardware or because they do not use the EN standard as requirements. For this reason, this scenario only matches up with the general conformity assessment systems detailed in clause 6.1.

The following systems match this scenario:

- *Generic first party assessment*, because the recommended value for the type of party (review and attestation) is first.
- *Supplier’s declaration of conformity*, because the value for the type of party (review and attestation) matches the recommended value and because the values

for method of determination and detail of attestation do not contradict the recommended values.

The other generic conformity assessment systems (generic second party, generic third party, inspection, product certification and UWEM) do not match the recommended values for the dimensions.

Given the above reasoning, the decision should be to consider the most comprehensive of the conformity assessment systems that match the scenario. In this case it is the supplier's declaration of conformity (based on ISO/IEC 17050). As the recommended values of the dimensions are not defined in the generic SDoC, the preferred conformity assessment system should include the requirements of the SDoC, plus third party determination made by external laboratories.

## 9.2 Procurement of a frame contract for mobile communication, including a number of mobile phone units

### 9.2.1 Description

This scenario consists of procuring a frame contract for mobile communication for 200 to 250 employees of a local authority (one big municipality). The mobile phones will be used by the employees of the contracting authority as substitutes for the existing fixed phones for phone and e-mail services. The procurement includes a number of mobile phones, where each employee is allowed to select a phone from a given set of devices.

The local authority employees include people with disabilities (visually impaired, blind, hearing impaired and persons with dexterity limitations). The number of employees with disabilities is likely to change in the future, as the local authority is under a legal obligation to engage a percentage of people with disabilities. The type and degree of impairment of the new employees is, of course, completely unknown.

The contracting authority is under no legal requirement to procure accessible mobile phones. But these devices will substitute the traditional fixed phones and will have to be used by all the employees. For this reason, the contracting authority has established a set of accessibility requirements supporting the different types of impairment. For example:

- Voice-based control of the main functionalities, especially for making calls.
- Speech output of relevant on-screen information and menus.
- Speech output of the content of SMS, MMS and other types of messages.
- Capacity to connect auxiliary equipment such as headsets (earphones and microphones), inductive amplifiers, external screens or external keyboards.
- High-contrast screen with the possibility of displaying large fonts and with user preferences on colours and font sizes.
- Itemized bill in accessible electronic format.

### 9.2.2 Values assigned to the criteria of public procurement

| **Product** | | |
|---|---|---|
| Type of product | Service + hardware (mobile-telephone service: 64212000-5, mobile | It is a customized service including different types of off-the-shelf mobile communication devices. |

| | | |
|---|---|---|
| | telephones: 32250000-0) | |
| State of technology | Existing technology | The technology used in the system already exists and is in widespread use. |
| Time to market | Short | The service's time to market is very short: it is a pre-configured system, which is customized in a few hours.<br>The mobile phones also have quite short development times, and new models appear quickly. |
| Life span | Medium | The service contract will be re-negotiated every two years.<br>The mobile phones have a short life span. |
| Rate of changes | Low | No changes in the service expected within two years, but probably major changes in the availability of mobile devices. In any case, no changes are expected in acquired mobile phones. |
| Adaptability | Yes | Of course employees may change the profiles of the mobile devices in accordance with their individual preferences. |
| Interoperability with AT | Both hardware and software | The mobile phones have to provide interoperability with software AT (e.g. screen readers) and with hardware AT (e.g. Bluetooth controller).<br>Persons with disabilities will require training to use AT. |
| Total cost of ownership | 100,000 € total | Approximately 100,000 €, including devices, phone calls, etc. |
| **Market** | | |
| Competition | Normal | About 15 competitors are able to provide the service. |
| Market awareness | High | Telecommunication providers are pretty well aware of accessibility issues. |
| Market surveillance | Consumer organizations | Accessibility requirements are well developed and are tested in practice for all telecommunication devices and disability types. Consumer organizations perform market surveillance of mobile phone features, including accessibility. |
| Competitor's surveillance | Yes | The network providers are highly dependent on the commitment of the manufacturers of mainstream devices and existing technology and, in some cases, of specialized developments (SMEs). |
| Barriers to trade | Yes | The contracting authority has defined its own set of specific accessibility requirements. |
| Independent expertise | Yes | Accessibility requirements are completely known by network providers and manufacturers. |
| Size of suppliers | Big | Only the well-known network providers will be able to offer the requested services. |
| **Contracting authority** | | |
| Public task | Execution and | A local authority (one big municipality) |

| | | |
|---|---|---|
| | control | |
| Geographical focus | Local | See above |
| In-house expertise | Yes | In-house expertise held by employees with impairments (at least private expertise). |
| Legal requirements | No | The contracting authority has no legal obligation to procure accessible mobile phone services. |
| **Users** | | |
| Risk of harm | Low | Non-successful operations do not constitute a significant risk. |
| Risk of social exclusion | High | If the system is not accessible employees cannot work efficiently. |
| Confidence | High | User confidence in declarations of accessibility in this domain is high (thanks to their own experience). |
| **Public procurement** | | |
| Type of procurement | Direct | It is direct procurement. |
| Type of procedure | Open procedure | It is a simple customized out-of-the-box service. |
| Electronic procurement | Yes | The procurement can be done electronically. |
| Prior existence of the product | Yes | The product (both the mobile phones and the phone service) exist prior to public procurement. |
| Number of units | Medium | It is a simple system (with 200 mainstream-devices selected from a set of five models). |
| Budget | 100.000 € total | Contract time two years. |
| Liability and accountability | Yes | Helpdesk required. |

### 9.2.3 Recommended values for the dimensions of conformity assessment

#### 9.2.3.1 Dimensions for the selection function

- **Type of requirements** = other (the requirements are defined by the contracting authority). Lots of guidelines and individual test reports are available, most of them focusing on a certain type of disabilities. Most companies have developed internal accessibility guidelines, but there are no international or European standards defining accessibility requirements for mobile phones and mobile communications. This value for the dimension is consistent with the following criteria:
    - *Type of product*: there are no international or European standards providing guidance on the accessibility of mobile phones and mobile communications.
    - *State of technology*: the technology currently exists and checks can be run to find out if the requirements stated by the contracting authority can be met.
    - *In-house expertise*: the existence of limited in-house expertise enables the adoption of non-standardized requirements, which can be verified by the employees with disabilities.
- **Scalability** = yes. Scalability is needed, given the many functions that current mobile phones can provide to their users and given the diversity of contexts of use for mobile communications. This value for scalability is consistent with:

- *Type of product*: today, mobile phones provide a great many functions that have to be tested for accessibility. In addition, mobile communications can take place in any situation. This complexity implies that a scalable conformity assessment scheme is needed.
- *Adaptability*: mobile phones provide some degree of adaptability. This increments the complexity of accessibility conformity assessment.
- *Interoperability with AT*: the mobile phones should provide interoperability with both software and hardware AT. This also increases the conformity assessment complexity.

#### 9.2.3.2 Dimensions for the determination function

- **Method of determination** = mixed. Testing is the most relevant method in this case, but some inspection is also useful. This value for the dimension is consistent with the following criteria:
  - *Type of product*: most mobile phone accessibility features should be tested, although inspection can be applied for some of the accessibility requirements (such as having a tactile mark on the '5' key).
  - *Rate of changes*: once built, the functionality of mobile phones almost never changes, and thus both inspection and testing can be safely applied.
  - *Adaptability*: some aspects of the user interface of mobile phones can be adapted. This is one of the reasons why testing is more applicable than inspection.
  - *Interoperability with AT*: the accessibility of the mobile phones has to be tested in combination with the respective software and hardware AT.
  - *Independent expertise*: as there is independent expertise, both inspection and testing can be carried out.
  - *In-house expertise*: there is limited in-house expertise, in which case both the results of testing and inspection can be interpreted and accepted.
  - *Risk of social exclusion*: testing is required to minimize the risk of holding back the work of employees with disabilities.
  - *Prior existence of the product*: as the product and service exists prior to the public procurement process, the determination can be done before the public procurement starts, and thus both inspection and testing can be applied.
- **External determination** = not specified. The determination can be provided by the manufacturer instead of the network provider. It can also be provided by external organizations such as consumer organizations. So there is no preferred value for this dimension. This is consistent with the following criteria:
  - *Independent expertise*: as there is independent expertise either external or internal determination is possible.
  - *Confidence*: user confidence in accessibility declarations is high in this domain and thus the determination can be either internal or external.

- **Type of party** = not specified. The determination can be provided by the manufacturer instead of the network provider. It can also be provided by external organizations such as consumer organizations. So there is no preferred value for this dimension. This is consistent with the following criteria:
    - *Independent expertise*: as there is independent expertise external or internal determination by any type of party is possible.
    - *Confidence*: user confidence in declarations of accessibility is high in this domain and thus the type of party performing the determination is irrelevant.

#### 9.2.3.3 Dimensions for the review and attestation function

- **Type of party** = first. Given the low complexity, small size and small budget, third party certification of the accessibility of the system components is not affordable and not economically justifiable. Criteria that influence this dimension are:
    - *Type of product*: the object of procurement is a combination of a service (mobile communications) and devices (the mobile phones). The suppliers can provide self-declarations of the accessibility of both the service and the devices.
    - *State of technology*: it is a current and well-tested technology whose accessibility can be attested by the supplier.
    - *Time to market*: as mobile phones have a short time to market, an external conformity activity is likely to cause delays in the process.
    - *Life span*: as the life span of the mobile phones is short, new conformity assessments will be needed for any new device offered throughout the duration of the contract. An external assessment would be difficult to apply in this context.
    - *Rate of changes*: once sold, mobile phones do not change and the accessibility attestations provided by the supplier will be valid for as long as the device is in use.
    - *Market awareness*: as telecommunications providers are well aware of accessibility issues, they have implemented accessibility assessment as part of the development cycle of mobile devices, and they are capable of producing first-part accessibility attestations.
    - *Independent expertise*: as there is independent expertise, suppliers can hire or train people to perform in-house assessments of accessibility.
    - *Size of suppliers*: the suppliers are big companies that can easily incorporate accessibility assessment into the development process, with no noticeable increase in cost.
    - *In-house expertise*: employees with disabilities can help to check the declarations of conformity provided by suppliers.
    - *Legal requirements*: there is no legal requirement to specify that external assessments should be used.

- *Risk of harm*: the risk of harm is low and thus a first party attestation is enough.
- *Risk of social exclusion*: even though the risk of social exclusion is high, possibly suggesting a need for external evaluation, all the other criteria indicate that a first party attestation is good enough in this case.
- *Confidence*: user confidence in first party declarations of accessibility is high. This suggests that no external assessment is needed.
- *Prior existence of the product*: the product exists prior to the procurement and thus the supplier can provide first party attestations before the procurement process begins.
- *Budget*: the budget is low (well below the threshold for the application of the Public Procurement Directives), which is an obstacle to incorporating external assessment activities.

- **Detail of attestation** = detailed (human). The attestations have to be detailed for comparisons by the procurers. However, given the diversity of mobile communication solutions, the competing proposals will be different and machine-readable attestations will not be useful for comparing the proposals. Criteria that influence this dimension are:
  - *Type of product*: the accessibility features of mobile phones can be fully documented.
  - *Market awareness*: suppliers are well aware of accessibility issues and can provide detailed information on the accessibility features of mobile communication services and devices.
  - *Independent expertise*: there is independent expertise, which implies that the contracting authority can hire external experts to analyse the detailed attestations.
  - *Risk of social exclusion*: as the risk is high, it is very important for the procurer to be able to choose the most accessible solutions. This decision can be supported by the evidence contained in a detailed accessibility attestation.
  - *In-house expertise*: employees with disability can participate in the task of comparing the detailed accessibility attestations.
  - *Confidence*: the existing high level of confidence suggests that a detailed attestation may not be needed to raise confidence, but it is still needed to provide a good basis for comparing the competing offers.
  - *Type of procedure*: in an open procedure, a detailed accessibility attestation can guarantee the contracting authority's objectiveness when comparing the competing tenders.
- **Publicity** = yes. For most communication devices evaluation reports published by user organizations (disabled or consumer organizations (e.g. Germany's Stiftung-Warentest)) are available. Criteria that influence this dimension are:
  - *Type of product*: mobile phones can be evaluated by consumer organizations as they hit the market.

- *Rate of changes*: as mobile phones do not change over time, the accessibility attestations remain valid and can be made public when a new product hits the market.
- *Market surveillance*: consumer organizations perform market surveillance on mobile phone features, including accessibility, and they publish the results as evaluation reports.
- *Competitor's surveillance*: as there is competitor surveillance, they make accessibility information public to gain a competitive edge.
- *Independent expertise*: as there is independent expertise, public accessibility attestations can be subject to independent surveillance.
- *Risk of harm*: even though the risk of harm is low, public attestations of accessibility make it easier for the contracting authority to detect and define any risk stemming from incorrect device use.
- *Risk of social exclusion*: the risk of social exclusion is high, which suggests that accessibility attestations should be made public to make sure that all the stakeholders are aware of the accessibility issues concerning the different mobile phones offered as part of the contract.
- *Confidence*: confidence is already high, and can be maintained at that level if the accessibility attestations are made public.

#### 9.2.3.4 Dimensions for the surveillance function

- **Existence** = no. Expected system lifetime is two years. Replacement of devices is not expected during this period. Criteria that influence this dimension are:
  - *Type of product*: mobile phones, like many hardware products, do not change over time and so surveillance is not needed.
  - *Time to market*: the time to market of new mobile phones means that these devices are not repaired or changed over time, but are replaced by new models when needed. Thus, surveillance is unnecessary.
  - *Life span*: mobile phones have a short life span and are replaced by a new model. Thus, surveillance on accessibility features is not needed.
  - *Rate of changes*: as mobile phones do not change over time, surveillance is not required.
  - *Adaptability*: users can make simple adaptations by changing user preferences. These adaptations do not alter the product, and surveillance is not needed.
  - *Interoperability with AT*: interoperability with AT has to be built into the mobile phones before they go on the market. So the features of the phones do not change, and surveillance of accessibility attestations is not required.
  - *In-house expertise*: changes in the accessibility features of the object of assessment are unlikely. But if a change did take place, the existence of in-house expertise would enable the contracting authority to directly assess the impact of that change on the accessibility features. Thus a formal surveillance as part of the assessment method is not required.

- *Legal requirements*: as there are no legal requirements for accessibility, there is no need to establish a surveillance step in the conformity assessment.
- *Risk of harm*: as the risk of harm is low, there is no need for surveillance of the original accessibility attestations.
- *Risk of social exclusion*: the risk of social exclusion is high, and this suggests a need for surveillance. However, the products do not change over time, and this makes surveillance a non-issue in this scenario.
- *Prior existence of the product*: the mobile phones existed before the public procurement and will undergo no changes during their use. For this reason, a surveillance activity is not needed.

- **Complaint system** = no. The requested helpdesk will fulfil this function. Criteria that influence this dimension are:
  - *Type of product*: although telecommunications services would benefit from complaint systems (as telecommunications services are typically the services about which most complaints are received from consumers), the risk of problems related to accessibility features is low, and thus an accessibility-specific complaint system is not needed.
  - *Time to market*: the time to market of new models of mobile phones is short, and the helpdesk can easily offer new devices to solve the accessibility issues raised by users.
  - *Life span*: the contract is to be re-negotiated every two years. If there are problems, a better option would be to change supplier rather than set up a complaint system.
  - *Rate of changes*: no changes are expected in the service and thus if everything works in the first place, a complaint system is not needed.
  - *Competition*: as the level of competition is normal, a complaint system is not required.
  - *Market surveillance*: the existing market surveillance performed by consumer organizations will not benefit from a conformity assessment complaint system.
  - *Competitor's surveillance*: there is competitor's surveillance, but, given the characteristics of the products and the market, it will not benefit from a complaint system.
  - *Size of suppliers*: suppliers are big companies that can offer a helpdesk service that minimizes the need for a complaint system.
  - *Legal requirements*: there are no legal requirements so a complaint system is not required.
  - *Risk of harm*: the risk of harm is very low, making a complaint system unnecessary.
  - *Risk of social exclusion*: the risk of social exclusion is high, but the helpdesk should be sufficient to deal with issues raised by the users.

- *Confidence*: user experience has made them very confident in the accessibility declarations. For this reason, the users do not think that a complaint system is needed.
- *Liability and accountability*: a helpdesk is required as part of the contract. This helpdesk will handle issues raised by the users, minimizing the need for a complaint system.

#### 9.2.3.5 Other dimensions

- **Mandatory** = no. The conformity assessment system does not have to be mandatory because there are no legal requirements and there is a low risk of harm. Criteria that influence this dimension are:
  - *Legal requirements*: there are no legal requirements so the conformity assessment system or scheme can be voluntary.
  - *Risk of harm*: the risk of harm is very low, and this implies that there is no need for a mandatory conformity assessment system or scheme.
  - *Risk of social exclusion*: the risk of social exclusion is high, but this criterion alone is not enough to require a mandatory conformity assessment system.
  - *Confidence*: user confidence in the accessibility declarations offered by the suppliers is high. A mandatory assessment system is unlikely to improve this situation.

#### 9.2.3.6 Summary table

The above discussion has produced a recommended value for each conformity assessment system and scheme dimension, as summarized in the table below.

| **Selection** | |
|---|---|
| Requirements | Other (the requirements defined by the contracting authority) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | Not specified |
| Type of party | Not specified |
| **Review and attestation** | |
| Type of party | First |
| Detail of attestation | Detailed (human) |
| Publicity | Yes |
| **Surveillance** | |
| Existence | No |
| Complaint system | No |
| **Other** | |
| Mandatory | No |

### 9.2.4 Recommended conformity assessment system

Once the recommended values for the dimensions have been specified, a pattern-matching process can be applied as already described in clause 9.1.4.

For this scenario, none of the existing conformity assessment schemes of clause 6.2 can be applied, either because they do not deal with mobile phones or because they do not

use the accessibility requirements stated by the contracting authority. For this reason, this scenario only matches up with the general conformity assessment systems in clause 6.1.

The following systems match this scenario:

- *Generic first party assessment*, because the recommended value for the type of party (review and attestation) is first.
- *Supplier's declaration of conformity*, because the value for the type of party (review and attestation) matches the recommended value and because the values for method of determination and detail of attestation do not contradict the recommended values.

The other generic conformity assessment systems (generic second party, generic third party, inspection, product certification and UWEM) do not match the recommended values for the dimensions.

Given the above reasoning, the decision should be to select the most comprehensive of the conformity assessment systems that match the scenario. In this case, it is the supplier's declaration of conformity (based on ISO/IEC 17050), with no additions.

## 9.3 Procurement of a web site development for a ministry

### 9.3.1 Description

This scenario consists of procuring the development of the new version of the official web site of a national ministry. The previous version of that web site was developed several years ago. It is now technologically obsolete and does not conform to accessibility guidelines either.

The web site to be developed is the public web site of the ministry. This web site offers information about the subjects the ministry is responsible for and will also offer some services for the general public. The web site is not the only source of either the information or the services: the general public can use the phone or the offices of the ministry to gather information or use the services. But there are no relay services for phone access by people with hearing impairments, and the ministry offices are not completely accessible for people using wheelchairs.

Once the development is finished, the web site operation and content will be maintained by the ministry: people from the computing department will be responsible for the technical maintenance, and administrative personnel from different departments will update the web site contents.

The web site has to be developed in a one-year time frame and has to conform to level AA of the web content accessibility guidelines 1.0. The ministry is under a legal obligation to provide an accessible web site and, although people from the computing department have expertise in web accessibility and its evaluation, administrative personnel have no such knowledge of accessibility issues. For this reason, the web site has to include a content management system that supports and promotes the accessibility of the end result.

### 9.3.2 Values assigned to the criteria of public procurement

| **Product** | | |
|---|---|---|
| Type of product | • Procurement phase: Service | It is a web site with a content management system (CMS). The CMS should support |

| | | |
|---|---|---|
| | (development of the web site, CMS and technical manual)<br>• Contract phase: Software | easy addition of modules for new services. After implementation, the modules will then be maintained by the ministry's technical staff. Information, training and components for technical maintenance by the ministry should also be included. |
| State of technology | Existing technology | The technology used in the system already exists. |
| Time to market | Medium | It is a based on available CMS platforms. |
| Life span | Long | Once finished, the system will be in use for several years. |
| Rate of changes | • Content: High<br>• New services: Medium | Many content changes and additions will take place during the life of the web site. Modules with new services for the public and employees may be added. This changes the ministry's maintenance package. |
| Adaptability | Yes | End users (the public) can make changes to the presentation layer (client-side) only. Employees (i.e. content providers from the ministry) may have the option to make limited adaptations to other layers of the system.<br>Adaptation mechanisms are available for the computing department. |
| Interoperability with AT | Both hardware and software | The web site must be interoperable with all types of AT, although this is mainly a responsibility of the user agents (web browsers). Today user agents are diverse enough for any user to be able to use the content, provided the content itself is accessible. |
| Total cost of ownership | < 150,000 euro | Production: < 150,000 euro.<br>Maintenance: depends on internal accounting. |
| **Market** | | |
| Competition | Normal | Many competitors are able to develop the system, although technical capacities and abilities are not evident. |
| Market awareness | High | Accessibility awareness is high in the web site domain, although awareness of accessibility issues is low for CMS systems. |
| Market surveillance | None | Consumer organizations can provide some sort of surveillance of end-user requirements, but not specifically of the accessibility of the CMS and the adaptations of the product because they can be behind login, etc. |
| Competitor's surveillance | No | Competitors can be expected to be interested in the results, but not in the process. |
| Barriers to trade | No | This is a product that will be adapted to fit ministry accessibility and services requirements. There is no foreseen barrier to trade because of the use of internationally agreed accessibility requirements. |
| Independent expertise | Yes | There is independent expertise on the accessibility issues of most of the system components as there is on conformity |

| | | |
|---|---|---|
| | | assessment. |
| Size of suppliers | Big | The possible suppliers of a CMS on this scale and with these possibilities are mostly big enterprises. |
| **Contracting authority** | | |
| Public task | Execution (Control) | It is a ministry, responsible first for execution, then for control. |
| Geographical focus | Member State | See above. |
| In-house expertise | Web site: Yes (technical staff)<br>CMS: No | There is in-house expertise on accessibility (only among the technical staff of the computing department), but not on CMS accessibility. |
| Legal requirements | Yes | The ministry is bound by legal requirements on web site accessibility |
| **Users** | | |
| Risk of harm | Low | Misinformation provided through the system can cause the government problems. Accessibility does not appear to pose risks. |
| Risk of social exclusion | High | If the system is not accessible affected users will not be able to reach or input information by themselves. There are alternatives to the web site, but they are not accessible for everyone. |
| Confidence | Low | The end users have little confidence in declarations of accessibility in this domain. This is mainly dependent on the organization. |
| **Public procurement** | | |
| Type of procurement | Direct | It is direct procurement. |
| Type of procedure | Open procedure | Other procedures are possible here. |
| Electronic procurement | No | It is not an electronic procurement. |
| Prior existence of the product | No | The system has to be developed, but based on an existing CMS system. Although many components already exist, special adaptations have to be tailored to fit the maintenance and services. This is normal when implementing web sites based on CMS systems. |
| Number of units | Low | It is a single system (although it has many components). |
| Budget | 150,000 euro | Total budget for external work.<br>Also internal work is necessary i.e. in the pre-procurement, the selection and the following stages. |
| Liability and accountability | Yes | Yes, it is required in the contract phase. |

### 9.3.3 Recommended values for the dimensions of conformity assessment

#### 9.3.3.1 Dimensions for the selection function

- **Type of requirements** = de facto standards (WCAG 1.0, ATAG 1.0, UAAG 1.0). There are W3C technical specifications covering the system and the system output: WCAG for the content, ATAG for the CMS and UAAG for the CMS if it includes its own user agent. There is limited knowledge about the de-facto

guidelines on CMS systems. This value for the dimension is consistent with the following criteria:

- *Type of product*: current internationally agreed web accessibility requirements are the ones stated by the W3C.
- *Adaptability*: web accessibility guidelines are made to facilitate a "graceful transformation" of content when used in different contexts of use.
- *Interoperability with AT*: web accessibility guidelines also include requirements that enhance interoperability with AT.
- *State of technology*: the technology currently exists and the web accessibility guidelines are stable and have been in force for several years.
- *Public task*: being a public administration, the ministry has to provide accessible web sites.
- *Legal requirements*: the contracting authority has to provide accessible web sites in compliance with the W3C accessibility guidelines. No other alternatives exist in this case.

- **Scalability** = yes. The CMS and the online browser output are two different products to be tested. For both products, the scope and the minimum contents of a sample have to be set. This value for scalability is consistent with:
  - *Type of product*: the ministry web site is a complex site and it is, in principle, impossible to fully evaluate the accessibility of all of the site's web pages. Also the CMS has to be taken into account, again increasing the complexity of the accessibility evaluation.
  - *Time to market*: the web site development time is limited, which makes it impossible to conduct a fully detailed assessment of the accessibility of the whole site.
  - *Adaptability*: web sites have to work in extremely different contexts of use. This increments the complexity of the accessibility conformity assessment.
  - *Interoperability with AT*: the web site must be interoperable with many types of AT. This also increases the complexity of the conformity assessment.

#### 9.3.3.2 Dimensions for the determination function

- **Method of determination** = mixed. A combination of inspection (for the web site) and testing (for the CMS user interface) is required. This value for the dimension is consistent with the following criteria:
  - *Type of product*: most web site accessibility features can be inspected. On the other hand, there are key parts of the CMS user interface whose accessibility has to be tested.
  - *Life span:* the web site and the CMS will be used for several years. During this time both inspection and testing can be re-applied when changes are made.

- *Rate of changes*: web sites often change, and both inspection and testing can be applied in a scalable way to guarantee the accessibility of the web site over time.
- *Interoperability with AT*: as both the web site and the CMS have to be interoperable with AT, testing has to be used in addition to inspection.
- *Independent expertise*: as there is independent expertise, both inspection and testing can be carried out before delivering the result to the contracting authority.
- *In-house expertise*: there is limited in-house expertise, in which case both the results of testing and inspection can be interpreted and accepted.
- *Legal requirements:* due to the legal obligation of providing accessible services, the determination activities have to be as comprehensive as possible, mixing both inspection and testing.
- *Risk of social exclusion*: testing is required to minimize the risk of constraining the integration of people with disabilities.
- *Prior existence of the product*: the product is to be developed, but both testing and inspection can be applied during the development and just before the delivery of the product.
- *Budget:* the budget allocated for the development of the web site makes it possible to perform detailed inspection and testing of accessibility issues during product development.

- **External determination** = not specified. The determination can be performed by the body providing the final attestation or by an external entity. This is consistent with the following criteria:
  - *Independent expertise*: as there is independent expertise it is possible to have external or internal determination.
  - *Confidence*: given the low level of confidence, it is much more important to define the type of party providing the attestation than the party that is doing determination activities.
- **Type of party** = not specified. Just as there is no preferred value for the need for an external determination, neither is there for the type of party performing the determination activities. This is consistent with the following criteria:
  - *Independent expertise*: as there is independent expertise external or internal determination by any type of party is possible.
  - *Confidence*: the low level of confidence is more relevant for the type of party providing the attestation than for the determination.

#### 9.3.3.3 Dimensions for the review and attestation function

- **Type of party** = accredited third (type A). The attestation of accessibility has to be done prior to product delivery. The need for the involvement of a third party has to do with confidence and with ministry risk management. Criteria that influence this dimension are:
  - *Type of product*: web sites can be inspected for accessibility by accredited third parties (see clause 6.2 for examples).

- *State of technology*: as it is a current and well-tested technology, external organizations can perform accessibility assessments.
- *Time to market*: the time of development can include external assessment activities.
- *Life span*: as the web site has a long life span, the time spent on the initial accessibility assessment is irrelevant for the project.
- *Adaptability*: an external accredited body is able to test for the adaptability of web sites to different contexts of use.
- *Interoperability with AT*: an external accredited body is also able to test for interoperability issues.
- *Total cost of ownership*: the total cost of ownership is likely to account for the cost of third party assessments.
- *Market awareness*: market awareness is high, so there are accredited bodies that can perform accessibility conformity assessments.
- *Independent expertise*: as there is independent expertise, assessment bodies can hire or train people as needed.
- *Size of suppliers*: the suppliers are big companies that could easily perform good first party attestations. The other criteria, though, go against this.
- *Geographical focus*: it is a nationwide contracting authority, which should be able to budget for the costs associated with a third party assessment.
- *In-house expertise*: the lack of in-house expertise on CMS accessibility suggests that an external attestation could enhance the use of the results provided by an external body.
- *Legal requirements*: the legal web accessibility requirements provide that assessments should be done by external bodies.
- *Risk of social exclusion*: the risk of social exclusion is high, possibly suggesting a need for external evaluation.
- *Confidence*: the users have a very little confidence in first party declarations of accessibility in the web domain. This suggests that an external assessment is needed to raise user confidence.
- *Prior existence of the product*: even though the product has to be developed, the third party assessment can be performed at the end of the contract stage, just prior to delivery.
- *Budget*: the budget is big enough to account for well-scaled external assessment activities.

- **Detail of attestation** = detailed (machine). Even if the assessment is to be performed in the contract phase and does not influence the procurement process, a machine-readable accessibility attestation is useful in many different ways (e.g., a search engine can highlight accessible sites, or the national government can use the attestation to benchmark the evolution of accessibility). Criteria that influence this dimension are:

- *Type of product*: the accessibility features of web sites can be fully documented in the machine-readable language EARL, which is defined by the W3C.
- *Independent expertise*: there is independent expertise, and experts can use machine-readable attestations for searching, benchmarking, comparisons, etc.
- *Risk of social exclusion*: as the risk is high, it is very important for the contracting authority to provide as much detail as possible on the web site's accessibility.
- *In-house expertise*: the in-house experts can also maintain and analyse the EARL attestations during the continuous use and update of the web site.
- *Confidence*: apart from having a third party attestation, the confidence level can increase if the web site's owner offers details of the accessibility claims.
- *Type of procedure*: in an open procedure, a detailed accessibility attestation can guarantee the objectiveness of the contracting authority when comparing the competing tenders.

- **Publicity** = yes. Given the impact of the system, the accessibility attestations of its components should be public. Criteria that influence this dimension are:
  - *Type of product*: in the web domain it is relatively easy to provide public access to the accessibility attestations for each web page.
  - *Life span*: the web site will be used for several years. Changes will take place during that period, and publicly available accessibility attestations minimize risks to the web site owner and people with disabilities.
  - *Rate of changes*: as the web site will change over time, accessibility attestations should be made public and kept up-to-date.
  - *Market surveillance*: there is no market surveillance in this scenario, but public accessibility attestations could ease the implementation of market surveillance systems in the future.
  - *Independent expertise*: as there is independent expertise, public accessibility attestations can be subject to independent surveillance.
  - *Legal requirements*: publicly available accessibility attestations minimize the risks of users with disabilities taking legal action.
  - *Risk of social exclusion*: the risk of social exclusion is high, which suggests that there should be public accessibility attestations to make sure that all the stakeholders are aware of the web site accessibility issues.
  - *Confidence*: confidence is low, and having a public (and detailed) attestation of accessibility will raise this confidence level.

#### 9.3.3.4 Dimensions for the surveillance function

- **Existence** = yes. It is a complex system that will be used during several years and some of its components may be replaced over time. Because many people

provide input, constant (or yearly) monitoring is necessary. This surveillance system should be setup after delivery. Criteria that influence this dimension are:

- *Type of product*: web sites, and especially the content, change often, and surveillance is needed to guarantee the accessibility over time.
- *Life span*: this web site has a very long life span (with a high rate of changes) that implies that accessibility features have need of surveillance.
- *Rate of changes*: the web site will often change, and many content changes will be produced by people without expertise in accessibility issues, requiring surveillance.
- *Adaptability*: new contexts of use are likely to appear in the future that may influence the web site accessibility needs. A surveillance system could deal with these changes in user needs.
- *Interoperability with AT*: new AT may appear in the future and may influence the web site accessibility needs. A surveillance system could deal with these changes in user needs.
- *Total cost of ownership*: the total cost of ownership includes maintenance activities that can be a placeholder for surveillance processes.
- *In-house expertise*: the existence of in-house expertise enables the web site's owner to re-assess accessibility when changes take place, as part of a surveillance process.
- *Legal requirements*: as there are legal requirements on accessibility and the web site changes over time, there is a need to set up a surveillance stage as part of the conformity assessment.
- *Risk of social exclusion*, the risk of social exclusion is high, and this suggests a need for surveillance.
- *Confidence:* confidence can be raised if the attestation of accessibility is updated over time.

- **Complaint system** = yes. It is a complex system that will be used for several years and will be subject to some system of market surveillance by consumer organizations. Thus a complaint system could be put in place. Criteria that influence this dimension are:
  - *Type of product*: it is relatively easy to provide a web-based complaint system as part of the web site.
  - *Life span*: the web site will be used for several years, and a complaint system could help to maintain a good accessibility level over time.
  - *Rate of changes*: the web site is expected to undergo many changes and a complaint system is needed to maintain a good service accessibility level.
  - *Total cost of ownership*: as the cost of ownership includes maintenance activities, the complaint system can be implemented as part of those activities.

- *Public task*: it is the contracting authority that is responsible for the web site accessibility. A complaint system could help to keep up the initial level of accessibility.
- *Legal requirements*: there are legal requirements so a complaint system is required to minimize the risk of legal actions being taken against the web site owner.
- *Risk of social exclusion*: the risk of social exclusion is also high so there should be an accessibility feature-related complaint system.
- *Confidence*: user experience means that they do not have much confidence in the declarations of accessibility. For this reason, users think that a complaint system is necessary.

#### 9.3.3.5 Other dimensions

- **Mandatory** = yes. In this scenario an accessibility conformity assessment is mandatory, although the situation could be different in other member states. Criteria that influence this dimension are:
  - *Legal requirements*: the contracting authority is legally bound to use an accessibility conformity assessment.
  - *Budget*: the budget should be big enough to account for a mandatory accessibility conformity assessment.
  - *Risk of social exclusion*: the risk of social exclusion is high, and this increases the need for a mandatory conformity assessment system.
  - *Confidence*: user confidence in the accessibility declarations offered by the suppliers is low. A mandatory assessment system could improve this situation.

#### 9.3.3.6 Summary table

The above discussion has produced a recommended value for each conformity assessment system and scheme dimension, as summarized in the table below.

| **Selection** | |
|---|---|
| Requirements | De facto standards (WCAG 10; ATAG; UAAG) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | Not specified |
| Type of party | Not specified |
| **Review and attestation** | |
| Type of party | Accredited third (A) |
| Detail of attestation | Detailed (machine) |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes |
| **Other** | |
| Mandatory | Yes |

### 9.3.4 Recommended conformity assessment system

Once the recommended values for the dimensions have been specified, a pattern-matching process can be applied as already described in clause 9.1.4

Starting with the general conformity assessment systems in clause 6.1, the matches are as follows:

- *Generic third party assessment*, because the recommended value for the type of party (review and attestation) is third.
- *Inspection (EN ISO/IEC 17020)*, because the value for the type of party (review and attestation) matches the recommended value and because the values for method of determination and detail of attestation do not contradict the recommended values.
- *Product certification (EN 45011)*, again because the value for the type of party matches the recommended value and the other values do not contradict the values recommended in the scenario.
- *UWEM*, because it can be applied in the web context by any type of party.

The other generic conformity assessment systems (generic first party, self-declaration of conformity and generic second party) do not match the recommended values for the dimensions.

Given the above reasoning, the decision should be to consider the most comprehensive of the conformity assessment systems that match the scenario. The best two candidates are inspection or certification. Given that, in this scenario, the conformity assessment only takes place once, just before product delivery in the contract phase, then the recommended system is product inspection according to ISO/IEC 17020.

Looking at the schemes described in clause 6.2, several are applicable to web sites, but few are performed by truly independent third parties. The applicable schemes are:

- AENOR's certificate, although it is not mandatory.
- Drempelvrij's and Accessibility Foundation's UWEM-based web site inspection. Again, these schemes are not mandatory.
- PubliAccesso, which is the only example of a mandatory conformity assessment scheme for ICT, including web sites.

## 9.4 Procurement of a road traffic information management system

### 9.4.1 Description

This scenario consists of the public procurement of a complex project for the management of region-wide information about road traffic. The contracting authority is a regional transport agency.

The system will manage information about several issues:

- The traffic intensity on all the region's roads
- Incidents occurring on the roads, such as accidents, works, special weather conditions, etc.
- Tips and advice based on the state of the road (black spots, etc.)

- Highway toll payments in the region

This information will be used by transport agency employees and will also be made available to the general public through several channels:

- Information displays placed on the roads
- Web-based traffic information system
- Mobile device access (voice interface)
- RDSI (or other vehicle equipment-based systems)

The system also includes the automatic toll-payment machines that will be used by the highway drivers, and the toll-payment system user interface to be used by the highway employees.

The contracting authority wants to provide accessible services in all the areas that interact with employees or with the general public, as described above. Given the complexity of the planned system, there is no detailed list of accessibility requirements, and tenderers are referred to the more general international standards on accessibility: ISO 9241-20 on ICT accessibility and ISO/IEC TR 29138 on accessibility considerations for people with disabilities.

### 9.4.2 Values assigned to the criteria of public procurement

| **Product** | | |
|---|---|---|
| Type of product | Service + software + hardware + processed materials | It is a complex system that includes a range of different elements of the four types defined in ISO 9000. |
| State of technology | Existing technology | The technology used in the system already exists. |
| Time to market | Long | It is a complex system to be developed over a long period of time. |
| Life span | Long | Once finished, the system will be in use for several years. |
| Rate of changes | Low | Very few changes are expected during the lifetime of the finished system. |
| Adaptability | End-users: No<br>Employees: Yes | The system offers no possible adaptation for end users.<br>The system may implement adaptation mechanisms for employees. |
| Interoperability with AT | End-users: only hardware<br>Employees: both hardware and software | Again, the user interface is more flexible for employees. For the end users, the system will be able to connect to assistive hardware through standard wireless protocols. |
| Total cost of ownership | > 1 million euro. | It is a very complex system with a high total cost of ownership, over 1 million euros |
| **Market** | | |
| Competition | Low | Only 3 or 4 competitors are able to develop the system. |
| Market awareness | Low | There is low level of awareness of accessibility issues. |
| Market surveillance | Consumer organizations | Consumer organizations can provide surveillance of end-user requirements, but not specifically of accessibility. |

| | | |
|---|---|---|
| Competitor's surveillance | Yes | Given the limited number of competitors, they perform surveillance of each other. |
| Barriers to trade | No (in principle) | This is not an off-the-shelf product, but a complex system with many components. In principle there are no foreseen barriers to trade.<br>However, this is typically a toolkit-based development. Specific local accessibility requirements, if any, could lead to market fragmentation. |
| Independent expertise | Yes | There is independent expertise on accessibility issues of most of the system components. |
| Size of suppliers | Big | The only possible suppliers are all big enterprises. |
| **Contracting authority** | | |
| Public task | Execution | It is one regional traffic agency. |
| Geographical focus | Regional | See above. |
| In-house expertise | No | There is no in-house expertise on accessibility. |
| Legal requirements | Yes (partially) | There are legal accessibility requirements for some parts of the system (i.e. the web-based access to traffic information). |
| **Users** | | |
| Risk of harm | End users: High<br>Employees: Low | Misinformation provided through the system can cause accidents.<br>Regarding the employees, there is almost no risk of harm due to accessibility problems when using the system. |
| Risk of social exclusion | End users: Intermediate<br>Employees: high | If the system is not accessible most users will still be able to use the roads, albeit with less information about the traffic conditions.<br>But the employees can suffer from workplace exclusion if accessibility issues make them less effective than other colleagues. |
| Confidence | Intermediate | The end users have an intermediate confidence in declarations of accessibility in this domain. |
| **Public procurement** | | |
| Type of procurement | Direct | It is direct procurement. |
| Type of procedure | Competitive dialogue | As it is a particularly complex system (according to the definition given by the Directive), the procedure is a competitive dialogue aimed at developing technical alternatives capable of meeting the requirements. |
| Electronic procurement | No | It is not an electronic procurement. |
| Prior existence of the product | No | The system has to be developed, although many components already exist on the market. |
| Number of units | Low | It is a single system that has few but complex components and has many built-in devices. |
| Budget | Above threshold | The budget for this system is high and well above the thresholds defined in the Public |

| | | |
|---|---|---|
| | | Procurement Directive. |
| Liability and accountability | Yes | Yes, it is required in the contract phase. |

### 9.4.3 Recommended values for the dimensions of conformity assessment

#### 9.4.3.1 Dimensions for the selection function

- **Type of requirements** = International standards (ISO 9241-20, ISO/IEC TR 29138, ISO 9241-171, ISO TR 22411) and de facto standards (i.e. WCAG ). Although there are no detailed accessibility standards covering the whole system, there are applicable standards. Some are generic (high level) and others are for specific system components. This value for the dimension is consistent with the following criteria:
    - *Type of product*: there are no detailed accessibility standards for the full system, but there are some specific standards for some of the components. In addition there is additional guidance provided by generic ICT accessibility standards.
    - *State of technology*: the technology for the individual components currently exists. Thus, the above standards can be applied to those components.
    - *In-house expertise*: as there is no in-house expertise on accessibility, the technical requirements for accessibility stated by the contracting authority have to be based on external sources, preferably international standards.
    - *Legal requirements*: the contracting authority has to provide accessible web sites (one of the components of the system) according to the W3C accessibility guidelines.
- **Scalability** = yes. The system to be built is complex, requiring many interactions between the different components. For this reason the conformity assessment system has to be able to deal with that complexity. This value for scalability is consistent with:
    - *Type of product*: it is a complex system with several components. Each individual component is complex and has to conform to specific accessibility requirements. Scalability is required to deal with this high complexity level.
    - *Time to market*: the system has a long time to market, which implies that the conformity assessment system has to be able to deal with an ongoing evaluation over several years.
    - *Adaptability*: the system has to enable adaptation by employees. This increments the complexity of accessibility conformity assessment.
    - *Interoperability with AT*: the system must be interoperable with many types of AT, for both end users and employees. This also increases the complexity of the conformity assessment.

#### 9.4.3.2 Dimensions for the determination function

- **Method of determination** = mixed. A combination of inspection and testing is required. This value for the dimension is consistent with the following criteria:

- *Type of product*: the system contains different types of components, including software and hardware. This diversity implies that a combination of different determination methods is required.
- *Rate of changes*: the system will have few changes during its life span. This implies that the results of testing and inspection will remain valid over time.
- *Interoperability with AT*: as parts of the system have to be interoperable with AT, testing has to be used in addition to inspection.
- *Independent expertise*: as there is independent expertise, both inspection and testing can be carried out.
- *In-house expertise*: there is no in-house expertise on accessibility in this case, so no preference is set for the methods of determination.
- *Risk of harm:* the risk of harm is high for end users and low for employees, so a combination of inspection and testing should be used to improve the reliability of the assessment results.
- *Risk of social exclusion*: testing is required to minimize the risk of holding back the integration of employees with disabilities
- *Prior existence of the product*: the product is to be developed, but both testing and inspection can be applied during the development and just before the delivery of the product.
- *Budget:* the budget allocated to system development makes it possible to carry out detailed inspection and testing of accessibility issues before delivering the finished product.

- **External determination** = not specified. The determination can be performed by the body providing the final attestation or by an external entity. This is consistent with the following criteria:
  - *Independent expertise*: as there is independent expertise it is possible to have external or internal determination.
  - *Confidence*: given the intermediate level of confidence, it is not important to define whether the determination activities have to be performed outside the body providing the attestation.
- **Type of party** = not specified. Just as there is no preferred value for external determination, neither is there for the type of party performing the determination activities. This is consistent with the following criteria:
  - *Independent expertise*: as there is independent expertise it is possible to have external or internal determination by any type of party.
  - *Confidence*: given the intermediate level of confidence, it is not important to define the type of party performing the determination activities.

#### 9.4.3.3 Dimensions for the review and attestation function

- **Type of party** = components: accredited third (type A); full system: first. Given the complexity, size and budget, third party certification of the accessibility of the system components is affordable. But the complexity of the full system

makes it almost impossible to have third party assessments. Criteria that influence this dimension are:

- *Type of product*: the accessibility of the components can be assessed by third parties (during the procurement phase), but the full system can only be assessed by the supplier (at the end of the contractual phase).
- *State of technology*: all the components use existing technology that can be assessed for accessibility by external organizations.
- *Time to market*: the long development time provides for the inclusion of external assessment activities.
- *Life span*: as the system and its components have a long life span, the time spent on external accessibility assessment is not relevant for the project.
- *Rate of changes*: the individual system components are not expected to change much. For this reason, the results of external assessment will remain valid.
- *Adaptability*: an external accredited body is able to test for the adaptability of the employees' user interface to different contexts of use.
- *Interoperability with AT*: an external accredited body is also able to test for interoperability issues.
- *Total cost of ownership*: the cost of third party assessments for the components can be included in the total cost of ownership.
- *Independent expertise*: as there is independent expertise, assessment bodies can hire or train people as needed.
- *Size of suppliers*: the suppliers are big companies that could easily perform good first party attestations for the full system. However, other criteria point to external assessments for the components.
- *Geographical focus*: it is a regional contracting authority, which should be able to budget for the costs associated with third party assessment of individual components of the system.
- *In-house expertise*: the shortage of in-house expertise on accessibility suggests that an external attestation could enhance the use of the results.
- *Legal requirements*: the legal requirements on some components (like the web site to be developed) suggest that external assessments should be used.
- *Risk of harm*: the risk of harm to end users is high, and an external assessment likely to be necessary.
- *Risk of social exclusion*: the risk of social exclusion of employees is high, which could suggest the need for external evaluation.
- *Confidence*: user confidence in first party declarations of accessibility in this domain is intermediate. This suggests that a first party assessment is enough for the full system, but it also implies that stricter external assessments are needed to increase the confidence of the users.

- *Prior existence of the product*: even if the product has to be developed, the third party assessment of the accessibility of individual components can be performed during the procurement stage.
- *Budget*: the budget is big enough to account for well-scaled external assessment activities.

- **Detail of attestation** = detailed (human). Given system complexity, the competing proposals will be different and machine-readable attestations are not useful for comparing the proposals. Criteria that influence this dimension are:
  - *Type of product*: the solutions offered by the competing tenderers will be different, and detailed machine-readable attestations are not useful. Detailed human-readable attestations are enough to meet the contracting authority's needs.
  - *Market awareness*: given the low level of awareness on accessibility issues, producing detailed attestations will help the public procurer to make sure that the awarded tenderer has a good understanding of accessibility issues.
  - *Independent expertise*: there is independent expertise, which can be hired by the contracting authority to compare the competing solutions.
  - *Legal requirements*: by law some components of the system have to be accessible. The use of detailed human-readable attestations can minimize the risk of legal actions being taken against the contracting authority.
  - *Risk of harm*: as the risk of harm is high for end users, it is very important for the contracting authority to provide as much detail as possible on system accessibility.
  - *Risk of social exclusion*: as the risk of social exclusion is high for employees, it is very important for the contracting authority to provide as much detail as possible on the system accessibility.
  - *In-house expertise*: there are no in-house experts. In this situation a detailed human-readable attestation can support the procurers' decision-making process.
  - *Confidence*: the confidence level is likely to increase when details of the accessibility claims are provided.
  - *Type of procedure*: in a competitive dialogue, a detailed accessibility attestation can help the contracting authority to deal with requests for justification submitted by the competitors that are not awarded the contract.
- **Publicity** = yes. Given the impact of the system, the accessibility attestations of its components should be public. Criteria that influence this dimension are:
  - *Type of product*: it is a complex and expensive product. Providing the accessibility information to the general public will improve the perception of the qualities of the new system.
  - *Life span*: the system will be used for several years. During that period some changes are likely to take place and having publicly available

accessibility attestations will minimize the risks to the contracting authority and to people with disabilities.

- *Rate of changes*: as the system will not undergo many changes over time, the results of public conformity attestations will remain valid for some years.
- *Market surveillance*: public (and detailed) attestations of accessibility can help consumer organizations with the surveillance of end-user requirements.
- *Competitor's surveillance*: as there is some competitor's surveillance, public attestations of accessibility will improve the understanding of the reasons given by the procurer for choosing one of the competitors.
- *Independent expertise*: as there is independent expertise, public accessibility attestations can be subject to independent surveillance.
- *Legal requirements*: publicly available accessibility attestations minimize the risks of legal actions being brought by users with disabilities.
- *Risk of harm*: the risk of harm to end users is high, which suggests that public accessibility attestations should be provided to make sure that all the stakeholders are aware of the web site accessibility issues.
- *Risk of social exclusion*: the risk of social exclusion for employees is high, which suggests that public accessibility attestations should be provided to make sure that all the stakeholders are aware of the web site accessibility issues.
- *Confidence*: confidence is intermediate, and having a public (and detailed) attestation of accessibility could increase this confidence level.

#### 9.4.3.4 Dimensions for the surveillance function

- **Existence** = yes. It is a complex system that will be used for several years, and some of its components may be replaced over time. Even in this case, re-assessment of accessibility is not always necessary. But changes will take place and, in those cases, a surveillance system could help to keep the accessibility information up to date. Criteria that influence this dimension are:
  - *Type of product*: the system will have many individual components, and this increases the likelihood of changes over time. A surveillance process should be defined to guarantee the accessibility level after the implementation of such changes.
  - *Life span*: this system has a very long life span (albeit with a low rate of change), meaning that surveillance of accessibility features is needed.
  - *Rate of changes*: the system will not change often, but it will be used for several years. Thus, surveillance is required.
  - *Adaptability*: new contexts of use may appear in the future that may influence the accessibility needs for the system. A surveillance system could deal with these changes in user needs.
  - *Interoperability with AT*: new AT may appear in the future and may influence the accessibility needs for the system. A surveillance system could deal with these changes in user needs.

- *Total cost of ownership*: the total cost of ownership can easily include surveillance processes.
- *Legal requirements*: as there are legal requirements for accessibility of some of the components, and some of these components (like the web site) change over time, there is a need to establish a surveillance stage in the conformity assessment.
- *Risk of harm*: the risk of harm to end users is high, which suggests a need for surveillance.
- *Risk of social exclusion*, the risk of social exclusion for employees is high, and this suggests a need for surveillance.
- *Confidence:* confidence can be raised if the attestation of accessibility is updated over time.

- **Complaint system** = yes. It is a complex system that will be used for several years and will have some system of market surveillance by customer's organizations. Thus it needs a complaint system. Criteria that influence this dimension are:
  - *Type of product*: it is relatively easy to provide a web-based complaint system as part of the web site that is part of the system.
  - *Time to market*: the time to market is very high, and new versions of the system may take several years to develop. Thus, the rate of system replacements will be very low, and a complaint system could maintain a good enough accessibility level.
  - *Life span*: the system will be used for several years, and a complaint system could help to maintain a good accessibility level over time.
  - *Rate of changes*: even if there are not expected to be many changes to the system, a complaint system is needed to maintain a good service accessibility level.
  - *Adaptability*: external changes, such as new contexts of use, could raise the need to update the system. In these situations, a complaint system can be used to maintain a good service accessibility level.
  - *Interoperability with AT*: external changes, such as new AT, could raise the need to update the system. In these situations, a complaint system can be used to maintain a good service accessibility level.
  - *Total cost of ownership*: a complaint system can be easily added to the total cost of ownership.
  - *Market surveillance*: as consumer organizations can perform market surveillance, they could use a complaint system to communicate with the contracting authority and inform them of discovered issues.
  - *Size of suppliers*: big suppliers could even set up the market surveillance system as part of the system development.
  - *In-house expertise*: as there is no in-house expertise, a complaint system could improve the users' perception of how the contracting authority is dealing with accessibility issues.

- *Public task*: it is the contracting authority that is responsible for the accessibility of the full system. A complaint system could help to keep up the initial level of accessibility.
- *Legal requirements*: some components are subject to legal requirements, and a complaint system is required to minimize the risks of legal actions being taken against the web site owner.
- *Risk of harm*: the risk of harm to end users is high, and thus there should be a complaint system on accessibility features.
- *Risk of social exclusion*: the risk of social exclusion for employees is high, and thus there should be a complaint system on accessibility features.
- *Confidence*: user experience has led to an intermediate confidence level in the declarations of accessibility. For this reason, users tend to think that a complaint system could improve the situation.

#### 9.4.3.5 Other dimensions

- **Mandatory** = yes. Primarily due to the high risk of harm related to traffic information, the conformity assessment scheme should be mandatory. Criteria that influence this dimension are:
  - *Legal requirements*: there should be a legal requirement of using an accessibility conformity assessment.
  - *Budget*: the budget should be large enough to include a mandatory accessibility conformity assessment.
  - *Risk of harm*: the risk of harm to end users is high, and this increases the need for a mandatory conformity assessment system.
  - *Risk of social exclusion*: the risk of social exclusion is high for employees, and this increases the need for a mandatory conformity assessment system.
  - *Confidence*: user confidence in the accessibility declarations offered by the suppliers is medium. A mandatory assessment system could improve this situation.

#### 9.4.3.6 Summary table

The above discussion has produced a recommended value for each conformity assessment system and scheme dimension, as summarized in the table below.

| **Selection** | |
|---|---|
| Requirements | International standards (ISO 9241-20, ISO/IEC TR 29138, ISO 9241-171, ISO TR 22411) and de facto standards (WCAG 10) |
| Scalability | Yes |
| **Determination** | |
| Method of determination | Mixed |
| External | Not specified |
| Type of party | Not specified |
| **Review and attestation** | |
| Type of party | • Components: Accredited Third (A)<br>• Full system: First |

| | |
|---|---|
| Detail of attestation | Detailed (human) |
| Publicity | Yes |
| **Surveillance** | |
| Existence | Yes |
| Complaint system | Yes |
| **Other** | |
| Mandatory | Yes |

### 9.4.4 Recommended conformity assessment system

In this scenario, a distinction has to be made between the individual components and the full system.

Given the values assigned to “attestation - type of party” and “surveillance - existence” in the case of the individual components, the recommended conformity assessment system for the components is certification, as defined in EN 45011:1998.

At the time of writing, there is no existing scheme that applies to all of the components and devices of this system and conforms to EN 45011:1998. If such a scheme is to be defined, it should incorporate the values given to the other dimensions, especially on type of requirements, scalability, complaint system and mandatory.

In the case of the full system, first party assessments are the only option. In this case, the recommended conformity assessment is a self-declaration of conformity, including some specific features regarding scalability, surveillance, complaint system and other (mandatory) criteria.

# 10 Supplier Ability and Capacity

Apart from analysing conformity assessment systems and schemes, the scope of this report stretches to existing or new requirements for suppliers' technical capacities and abilities in the accessibility domain. These requirements can be used to select suppliers or support the conformity assessment process. This clause covers the issue of suppliers' capacity and ability.

Accessibility is one of the issues that the supplier and the customer need to tackle during the life cycle of an ICT system or application. Problems may occur at both the general and the individual level. However, the knowledge of and ability to deal with accessibility as a generally desirable characteristic of ICT systems is limited at present on the side of both the supplier and the purchaser. Due to US accessibility legislation, many global ICT companies that do business with the US government have an organization unit or staff assigned to accessibility issues. Consequently, European subsidiaries of such companies selling to the public sector in EU Member States have access to expertise on accessibility.

In order to use public procurement as a means of developing an inclusive information society, it is essential that procurers:

- reward those suppliers who have a track record in accessibility,
- encourage suppliers with no track record to put accessibility on their agenda, and
- attempt to assess the accessibility knowledge and capacities of potential suppliers.

These issues may be dealt with during the pre-qualification of tenderers, prior to the invitation to tender (where applicable), while producing the call-for tender, and during the evaluation of the submitted tenders. Accessibility criteria can only be considered during the evaluation of the submitted tenders if strictly related to the object of the contract, as established in the ECJ's case-law. Therefore, the contracting authority is not empowered to ask the supplier or service provider to take accessibility into consideration in its operations as a whole.

Assessment of supplier capacity and ability is more relevant for some procurements than for others. Supplier assessment is important for procurements of contracts on outsourcing, systems development and management, service provision and other long-term undertakings, whereas it is less necessary for procurements of off-the-shelf products.

In general, assessing supplier capabilities should be regarded as complementary to, not in place of, evaluating products and services for accessibility. Where such evaluations are not possible or feasible, however, e.g. if time or other resources are short, the supplier's accessibility capability should be assessed. A product from a supplier with accessibility capability is more likely to be accessible than a product from suppliers without such capability.

## 10.1 Legal framework

### 10.1.1 The Procurement Directive (2004/18/EC)

For procurements above the threshold, Chapter VII of the Directive regulates criteria for selecting participants and awarding contracts. Article 44, paragraph 2, states that "the contracting authorities may require candidates and tenderers to meet minimum capacity levels

in accordance with Articles 47 and 48". (Article 47 concerns the economic and financial standing of the candidate or tenderer, which is outside the scope of this report.) Article 48 regulates how the technical and/or professional abilities of economic operators shall be assessed and examined. It is applicable both in restricted procedures, where the contracting authority wants to limit the number of suitable candidates invited to tender, and in open procedures, where all tenders are evaluated.

Article 48, paragraph 2, stipulates that "evidence of the economic operators' technical abilities may be furnished by one or more of the following means according to the nature, quantity or importance, and use of the works, supplies or services". The rest of the paragraph is an exhaustive list of these means, briefly described below. The reader is referred to the Directive for the full text.

a) Track record:
   - A list of works carried out over the past five years, accompanied by certificates of satisfactory execution for the most important works;
   - A list of the principal deliveries effected or the main services provided over the past three years;

b) An indication of the technicians or technical bodies involved, especially those responsible for quality control;

c) A description of the technical facilities and measures used by the supplier or service provider for ensuring quality and the undertaking's study and research facilities;

d) Where the products or services to be supplied are complex, a check carried out by the contracting authority or a competent body, on the production capacities of the supplier or the technical capacity of the service provider;

e) The educational and professional qualifications of the person or persons responsible for providing the services or managing the work;

f) Where appropriate, an indication of the environmental management measures that the economic operator will be able to apply when performing the contract;

g) A statement of the average annual manpower of the supplier and the number of managerial staff for the last three years;

h) A statement of the tools, plant or technical equipment available to the supplier for carrying out the contract;

i) With regard to the product to be supplied:
   - samples, descriptions and/or photos, whose authenticity must be certified;
   - certificates drawn up by official quality control bodies of recognized competence attesting the conformity of products clearly identified by references to specifications or standards.

Paragraph 6 requires the contracting authority to "specify, in the notice or in the invitation to tender, which references under paragraph 2 it wishes to receive".

Paragraph 5 reads, "In procedures for awarding contracts having as their object supplies requiring siting or installation work, the provision of services and/or the execution of works, the ability of economic operators to provide the service or to execute the installation or work may be evaluated in particular with regard to their skills, efficiency, experience and reliability."

(Note: the Directive uses the term "certificate" in the same sense as ISO/IEC 17000 applies "attestation").

### 10.1.2 Procurements below the threshold

As pointed out in clause 7 of this report, procurements below the threshold amount must comply with the general principles of the Treaty. Assessment and examination of suppliers' technical abilities and capacities can then be carried out in different ways, as long as they comply with the Treaty's principles and, of course, the Member State legislation on procurements below the threshold.

Depending on the legislation, there may be other possible approaches for assessing abilities and capacities, for example:

- An agreed set of requirements
- Assessment against a maturity scale
- Asking for an accessibility management system

Some examples on such approaches are given in clause 10.2 below.

## 10.2 Existing approaches

### 10.2.1 The ACCENT project

The ACCENT Project [ACCENT, 1998] suggests a maturity scale for a supplier's accessibility capacity and ability. The scale is presented in clause 10.3.1. ACCENT recommends that the procurer should include the following requirement as mandatory:

> The supplier shall assess himself with respect to the (levels in the maturity scale) and provide the basis for his assessment by describing, where applicable, the approach taken, the policy or commitment, the organization, partners and external experts.

ACCENT recommends that procurers should include the following requirements as desirable:

- The supplier should satisfy at least (level 3 of the maturity scale), or, for procurements where the supplier is to be contracted on services comprising accessibility expertise, at least (level 4).
- The supplier should have adopted a corporate policy which includes statements on usability and accessibility. These statements should be submitted. If the supplier has not adopted such a policy, he should outline his plans for elaborating such a policy.
- The supplier should have adopted a quality system complying to a standard, preferably ISO 9000.
- The supplier should give one or more references to sites where the product on offer is installed and where accessibility is considered to be an important feature.

Note: The ACCENT project (ACCessibility in ICT procuremENT) was part-funded under the EU's SPRITE-S2 programme and by the Nordic Development Centre for Rehabilitation Technology. The objective of ACCENT was to provide public procuring entities with tools to procure accessible ICT products, services and systems.

### 10.2.2 Verva

One of the Swedish Administrative Development Agency's (Verva) tasks is to carry out procurements resulting in framework agreements on ICT products and services. Other agencies can utilize these framework agreements in accordance with art. 32 of the

Procurement Directive. A set of usability and accessibility requirements has been established for use in Verva's procurements. (Verva regards the concept of accessibility as an integral part of the concept of usability.) For the invitation to candidate for participation, the following requirements are available. They were developed in collaboration with the former Centre for Interactive ICT Design at the Royal Institute of Technology in Stockholm.

- Provide a statement on how you have acquired knowledge and insight on those public sector activities that your products and services portfolio is intended to support.
- Provide a statement on the extent to which and how you evaluate usability and accessibility of the products in your portfolio.
- Provide a statement on how you measure or otherwise follow up user satisfaction with the products and services you have delivered.
- Provide a statement on how you continuously manage and implement the users' requirements on improvements in the products and services that you supply.

### 10.2.3 Buying Green

"Buying Green" is a handbook on environmental public procurement. Published by the European Commission, it is designed to help public authorities successfully launch a green purchasing policy in accordance with the Public Procurement Directives. In this handbook, the contracting authorities are advised to look for answers to questions, such as

- Does the tendering company employ or have access to technicians with the required knowledge and experience to deal with the contract's environmental issues?
- Does the tendering company own or have access to the necessary technical equipment for environmental protection?
- Does the tendering company have the relevant research and technical facilities available to cover the environmental aspects?

Of the criteria listed in art. 48 of the Directive, "Buying Green" puts forward criteria (a) and (e), i.e. track record and educational and professional qualifications, as the main instruments.

This approach is also applicable to accessibility. In fact, a similar handbook "Buying Accessible", where "environment" is replaced by "accessibility" could easily be envisaged. However, "Buying Green" reflects the fact that Directive 2004/18/EC specifically addresses environmental issues (recital 5 and art.50).

### 10.2.4 Accessibility Management System

In his paper [Yamada, 2007], Prof. Yamada suggests that a standard should be developed on accessibility management. Such a standard could call upon a company do the following:

1. The company shall have an information accessibility policy. The company shall ensure that the policy is followed in the plan, design, development and evaluation of ICT equipment and services.
2. The company shall specify user requirements for accessibility and produce design solutions.

3. The company shall evaluate accessibility design solutions of ICT products and services with users. Evaluation of accessibility design solutions includes user test results and other available forms of user feedback.
4. The company shall have a transparent way of receiving and handling user complaints.
5. The company shall keep records of their activities.
6. The company shall disclose information how the accessibility is improving in their products.

   A third party could investigate whether the accessibility management system in the company is working or not and issue certification to the company. Governments might give priority to certified companies for public procurement.

### 10.2.5 Section 508

The current guidance associated with US legislation (Section 508) on ICT accessibility, Electronic and Information Accessibility Standards of December 20th, 2000, does not address the issue of assessing the technical abilities and capacities of suppliers as regards accessibility.

### 10.2.6 ISO 15504

Software is often the carrier of the functions that are intended to be used by users as a whole and should therefore be accessible. For example, services provided on the web are basically software., The *ISO/IEC TR 15504 Information technology – Software process assessment* technical report is therefore of interest in the context of supplier capabilities. Below is an overview of ISO/IEC TR 15504.

#### 10.2.6.1 Uses of ISO/IEC 15504

ISO/IEC 15504 can be used in two contexts:

- Process improvement, and
- Capability determination (= evaluation of supplier's process capability).

##### *10.2.6.1.1 Process improvement*

ISO/IEC 15504 can be used to perform process improvement within a technology organization. Process improvement is always difficult, and initiatives often fail, so it is important to understand the initial baseline level, and to assess the situation after an improvement project. ISO/IEC 15504 provides a standard for assessing the organization's capacity to deliver at each of these stages.

In particular, the reference framework of ISO/IEC 15504 provides a structure for defining objectives. This helps specific programs to achieve these objectives

##### *10.2.6.1.2 Capability determination*

An organization considering outsourcing software development needs to have a good understanding of the capability of potential suppliers to deliver.

ISO/IEC 15504 can also be used to inform supplier selection decisions. The ISO/IEC 15504 framework provides a framework for assessing proposed suppliers, as assessed either by the organization itself, or by an independent assessor.

The organization can determine a target capability for suppliers based on the organization's needs, and then assess suppliers against this profile. This is particularly important in contexts where the organization (for example, a government department) is required to accept the cheapest qualifying tender. This also enables suppliers to identify

gaps between their current capability and the level required by a potential customer, and to undertake improvement to make the contract. Work on extending the value of capability determination includes a method called Practical Process Profiles. This method uses risk as the determining factor in setting target profiles. Combining risk and processes promotes improvement with active risk reduction, hence reducing the likelihood of problems occurring.

#### 10.2.6.2 Reference model

ISO/IEC 15504 contains a reference model. The reference model defines a process dimension and a capability dimension.

The *process dimension* defines processes divided into the five process categories of:

- Customer-supplier
- Engineering
- Supporting
- Management
- Organization

For each process, ISO/IEC 15504 defines a *capability level* on a scale shown in Table 3.

| Level | Name |
|---|---|
| **5** | Optimizing process |
| **4** | Predictable process |
| **3** | Established process |
| **2** | Managed process |
| **1** | Performed process |
| **0** | Incomplete process |

**Table 3.** Scale for capability levels, according to ISO /IEC 15504.

The capability of processes is measured using process attributes. The international standard defines nine process attributes:

- 1.1 Process Performance
- 2.1 Performance Management
- 2.2 Work Product Management
- 3.1 Process Definition
- 3.2 Process Deployment
- 4.1 Process Measurement
- 4.2 Process Control
- 5.1 Process Innovation
- 5.2 Process Optimization

Each process attribute is assessed on a four-point (N-P-L-F) rating scale:

- Not achieved (0 - 15%)
- Partially achieved (>15% - 50%)

- Largely achieved (>50%- 85%)
- Fully achieved (>85% - 100%).

#### 10.2.6.3 Assessments

ISO/IEC 15504 provides a guide for performing an assessment. This includes:

- the assessment process
- the model for the assessment
- any tools used in the assessment
- success factors

##### *10.2.6.3.1 Assessment model*

The assessment model is the detailed model that is used for an actual assessment. This is an elaboration of the reference model.

##### *10.2.6.3.2 Assessors*

For a successful assessment, the assessor must have a suitable level of the relevant skills. These skills include:

- personal qualities such as communication skills.
- relevant education and training and experience
- specific skills for particular categories, e.g. management skills for the management category.
- training and experience in software capability assessments.

### 10.2.7 ISO/IEC TR 18529

ISO/IEC TR 18529:2000(E) Ergonomics – Ergonomics of human-systems interaction – Human-centred lifecycle process descriptions contains a formalized model based on the ISO 13407, Human-centred design processes for interactive systems. It is intended as guidance for those who wish to make their system development process and its associated support processes more human-centred, and to include knowledge from the human sciences in system design. The processes in the model of TR 18529 are described in the format defined in ISO/IEC TR 15504 (see 10.2.6 above). ISO/IEC TR 18259 could be envisaged as a model for assessing a supplier's capability to take accessibility into account in software development.

## 10.3 Maturity scales

### 10.3.1 ACCENT

The ACCENT report [ACCENT 1998] suggested that, in procurements above and below the thresholds, the procurer may ask the supplier to self-assess its take-up of accessibility against a performance scale, such as the one shown in Table 4. This scale is based on a study of how usability methods are used by Swedish IT system development companies [Katzeff-Svärd 1995].

| | |
|---|---|
| 1) | The supplier has not come across accessibility issues and has no particular knowledge of accessibility issues. |
| 2) | The supplier is aware of the need for accessibility, but the issue is not on the agenda. The supplier has not found sufficient customer demand to establish a readiness for action. If an accessibility problem arises, it will be solved from scratch. |
| 3) | The supplier is aware of the accessibility issue at large and is to some extent prepared for action. The actions will, however, be taken on an *ad hoc* basis. The supplier may know of or have contact with accessibility expertise externally or upstream in the company. |
| 4) | The supplier has competence and an organisation unit at its disposal, either internally or externally. There is a commitment by the top management level to promote accessibility. One or more staff members may be assigned to monitor the field of accessibility and have basic knowledge of the field. Access to further expertise may exist upstream in the company, or the supplier may have an agreement with an external expert who can act as a subcontractor. |
| 5) | Accessibility is one of the activities of the supplier. A corporate policy on accessibility is established, enforced and well-known by the staff. A competent organisation unit is established in-house. |

**Table 4.** Alternatives for supplier approaches to accessibility.

It added that

> "For levels 3, 4 and 5, the supplier should be required to provide evidence for his assessment by describing, where applicable, the approach taken, the policy or commitment, the organisation, partners and external experts.
>
> For procurements of systems where a significant number of users can be expected to be dependent on a high accessibility standard of the system, a supplier with an accessibility approach of level 3 should be a minimum requirement.
>
> Outsourcing of an ICT-based activity to a third party supplier normally means that the responsibility for the accessibility of the system and the services provided by the system stays with the organisation, but the methods of how to provide accessibility is to be decided by the supplier. This requires that the supplier has an approach to accessibility corresponding to at least level 4."

### 10.3.2 Usability Maturity Models

(This clause is based on [Jokela, 2005]).

A usability maturity model (UMM) is a method for evaluating the level of user-centeredness of a software or product development organization. Usability maturity assessment can be conducted in order to find out whether a supplier is capable of designing usable software. A UMM includes three main elements:

- A user-centred design reference model, defining elements that can be included in an assessment, such as user-centred design in a quality system, usability skills, management system, etc.
- A performance scale, for example from 1 to 5, to rate how well an organization performs on the elements that are included in the assessment.
- Practical guidelines for how to carry out an assessment.

The referenced paper lists 13 different Usability Maturity Models, with different features.

The paper discusses the possibility of certifying the user-centredness of a development organization. The conclusion is that many UMM's may provide a technical basis for

such certifications, but some questions need to be answered before certification takes place:

- Which UMM model should be used?
- Should only development processes be examined, or also issues such as usability skills and usability in quality systems?
- Which level of the performance scale should be reached before a certification can be issued?

## 10.4 Accessibility as an element of quality assurance systems

"Quality control" is mentioned as an element in some of the means of assessing a supplier's technical ability, listed in art. 48 of the Procurement Directive. In addition art. 49 states that:

> "should they require the production of certificates drawn up by independent bodies attesting the compliance of the economic operator with certain quality assurance standards, contracting authorities shall refer to quality assurance systems based on the relevant European standards series certified by bodies conforming to the European standards series concerning certification. They shall recognise equivalent certificates from bodies established in other Member States. They shall also accept other evidence of equivalent quality assurance measures from economic operators."

Many suppliers have adopted a quality management system. Some are certified according to a standard, e.g. ISO 9001. A quality management system is used to describe all the planning, preparation, work, checking and recording actions that are necessary to achieve the standard of product or service that the customer needs. These actions are largely common sense and good business and management practice.

Software developers in particular are often required to have a quality assurance system to ensure that the final product meets the specified requirements. There are a number of methods for quality management and quality assurance for the software development different phases. ISO/IEC 15504 described above is one example.

In principle, a quality system enables a supplier to include accessibility considerations in his production process. The mere existence of a quality system does not, however, ensure that the offered products really are accessible.

## 10.5 Conclusions on supplier ability and capacity

As pointed out at the beginning of clause 10, it is essential in order to use public procurement as a means of developing an inclusive information society that the procurer:

- rewards those suppliers who have a record of achievements on accessibility,
- encourages suppliers without a record to put accessibility on their agenda, and
- attempts to assess the accessibility knowledge and capabilities of the potential suppliers.

One step should be to specify what capacities are required for a supplier to become an "accessible supplier". Suggestions for such a specification already exist; see, for example, clauses 10.2.1 (ACCENT), 10.2.3 (Buying Green) and 10.2.4 (Prof Yamada's idea of an accessibility management system). A specification has to comply with art. 48 of the Procurement Directive 2004/18/EC if it is to be used in procurements above the threshold amount. Both ACCENT and Prof. Yamada mention accessibility policy as an

element of an “accessible supplier”. However, a policy is not a listed as a means of proof in art. 48, paragraph 2. The list in art. 48 focuses on the supplier’s resources in terms of skill, staff and equipment, which, of course, are also important criteria for providing evidence of accessibility capacity and ability. Paragraph 5, which addresses services procurement, could be construed as offering an opening for a more flexible approach. It remains to be clarified, with reference to paragraph 5, whether an accessibility policy-related requirement is admissible.

In the short term, Buying Green, tailored to accessibility, looks to be the best Procurement Directive-compliant approach.

The approaches referred to in clause 10.2 focus on requirements for and assessment of the supplier at the organizational level. However, one of the means of proof of technical ability and capacity listed in clause 10.1.1 is “the educational and professional qualifications of the person or persons responsible for providing the services or managing the work”. This suggests that employing or having access to people with demonstrated knowledge and experience to deal with accessibility issues could be a way for a supplier to show accessibility-related ability and capacity. This requires a specification of qualifications and the establishment of corresponding accessibility training courses. There is a standard for certifying personnel (EN ISO/IEC 17024:2003), but the requirements are missing.

Remember that there are different kinds of suppliers in the ICT domain: manufacturers of hardware and software, service providers, system integrators, retailers and consultants. The abilities and capacities required to be an “accessible supplier” are different from supplier to supplier. The abilities and capacities of an “accessible manufacturer” are related to the development and production processes, while those of an “accessible retailer” are related to the inclusion of accessible products in the product portfolio and the ability to serve users with disabilities.

A procurer cannot completely predict, and should not specify in too much detail, which kinds of suppliers will respond to the invitation to tender. Therefore, it would be an advantage if a specification of accessibility abilities and capacities could be generic and cover all kinds of suppliers without being vague and superficial. This is, however, a challenge. Of the listed examples, ACCENT and Verva are of a generic kind, while the Buying Green and Prof. Yamada’s approaches appear to focus on manufacturers.

Another step should be to bring accessibility issues in development approaches methods and models (for example, ISO 13407, commercially available methods such as RUP and DSDM) into mainstream standards on quality management (for example, ISO 9001, ISO/IEC 15504, the ISO 27000 series) or even non-standard schemes such as CMMI (Capability Maturity Model Integration, from the SEI – Carnegie Mellon University) and into standards for ICT operations (for example, ISO/IEC 20000). Mainstreaming implies that already existing and widely used standards, methods and approaches, should be extended by incorporating or adding accessibility-related processes, tasks, etc. In the ISO/IEC 15504 model (see 10.2.6), for example, the idea would be to add some accessibility-related activities in each of the process categories (customer-supplier, engineering, supporting, management, organization), including:

- Involving users with disabilities in the development of requirement specifications
- User-based usability and accessibility tests of the product

- Expert-based accessibility test of the resulting product (based on sampling if the product is too complex to perform a complete assessment)
- Accessibility-related support activities (dealing with accessibility issues and solutions).

It could take a relatively long time to define and develop the required extensions to ISO 9001, ISO/IEC 15504 or other similar schemes, because there is not a lot of knowledge on the issue of accessibility management systems.

A third step would be to enable the certification of suppliers with respect to accessibility capabilities. Here too mainstreaming is possible, for example by incorporating accessibility considerations into the quality management system. The development of an accessibility management system with an associated conformity assessment system could be envisaged, provided that it is justified according to ISO/IEC Guide 72. It could be done on the model of the ISO 14000 series on environment management systems and ISO 27000 series on information security. To quote [Yamada 2007],

> ”one of the benefits of an accessibility management standard scheme is the improved perception of the key accessibility issues by employees and the public. The other is that certificates can improve the ability to meet compliance with accessibility policy measures.”

# 11 Complementary approaches to conformity assessments

## 11.1 Market surveillance

The complementary approach shown was identified after searching for definitions, conferences, events and other items related to the topic. The Experts Group decided to highlight here some of the results they found at the url http://ec.europa.eu/enterprise/newapproach/market_surveillance.htm. It contains the information related to the ***European Market Surveillance Programming Conference***, held in Brussels from the March 10th to the 11th , 2005.

This conference not only offered a very interesting approach but it also a set of definitions, criteria and policies in the EC region that could be considered as guidance for anyone interested in the subject.

The definition for market surveillance provided is as follows:

> "Market surveillance is an essential tool for the enforcement of New and Old Approach It needs to function effectively in order to provide the following guarantees:
>
> - Uniform application of Community law
> - Equal protection for all citizens
> - Maintenance of a level playing field for enterprises
>
> It involves two main stages:
>
> - National surveillance authorities monitor that products placed on the market comply with the provisions of the applicable national legislation transposing the Community law.
> - When necessary, they then take action to establish conformity."

The following is a summary of other information extracted from this web site:

> In addition to the implicit obligations contained in the EC Treaty, Community law contain an explicit requirement for Member States to carry out market surveillance activities. The principle of subsidiarity applies, and it is for Member States to determine the administrative structures used to fulfil their obligations in this field.
>
> Effective cross-border co-operation between market surveillance authorities is essential if products are to be subject to the same high level of surveillance throughout the Union. However, experience of market surveillance in practice indicates that levels of surveillance currently vary significantly throughout the Union, and that uneven enforcement at national level presents a barrier to a fully effective system of cross-border co-operation.
>
> The Commission is actively encouraging this co-operation in several ways:
>
> *Administrative Co-operation (AdCo) Groups*. DG Enterprise encourages the activities of Directive-specific Administrative Co-operation (AdCo) Groups of Market surveillance experts and, where appropriate, promotes their creation. These groups are forums that enable national market surveillance experts to meet and cooperate on practical matters. They have a fundamental role as a network for practical cooperation: experts can identify and share views on problems with implementation of a Directive (for example, low voltage, electromagnetic compatibility, machinery, personal protective equipment, recreational craft, lifts, toys, radio and telecommunications terminal equipment and construction products), exchange information and improve co-operation in a very practical way.

*SOGS (Senior Officials Group on Standardisation and Conformity Assessment Policy).* DG Enterprise also facilitates cross-sectoral Administrative Co-operation on issues where this is appropriate. In order to help enforcement authorities make best use of resources and to encourage a consistent approach on cross-cutting issues, market surveillance issues may be discussed in meetings of SOGS.

*Cross-border market surveillance*. A grant programme has been established to support cross-border market surveillance projects which promote co-operation between national authorities of Member States. The funding is used to promote contacts and practical cooperation, and to spread best practices in the medium term. Between 1999 and 2002 it provided finance for market surveillance projects involving at least two Member States and/or EU candidate countries. Activities that have been eligible for support include: joint inspections, development of control methodologies and risk analysis, sharing of test results, information exchange, joint events and cooperation through telematics.

Six projects - each of a different nature - have been carried out under this Programme. Their main objectives are: comparison of tests for dangerous machinery, databases for unsafe products and public events.

The Commission should develop, together with the parties concerned, an overall common European market surveillance programme.

On 7 May 2003, the Commission adopted a Communication to Council and the European Parliament on enhancing the implementation of the New Approach Directives (COM(2003)240). This Communication contains recommendations aimed at further improving the operational efficiency of the Internal Market. In it the Commission presents proposals for additional measures to achieve a common level of market surveillance in the EU.

For more information, please visit:

http://ec.europa.eu/enterprise/newapproach/market_surveillance.htm

## 11.2 Competitors' surveillance

In his paper "ICT accessibility standardization and its use in policy measures" [Yamada, 2007], Prof Hajime Yamada of Toyo University, Japan, describes complementary approaches to conformity assessment. One of these is competitors' surveillance:

"The first company tests accessibility of its product by itself and discloses the test results to the public procurement agency, e.g., by creating a VPAT. The second company monitors the first company's self declaration and challenges to them when it feels they are not correct. If challenged, the first company may be asked by the government agency to provide its test results or some other form of validation. And if it fails to prove conformance, the first company is required to correct the situation or may be prevented from bidding or selling the product to the government. This dynamic happens now with Section 508 and VPATs in the United States."

# 12 Conclusions

## 12.1 Stakeholders' preferences

In the context of this project there are three major stakeholder groups: suppliers, users and procurers. Their preferences as regards systems for assessment of conformity of ICT products and services differ substantially.

Associations of ICT suppliers have expressed their preferences in two White Papers, [EICTA, 2005] and [IDC, 2007]. They maintain that governments need to take into account the rapid pace of change in ICT and the dynamic nature of the market for such products, and ensure that the conformance assessment approach achieves "an appropriate balance between the availability of safe, reliable, quality products and services to the targeted populations and the commensurate economic burden to governments and suppliers and the citizens they serve." Generally, the ICT industry prefers an approach based on the principles of supplier's declaration of conformance, combined with appropriate market surveillance.

As regards users, there are two roles: employees and citizens. ICT products and services that are procured by public entities are largely used for internal purposes and therefore operated by employees. However, an increasing number of e-government services are used by citizens in two roles: as users exerting their civic rights and obligations and as users of public electronic services. ANEC and EDF, both user associations, did not express any preference for any particular conformity assessment system in their joint position paper [ANEC, 2007]. However, the position paper states that it is important for the user to be informed of whether or not the assessment behind an attestation of conformity to accessibility requirements has been done by an external party.

The project team has not come across any statement on this matter from associations of employees.

The third major stakeholder, procurers, does not have a European umbrella organization such as EICTA, ANEC and EDF, which could express opinions. In a consultation among key stakeholders, carried out by the Commission before issuing the 2005 Communication on eAccessibility, however, public agencies show a clear preference for mandatory over voluntary schemes. There is only a minor difference as regards the preferences for supplier's declaration of conformity versus third party certifications.

Economic, efficient and comprehensible harmonized means of demonstrating conformance with harmonized accessibility requirements are beneficial to all stakeholders. For the suppliers, particular account must be taken to the needs of SME:s.

## 12.2 Conformity assessment of different types of ICT products

The applicability of different conformity assessment systems in the domain of ICT accessibility depends on many variables, as explained in clause 8 of this report. One is the type of product/service.

### 12.2.1 Off-the-shelf products

Methods and best practices for off-the-shelf products ("commodities") generally (i.e. in any domain) have long been in use. The supplier's declaration of conformity is an established system and is used within the framework of the New Approach. Third party

assessments are also used where there are requirements for an accredited body, e.g. for products with a high risk factor or that have to comply with statutory requirements.

There is no clear-cut answer to the question on whether an off-the-shelf ICT product can be declared to comply with a given set of accessibility requirements. It would be possible to issue an accessibility declaration for "monolithic" products that are manufactured to be kept in stock and are delivered unchanged from the factory to the user (e.g. displays, desktop laser printer) before they are placed onto the market. Other products are manufactured to order and thus are configured and/or customized before they reach the user. Sometimes the final customization is a result of a dialogue with individual users. In this case, the accessibility sets in, not at the factory, but after delivery. A pre-market declaration of conformity can then only cover basic generic accessibility requirements. An inspection before the acceptance test would be an appropriate alternative measure.

### 12.2.2 Services

Although the standards on conformity assessment cover services, the conformity assessment of services is a more complex issue than product assessment in a strict sense, as is the issue of accessibility requirements on services. The service may be provided by technical equipment (for example, an interactive voice response system for train schedules) or people (for example, consultancy services) or a combination of both (for example, a call-centre). Sometimes, the service is produced and consumed simultaneously. Hence, the complete accessibility of a service can in many cases be assessed only when it is used. This means that conformity to accessibility requirements for services should be assessed against specifications set out in the contract (for example, in a service level agreement, SLA). A list of ongoing CASCO (ISO Conformity Assessment Committee) projects from December 2007 contains no projects specifically dealing with services.

Article 26 of the Directive 2006/123/EC on services in the internal market, which however does not cover every ICT service, stipulates that

> "Member States shall, in cooperation with the Commission, take accompanying measures to encourage providers to take action on a voluntary basis in order to ensure the quality of service provision, in particular through use of one of the following methods:
>
> (a) certification or assessment of their activities by independent or accredited bodies;
>
> (b) drawing up their own quality charter or participation in quality charters or labels drawn up by professional bodies at Community level."

### 12.2.3 Web sites

For web sites there are building blocks that could constitute a complete conformity assessment scheme. Examples of building blocks that could be used are WCAG, ATAG, UAAG, WAI ARIA, UWEM and CWA 15554. Clause 6 of this report gives a more detailed description of some examples of implemented schemes that make use of the different building blocks. Further harmonization involving stakeholders as started up in the WAB Cluster would however be desirable.

The introduction of new and/or innovative techniques not yet included in the WCAG techniques raises challenges for conformity assessment. This concept is intended to avoid constraining the set of technologies that web sites can use (and still claim conformance to WCAG). But the concept is language dependent and the accessibility-supported technologies (AST) depend on the set of assistive technologies (ATs) that are

available for that language. Also the technologies supported by these ATs can differ from language to language. This means that the list of ASTs may also differ between the EU member states. How will W3C cope with the requests for adding techniques to WCAG? Also the Semantic Web and the much discussed Web2.0 set challenges for accessibility assessment. Web2.0 content is provided by the public, and this could lead to a lesser degree of control over accessibility. Also web applications replacing the desktop programs pose new web conformity assessment challenges.

Conformity assessment challenges are raised by the broad diversity of web site complexity and size, the continual evolution of web technologies and changes in best practices, as well as by the varying approaches for developing and acquiring web sites. The web is moving towards greater interactivity (with Rich Internet Applications, using technologies such as AJAX), increased user participation as content providers (the new social web sites that are the core of what is commonly called Web 2.0), an increased capacity to deal with the complexity and diversity of existing information (based on the Semantic Web concept), and an increased mobility of the devices used to access the web (the mobile web). All of these trends open up new accessibility-related problems that have to be solved. This means that accessibility requirements (from the point of view of both users and developers) are still to be defined and agreed upon. Some work has started on the subject (such as the W3C's Accessible Rich Internet Applications Suite – WAI-ARIA –), but it is still in its early stages. The qualification of bodies carrying out conformity assessment is essential for the success of the conformity assessment scheme.

### 12.2.4 Development of bespoke applications

For the procurement of development (which is a service) of bespoke applications, the conformity assessment, for obvious reasons, takes place during and after the development. This is outside the procurement process and thus not covered by the Procurement Directives. The assessment of conformity to accessibility requirements for the product to be developed is a contractual issue. Standards related to certification of persons and assessment of processes, referred or described in this report, can be referred to in contract clauses. On the other hand, requirements on the supplier's technical ability and capacity concerning accessibility can be stated in the call for tender and the tenders to be evaluated. The Procurement Directive strictly regulates which means of proof the procurer is allowed to ask for. Worthy of note is the fact that ISO/IEC 17050 on supplier's declaration of conformity and EN 45011 on product certification do not cover the certification of organizations.

## 12.3 Conclusions from the analysis

This report has presented an analysis of conformity assessment systems and schemes that could be applied in the domain of the public procurement of accessible ICT products. Some conclusions can be drawn.

First the procurement of ICT products is a **highly complex and variable process**. Due to this complexity and variability one conformity assessment system (and less so a scheme) is unlikely to be applicable across all the situations covered by the public procurement of accessible ICT products. This has led us to develop an analysis model of conformity assessment schemes (the "dimensions") and an analysis model of public procurement contexts (the "criteria"). When used together, these two models can help the public procurer to choose the conformity assessment system that is best suited for the situation at hand.

A second key concept is that the Public Procurement Directives give the contracting authority **little freedom of choice** as to what means the suppliers can use to demonstrate the accessibility of the offered products. This is more relevant in commercial procurement: the contracting authority has to accept **equivalent means of proof** of conformity with the technical requirements.

The real solution would be to use a diversity of conformity assessment schemes during the "acceptance" step of the execution of the awarded contracts. In this specific context (the **acceptance test**), the contracting authority has freedom of choice of the methods of assessing whether the products are accessible (as defined by the corresponding accessibility requirements set out in the technical specifications). If the re-assessment fails, the contracting authority can then take actions (liability, contract cancelation, etc.) to ensure that the future product is as accessible as possible.

A third extremely important concept is that the contracting authority has to be able to analyse the different offers and then decide which one best complies with the accessibility requirements. This means that the contracting authority has, to the best of its ability, to **assess the reliability of the submitted declarations of accessibility**. For example, the authority should validate the declaration with respect to whether the declared product is identical to the offered product. The authority does not need to repeat the determination on which the declaration is based. Hence, the quality of the conformity claim in the declaration must be transparent. Contracting authorities need to find people with adequate knowledge to carry out such an assessment.

Concerning the dimensions that have been created to analyse conformity assessment schemes, **some dimensions have preferred values**, irrespective of the characteristics of one particular public procurement context:

- *Type of requirements*. They should be always international or European standards to guarantee the maximum harmonization between countries. National standards should be avoided because they can fragment the market. This can create trade barriers and is also disadvantageous for users.

- *Scalability*. All the methods should provide techniques to deal with complex evaluations, such as sampling and scope definition.

- *Method of determination*. It should be mixed, given the nature of accessibility requirements, which require the participation of human expertise during the assessment.

- *Detail of attestation*. It should be "detailed" to help the public procurers to choose the best offer.

- *Publicity*. It should be "yes". The publication of the results of the assessment will again help the public procurers to choose the best offer.

It should be noted that contracting authorities have the right to state whatever requirements they find necessary, desirable and relevant as long as the requirements do not violate the principles of the Treaty of Rome, the Procurement Directives and national procurement legislations. What is necessary, desirable and relevant varies depending on the business, environment, context-of-use and other circumstances in question. This also applies to requirements on conformity assessment. On the other hand, industry cannot be expected to adapt and change its production processes on a procurement-by-procurement basis.

The analysis of dimensions and criteria in clauses 6, 8 and 9 provides a model for parts of the guidance to be produced in Phase 2. Properly designed, the analysis of the guidance will preferably arrive at a very limited set of alternatives, for example SDOC with internal assessment, SDOC with external assessment and third party certification.

A last conclusion concerns the abilities and capacities of the suppliers. This issue is extremely relevant for the procurement of project development, given that the contracting authority has to choose the best supplier and has no product to look at, as the product does not usually exist at that stage.

# 13 Draft Recommendations for Mandate 376 Phase 2

## 13.1 Introduction

The Project Team was requested to provide draft recommendations for Phase 2 of the Mandate M/376, as regards conformity assessment to, and supplier's capacity and ability of, ICT accessibility. This clause is the response of the Project Team to this request. The recommendations are the opinions of the Team only and are purely advisory.

According to the Mandate, Phase 2 shall provide the following deliverables:

II. 1 A European Standard (EN) specifying for all ICT products and services within each of the technical areas the corresponding requirements for accessibility, whether they already exist or are newly developed following the results of Phase I of this mandate.

II.2 A Technical Report (TR) listing the standards and technical specifications (building on deliverable I.1 (d)) that comply with the above mentioned requirements for accessibility.

II.3 Guidelines on accessibility award criteria that are relevant to each technical area that can be used in the procurement of ICT products and services.

II.4 Guidance and support material for public procurements, which should address at least the following :
– Information Technology planning guidelines
– Broad circulation of materials on accessible information technology
– Technical advice on new ICT hardware or software
– Training of IT staff on the use of the developed material
– Inventory of existing accessibility support services and of accessibility support needs
– Inclusion of accessibility in ICT call for proposals
– Verification of supplier claims of accessibility
– Tracking of non-compliance of products and services with accessibility requirements in tenders
– Information on the testing and certification aspects

II.5 An online, accessible toolkit providing structured access to the full content of the EN, the TR, the guidelines and the guidance material. It shall provide, in particular, thorough guidance and ready text to public procurers who will access it.

The draft recommendations below concern the deliverables II.1, II.4 and II.5, which the Project Team considers to be the most relevant for the scope of the Team.

We also want to raise a couple of issues outside the scope of the project, which we however believe are of general importance for Phase 2:

- The need for involvement of procurers in Phase 2
- The need for better knowledge of which business models and procurement strategies for ICT to be applied in the future
- The range of the procurement Directives, i.e. the distribution of procurements above and below the threshold, and the legislations in the Member States for procurements below the threshold.
- Ongoing work outside the Mandate, with potential impact on Phase II.

## 13.2 Draft recommendations

### 13.2.1 Deliverable II.1, the EN standard

#### 13.2.1.1 Assessability

For deliverable II.1 of Phase 2, the European Standard specifying requirements for accessibility, ISO/IEC Guide 7 [ISO, 1994] or its successor ISO/IEC 17007 should be taken into account. The scope of Guide 7 is to set out "guidelines to assist technical committees in drafting standards suitable for use for conformity assessment of products". It may also be used "as appropriate for the drafting of standards intended for conformity assessment of processes and services". Clause 5, Specification of requirements, states that

"- Standards should always be written in such a way that they facilitate and do not retard the development of technology. Usually, this is accomplished by specifying performance requirements rather than product design requirements.

- The requirements should be clearly specified, together with the required limiting values and tolerances, and the test methods to verify the specified characteristics. The requirements should be free from subjective elements; the use of such phrases as "sufficiently strong to" or "of adequate strength" should be avoided.".

ISO/IEC Guide 7 will eventually be replaced by the standard ISO/IEC 17007. CASCO, the ISO Committee dealing with standards on conformity assessment, is working on this standard.

As stated in ISO/IEC Guide 7, testing methods should be included for each requirement of the EN standard. This could be done inside this standard or as other(s) document(s). One suggestion is to create a multi-part standard:

- Part 1: the requirements, i.e. the EN standard as mandated in M/376
- Part 2-N: testing methods for specific technologies or features of ICT products (e.g. web sites, mobile phones, desktop personal computers etc.)

The EN standard, and the testing methods, should be complete, i.e. cover all accessibility aspects of a product. A declaration of conformity to a standard where physical accessibility is fully covered but cognitive accessibility to a lesser extent, may convey a wrong message.

When defining testing methods for accessibility requirements, a certain proportion of user capabilities should be preassumed. Users should, for example, be able to operate state-of-the-art assistive technology.

The EN standard should be made harmonised with other international accessibility standards. If this is achieved, the test methods should also be harmonised.

For the review of the US ICT accessibility standards, the TEITAC report discusses the problem of conformity assessment under the term "testability". Section 5.2 says, inter alia:

"As we considered each provision, we tried to find a balance between generality and precision that is:

- Precise and unambiguous enough to easily determine if a product meets the requirements of the provision.
- Open enough, avoiding overly prescriptive language, so that the provision does not stifle innovation.

The Committee did not create any specific test methods for the provisions in the recommendations. While there was discussion on what type of test might be needed for each provision, no consensus was reached. Including this section in the report was also a concern as this is not a formal recommendation for test methods, but a statement of how a test might be developed.

We used the terminology of 'inspection', 'measure (formal test)', and 'expert review', and included a reference to one of them in the information that accompanies each provision."

Recommendation 1:

Make the EN standard compliant to ISO/IEC Guide 7, or its successor ISO/IEC 17007, if the latter will be available.

Recommendation 2:

Include testing methods for each requirement of the EN standard. If the EN standard is made harmonised with other international accessibility standards, the testing standard should also be harmonised.

#### 13.2.1.2 Meeting of expectations

Further for deliverable II.1, attestations conformant to the deliverables of this mandate could be expected to create expectations on the level of accessibility of products and services claiming conformity with the standard. Therefore, deliverable II.1 should include a clause on conformity to the standard, which should not specify the conformity at too low a level.

Generally, the requirements in calls-for-tender are divided into "shall" and "should" requirements. "Shall" requirements state features which are necessary for the operation of the subject-matter of the procurement. Tenders which do not meet all "shall" requirements shall be rejected. "Should" requirements are advantageous, although not necessary, for the operation. The responses in the tenders to these requirements are used for ranking tenders. In short: "shall" requirements are for rejecting bad tenders, "should" requirements are for finding the best tender. The EN should be suitable not only for sorting out bad tenders, but also for ranking of tenders in order to find the best one with respect to accessibility. One way is to include a number of "bars", reflecting levels of accessibility. A single low bar, which almost all tenders will pass, is of no use in a procurement situation. Ideally, the bar levels should be constructed to stimulate suppliers to continuously improve the accessibility of their products.

Recommendation 3:

The EN shall include a clause specifying criteria for conformity to the EN. The criteria should include levels of accessibility, so that they can be used for ranking of tenders.

### 13.2.2 Standard for accessibility conformity assessment

As pointed out in clause 12 of the report, due to the complexity and variability of ICT procurement, a single conformity assessment system for accessibility (and less so a

scheme) is unlikely to be applicable. Both the demand side (procurers, users) and the supply side should have the chance to choose the best suited conformity assessment tools for the situation (the product, the user group, life expectancy of the product on the market, change frequency of the product etc.).

There is no need for unique standards on conformity assessment systems of accessibility. Standards with rules, procedures and management of the main options – supplier's declaration of conformity and third party certification – exist and can be used for accessibility assessment. However, there is a need for recommendations on how to deal with accessibility in the different phases of conformity assessment – selection, determination, review and attestation, and surveillance. Such recommendations can be based on the preferred values of some of the dimensions of conformity assessment schemes, as listed in clause 12.3 of the report:

- Requirements should be international or European standards
- All methods should provide techniques to deal with complex evaluations
- Determination should consist of testing and inspection
- Attestation should be detailed
- Results of the assessment should be made public

In addition, the most crucial element in a conformity assessment scheme is the normative document specifying the requirements. The accessibility of a product is determined by the requirements, not the procedure for demonstrating that the requirements are fulfilled.

Recommendation 4:

Flexibility should be ensured both for procurers and suppliers, so that an appropriate conformity assessment scheme or system can be chosen depending on the procurement situation. A decision system for this is provided in the report.

Recommendation 5:

Provide a document (standard or technical specification) containing guidelines on how to deal with conformity assessment of accessibility.

### 13.2.3 Deliverable II.4 (Guidance and support material) and II.5 (toolkit)

There is a need for a Guide or a Technical Report targeting suppliers, notably small- and medium-sized enterprises, with guidance on how an accessibility conformity assessment scheme for a supplier's declaration of conformity should be designed to assure procurers' and users' confidence and satisfaction. For the selection phase, guidance could be provided on how to apply the EN standard (Deliverable II.1) and, for example, the standards on human-centred design and process reference models and methods in the ISO 9241 series. For the determination phase, guidance could be provided on how to apply, for example, the standards in the ISO 20282 series on methods for test of ease of operation.

Procurers need guidance on

- how to apply the EN standard with respect to the operations that the object of the procurement is intended to carry out and concerning the user group, which should always be expected to include people with a wide range of abilities,
- how to formulate appropriate requirements on a supplier's declaration of conformity, such as compliance to ISO/IEC 17050 and inclusion of evidence that the supplier has applied the abovementioned guide,
- validation of a supplier's declaration of conformity may be needed, i.e. to check for example that the person who has signed the attestation is authorized to do so, that the declaration complies with ISO/IEC 17050, and that the offered product is identical to the declared product.

Clause 3 of the report presents a "multi-criteria decision support system" for choosing the best conformity assessment system for any given public procurement situation. Further presentation, and an illustration of how this system could be applied are given in clauses 5, 8 and 9 of the report.

Existing tools and tools under development should be taken into account in order to avoid duplication of work. Examples are The Public Procurement Toolkit, developed by the National Disability Authority of Ireland (existing), the Canadian toolkit (http://www.apt.gc.ca/) and the ongoing review work in U.S.A. in relation to Section 508.

Recommendation 6:

Deliverables II.4 and II.5 should include guidance for both procurers and suppliers, providing best practices for suppliers on design of supplier's declaration of conformity, for procurers on how to apply the EN and for how to state requirements on and validate declarations on conformity.

Recommendation 7:

The "multi-criteria decision support system", described in clause 3 of the report, should be developed to be included in the guidance.

Recommendation 8:

Ensure that duplication of work is minimized, by taking into account existing tools and tools under development.

## 13.3 Supplier's technical capacities and abilities

According to the mandate, Phase I shall address existing or propose requirements for supplier's technical capacities and abilities in the accessibility domain, which can be used to select suppliers or in support of the conformity process. This is addressed in clause 10 of the report. In clause 10.5, three objectives are outlined:

- Specification of what capacities and abilities that would constitute an "accessible supplier"
- Incorporating accessibility in mainstream approaches, methods and models used for development, manufacturing and operation of ICT

- Enabling of certification of suppliers with respect to accessibility.

### 13.3.1 Specification of supplier's capacities and abilities

Since the Procurement Directive strictly regulates the means of evidence of capacities and abilities that a procurer can require by a tenderer, the Project Team has concluded that there is little or no opportunities for proposing new requirements for procurements above the threshold. The procurers' options are limited to specifying which of the allowed means of evidence he wishes to receive.

The procurer's freedom of choice is greater below the threshold. However, it is not feasible from the limited or non-existing experiences with the few approaches identified by the Project Team to propose a set of requirements for technical capacities and abilities on accessibility. Instead, the approaches listed in clause 10.1.1 could be used as a basis for a specification of what constitutes a supplier with good capacities and abilities in the accessibility domain. Such a specification may include "should" requirements on organisation, policy, skills of staff, etc. It could be used as a set of ordinary "should" requirements in the call-for-tender, but also as conditions for performance of the contract, according to Article 26 of the Directive. The mandate does not specify what should be done in the capacity/ability area, but such a specification could possibly be included in the toolkit.

Recommendation 9:

Develop a specification of characteristics to be met by a supplier to possess good capacity and ability in the accessibility domain. The specification should be produced under the auspicies of a standardisation body.

### 13.3.2 Mainstreaming of accessibility in existing approaches

As pointed out in clause 10 of the report, suppliers should be encouraged to put accessibility on their agenda. In other words, suppliers should adopt accessibility in their ordinary business processes. In fact, one of the main reasons why the accessibility of many ICT products is not satisfactory could be that accessibility has no self-evident place in the business processes of developing and manufacturing companies. It must however be noted that many companies have developed their own product development processes over many years. These processes are tailored to the situation and needs of the individual company and include e.g. product safety, quality and sometimes usability. Therefore it is not feasible to create new processes for the field of accessibility. Instead, ideas should be provided on how to incorporate accessibility in existing processes in an efficient way.

There are also some standards and commercially available development methods, notably for software applications, which are widely used by the ICT industry. Accessibility considerations are, however, not included in these mainstream approaches. For example, accessibility is not a specified part of the system development methods such as RUP™ and DSDM™. The quality management system standard ISO 9001 does not include anything on accessibility. The development of "accessibility extensions" to widely used formal and de facto standards and specifications of business processes would be a possible way of promoting mainstreaming of accessibility.

Another process standard where accessibility is missing but could be added is ISO/IEC 20000, also known as ITIL®, IT Infrastructure Library. This is a framework of

management procedures intended to support businesses in achieving quality and value in IT operations. There is an ITIL process Security Management which is based on a standard for code of practice for security management. A similar procedure for accessibility management could be envisaged.

Recommendation 10:

Develop “accessibility extensions” for well-spread system development methods, quality management systems and IT management procedures. This work is outside the scope of the mandate, but could be briefly elaborated upon and forwarded to some appropriate project programme.

### 13.3.3 Accessibility management system

A more long-term idea could be to develop a standard on accessibility management, by modelled on the ISO 14000 family on environment protection or the ISO 27000 family on information security, for example.

From a procurement point of view, a standard on accessibility management system has a big advantage, in addition to the fact that technical specifications shall refer to standards according to the procurement Directive: it could substantially reduce the amount of work both for the procurers and the suppliers. For the procurer, the invitation to participate in the pre-selection phase will contain one single requirement on accessibility: a reference to that standard. For the supplier, once an accessibility management system is in place in the organisation, the work of responding to requirements on supplier’s technical capacity and ability as regards accessibility is very simple. A description of the management system can be produced to suit most calls-for tender, and will therefore be a one-off activity. Thereby, the cost of elaborating the tender is reduced.

The disadvantage is that development of an accessibility management standard is a long and cumbersome process. It requires much preparatory work and stakeholder involvement. Justification must be ensured. ISO Guide 72:2001, *Guidelines for the justification and development of management system standards* [ISO, 2001b], need to be studied. It provides guidance on

- Justifying and evaluating a proposed management system standard project with a view to assessing market relevance,
- The methodology (process) of developing and maintaining (i.e. reviewing and revising) management systems standards with a view to ensuring compatibility and enhancing alignment, and
- Terminology, structure and common elements of management systems standards with a view to ensuring compatibility and enhancing alignment and ease of use.

Recommendation 11:

A preparatory study should be carried out to explore the realism of starting a justification study according to ISO Guide 72 for the development of a standard on an accessibility management system in the field of ICT. Annex A of the Guide lists a set of questions to be addressed in a justification study. The preparatory study could consist of limited set of these questions, for example the purpose and scope (A.2.1.a), the need for (A.2.3.a) and the expected benefits and costs (A.2.5.1.a) of an accessibility management standard.

## 13.4 The need for involvement of procurers in Phase 2

For this Mandate, there are three major stakeholder groups: users, suppliers and public procurers. The Project team has noted that public procurers are underrepresented in the CEN BT Working Group 185 and CENELEC BT Working Group 101-5. We also note that the public procurers are, together with the suppliers, users of the EN standard and the main users of the toolkit. It is of great importance that public procurers from Member States are involved in the work of Phase 2. Knowledge of the procurement legislation will be important, but the inclusion of procurers' practical experiences of ICT procurements will be necessary.

Recommendation 12:

Expertise in procurement practices must be involved in the work of Phase 2.

## 13.5 Future business models and procurement strategies

One of the tasks of the ETSI PT is to make an inventory of ICT products and services that are usually bought by public procurers. The team has accomplished the task by using the CPV classification system. This is completely in response to the task I.1(a) of the Mandate 376.

However, the work in Phase 2 has to be based not only on which types of hardware and software that are bought, but also on how they are bought, i.e. which procurement strategies and business models that will be prevalent the next few years. Otherwise, the results of Phase 2 are at risk of specifying accessibility requirements at the wrong level. (Analogy: if we want accessible housing, there is no use of developing a standard on accessibility of planks and nails, if people usually rent their houses ready-built.)

A reasonable hypothesis, supported by observations at least in Sweden, is that public agencies increasingly want to acquire services and functions rather than components of hardware and software. They want solutions where hardware, software and services are bundled and interoperable. They will state their requirements in terms of functions and performance rather than in technical terms. In addition, they want to pay by periodic fixed rates. This stems from a wish to reduce investment costs and instead regard ICT as running costs, like travels and electricity. ICT will no longer be seen as a core activity of a public agency, just like a public agency does not have its own aircraft company and power plant.

This coincides with the suppliers' wish to act as solution providers and business partners rather than selling equipment on a one-off basis. The product portfolio of ICT companies will increasingly be "higher up" in the value chain.

This hypothesis implies that the acquirement of the hardware and software components that will provide the specified functions and performance will be transferred from the public procurer to the supplier. Thus, the supplier will be responsible for selecting those components that will meet the specified accessibility functions and performance. For Phase 2, there are two consequences of this hypothesis:

- The main target products and services for the EN standard must be identified. If the standard is targeted to products upstream the value chain, it will not be used if the products actually marketed and purchased are located downstream (i.e. more sophisticated) in the value chain.
- The need to assess the supplier's capacity and ability in the accessibility domain will increase in importance. Procurers will increasingly want to base awarding of contracts on evaluation of suppliers' capacities and abilities, demonstrated in tenders as a response to requirements on descriptions of organisation, skills and policies, requests for certificates on management systems, track records etc. As is pointed out in clause 10 of the report, there are different types of suppliers in the ICT domain: developers, manufacturers, system integrators, service providers, retailers etc.

Recommendation 13:

Phase 2 would benefit from being started with or preceded by a study on which business models and purchasing strategies that will be prevalent the next few years

Such a study seem not to be possible to be carried out by an expert team with focus on accessibility. Better would be to engage a consultancy company active in most of the Member States.

## 13.6 Legislation below the threshold and its impact for the use of the deliverables of Phase 2

The legislation on public procurement in the EU Member States is based on the Directives 2004/17 EC and 2004/18 EC. A large number of procurements in the Member States fall below the threshold amounts of the Directives. These procurements are subject to other national procurement legislations. It is not known to the Project Team to which extent these legislations yet adhere to the conditions of the directives. In Sweden for example, the Directives are in principle implemented below the threshold. In UK, on the other hand, procurements below the threshold are not regulated at all apart from what follows from the Treaty of Rome. It could be assumed that a significant number of procurements are subject to a regulation which do not include an enforcement to take accessibility into account in the defining of technical specifications. In addition, these regulations may not include restrictions such as reference to standards "or equivalent", the exhaustive list of allowed means of proof, and much more.

If this assumption is correct, this implies that procurers, for these procurements, do not have to apply the EN and the toolkit of Phase 2, if this does not follow from other legislations. Since the mandate cover all ICT procurements irrespective of purchase sum, the EN standard and the toolkit must be attractive in their own rights, for use voluntarily in procurements below the threshold.

Recommendation 14:

In order to estimate the reach of the deliverables of Phase 2, a study should be carried out of the legislation in the Member States on public procurement below the thresholds. In particular, if and how reference to standards and means of proof of conformity are regulated.

## 13.7 Following of work outside the Mandate

There are activities inside and outside the EU that will have impact on the work of Phase 2 and which should be followed. The report mentions two examples: the revision of VPAT and the Action Plan on electronic procurement.

Recommendation 15:

Follow relevant work outside the Mandate, such as the revision of VPAT and the Action Plan on electronic procurement.

## 13.8 Summary of recommendations

1) Make the EN standard compliant to ISO/IEC Guide 7, or its successor ISO/IEC 17007, if the latter will be available.

2) Include testing methods for each requirement of the EN standard. If the EN standard is made harmonised with other international accessibility standards, the testing standard should also be harmonised.

3) The EN shall include a clause specifying criteria for conformity to the EN. The criteria should include levels of accessibility, so that they can be used for ranking of tenders.

4) Flexibility should be ensured both for procurers and suppliers, so that an appropriate conformity assessment scheme or system can be chosen depending on the procurement situation. A decision system for this is provided in the report.

5) Provide a document (standard or technical specification) containing guidelines on how to deal with conformity assessment of accessibility.

6) Deliverables II.4 and II.5 should include guidance for both procurers and suppliers, providing best practices for suppliers on design of supplier's declaration of conformity, for procurers on how to apply the EN and for how to state requirements on and validate declarations on conformity.

7) The "multi-criteria decision support system", described in clause 3 of the report, should be developed to be included in the guidance.

8) Ensure that duplication of work is minimized, by taking into account existing tools and tools under development.

9) Develop a specification of characteristics to be met by a supplier to possess good capacity and ability in the accessibility domain. The specification should be produced under the auspicies of a standardisation body.

10) Develop "accessibility extensions" for well-spread system development methods, quality management systems and IT management procedures. This work is outside the scope of the mandate, but could be briefly elaborated upon and forwarded to some appropriate project programme.

11) A preparatory study should be carried out to explore the realism of starting a justification study according to ISO Guide 72 for the development of a standard on an accessibility management system in the field of ICT. Annex A of the Guide lists a set of questions to be addressed in a justification study. The preparatory study could consist of limited set of these questions, for example the purpose and scope (A.2.1.a), the need for (A.2.3.a) and the expected benefits and costs (A.2.5.1.a) of an accessibility management standard.

12) Expertise in procurement practices must be involved in the work of Phase 2.

13) Phase 2 would benefit from being started with or preceded by a study on which business models and purchasing strategies that will be prevalent the next few years.

    Such a study seem not to be possible to be carried out by an expert team with focus on accessibility. Better would be to engage a consultancy company active in most of the Member States.

14) In order to estimate the reach of the deliverables of Phase 2, a study should be carried out of the legislation in the Member States on public procurement below the thresholds. In particular, if and how reference to standards and means of proof of conformity are regulated.

15) Follow relevant work outside the Mandate, such as the revision of VPAT and the Action Plan on electronic procurement.

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