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Title

"eAccessibility"

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Requested action

- ☒ For information only
- ☐ For discussion at
- ☐ For comments (Deadline:)
- ☐ For voting (Deadline:)
- ☐ Other action

CEN/BT WG 185 Project Team Interim Technical Report

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

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1. Introduction

This Interim Technical Report is 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 1 of EU Mandate M/376. The scope of this Revised Initial Report is to fulfil Task 5 of the Terms of Reference, i.e. to "address the initial comments from the BT/WGs on the draft they saw before, including instructions from the BT/WGs to the PT on things to be addressed in the next version".

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 ISO/IEC 17000:2004): result of a process. The above international standard refers to four categories of products: service, software, hardware and processed material. Thus, the term "product" includes services, and this report will not use "product and 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 website to publish comments and questions regarding the project team's work and the project team's responses. The following text was published on this website:

"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@verva.se. 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 webpage together with the source and date of the issue. The webpage 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 is hosted by Verva, the project leader's organisation. See http://www.verva.se/m376conformance.

The project members are:

- Loïc Martinez-Normand, Technical University of Madrid, Computer Science School, Madrid, Spain
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2. Framework for conformity assessment

2.1 Conformity assessment 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 describes 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 *Guide to the implementation of directives based on the New Approach and the Global Approach* [EC, 2000].

2.2 Definition of conformity assessment

For the purpose of this project, the terminology of the standards listed in section 2.1 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 also assumed that Member States may implement conformity assessment standards in different ways.

2.2.1 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". 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.

Conformity assessment is defined by a functional model, comprised of four functions:

- *Selection* of the object of assessment, the requirements and the methods for performing the other functions
- *Determination* to gather full information regarding fulfilment of the specified requirements by the object of the conformity assessment or its sample
- *Review and attestation*, consisting of final checking of the decision and the production of the statement of conformity
- *Surveillance*, that is, systematic iteration of the assessment activities to maintain the validity of the statement. Surveillance is optional and may be needed, for instance, when the object of conformity changes over time.

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 a conformity assessment scheme.

2.2.2 Requirements

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

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 websites, the upcoming EN ISO 9241-171 [ISO, 2007] for software, and the so-called section 508 standards for electronic and information technology.

2.2.3 Assessments

The assessment 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 "determination of one or more characteristics of an object of conformity assessment, according to a procedure". Requirements for testing laboratories are given in EN ISO/IEC 17025.

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". Requirements for bodies carrying out inspections are stated in EN ISO/IEC 17020.

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. The inspection body may have to demonstrate that it has the necessary competence to perform the task (from the guidance on EN ISO/IEC 17020 by the International Accreditation Forum [IAF, 2004]).

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.

Tools may support the assessment process. Examples of tools for the web can be found at [W3C, 2006].

Given that accessibility is a concept strongly related to usability, current methods of accessibility evaluation are commonly based on methods of usability evaluation. There are generally three types of usability evaluation methods: testing, inspection, and inquiry. In the usability testing approach, representative users work on typical tasks using the system, and the evaluators use the results to see how the user interface helps the users to do their tasks. In the usability inspection approach, usability specialists —and sometimes software developers, users and other professionals— examine usability-related aspects of a user interface. In usability inquiry, usability evaluators gather information about users' likes, dislikes, needs, and understanding of the system by talking to them, observing them using the system in real work, or letting them answer questions verbally or in written form. Both usability testing and usability inquiry can be considered formative approaches, whilst usability inspection is a summative approach and is thus more relevant to conformity assessment. Commonly used usability inspection methods are: cognitive walkthroughs, feature inspection, heuristic evaluation, guideline checklists, standards inspection, pluralistic walkthrough and perspective-based inspection.

2.2.4 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 of assurance can be issued that fulfilment of the specified requirements has been demonstrated. In EN ISO/IEC 17000 this issued statement is called 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 organisation is independent of both the supplier and the customer, this person or organisation is referred to as a third party.

The standards EN ISO/IEC 17000, EN ISO/IEC 17020, EN ISO/IEC 17021, EN ISO/IEC 17024, EN ISO/IEC 17025 and EN ISO/IEC 17050 specify the status and content of a set of attestations. These attestations are described in the following.

2.2.4.1 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.

2.2.4.2 Supplier's declaration of conformity

A supplier's declaration of conformity is a first party attestation that may be 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.

2.2.4.3 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.

2.2.4.4 Third party declaration or (certification)

EN ISO/IEC 17000 defines certification as "third party attestation related to products, processes, systems or persons". A keyword here is "independent". EN 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 standard EN 45011 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, which are barriers to the requested 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.

2.2.4.5 Difference between certification and inspection

Generally, inspection involves direct determination of the conformity with specific or general requirements of unique —often complex or critical— products or small series of products, 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 EAIAF/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]

2.2.4.6 Accredited attestation

A conformity assessment body 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. Requirements on bodies to become accredited are stated in the relevant standards EN ISO/IEC 17020, EN ISO/IEC 17025 and EN 45011. These requirements are very detailed and concern organisation, competence, independence, impartiality and general principles for how to carry out conformity assessments.

3. Regulatory framework for public procurement as regards conformity assessments

3.1 General legal principles for all public procurements

All public procurements in the EU Member States must comply with the principles of the EC Treaty. These principles are mentioned in Directive 2004/18/EC on the coordination of procedures for the award of contracts on public works, supply and services [EC, 2004]. Whereas clause 2 of the Directive lays down that

"The award of contracts concluded in the Member States on behalf of the State, regional or local authorities and other bodies governed by public law entities, is subject to the respect of the principles

of the Treaty and in particular to the principle of freedom of movement of goods, the principle of freedom of establishment and the principle of freedom to provide services and to the principles deriving therefrom, such as the principle of equal treatment, the principle of non-discrimination, the principle of mutual recognition, the principle of proportionality and the principle of transparency."

- The principle of *equal treatment* implies that all suppliers shall be given equal opportunities and conditions. For example, accessibility requirements shall be formulated and verified in a way that all products and all tenderers are treated equally.

- 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.

- The principle of *mutual recognition* means that conformity assessment results (declarations, certificates, test reports, etc.) issued by a body recognised in a Member State shall be recognised in the other Member States. That is, a contracting authority must accept equivalent proofs of compliance issued by recognised non-national bodies.

- The principle of *proportionality* means that the contracting authority must not set out more far-reaching requirements than necessary with respect to the needs in the actual procurement. This principle is applicable to requirements on conformity assessments. Some procedures for verification of compliance may be more costly and time-consuming than others. Proportionality plays an essential role in selecting accessibility conformity assessment schemes for ICT products. A balance must be struck between the importance of verifying accessibility and the resources (personnel, financial resources and administrative burdens) needed for verification. When it is very important for the purchased product to be accessible, there is a stronger motive for requiring more demanding schemes (i.e., some kind of third party intervention). Thus, it would be very appropriate to set up a levelled scheme requiring different forms of conformity assessment depending on the product. Note however that a product with a third party certification is not necessarily more accessible than a product with a first party attestation from a supplier. A third party certification only makes the contracting authority more confident that the product really does have the accessibility that the supplier claims it to have.

- The principle of *transparency* concerns the obligation of the contracting authority to provide information on the procurement and how it is going to be carried out, and release that information for all potential tenderers. The assessment of how a requirement is complied with must be predictable and repeatable to ensure that anyone carrying out verification will most likely get the same result.

3.2 Directive 2004/18/EC

Directive 2004/18/EC applies to contracts with a value above an amount specified in Article 7 of the Directive. This value (in fact three different values depending on contract type) is known as the threshold. The Member States have implemented the Directive in different ways. National legislations concerning procurements below the threshold are different, and include Directive clauses to various extents.

The Directive specifies rules on technical specifications and acceptance of proofs that tenders satisfy requirements set out in the technical specifications. Whereas clause 29 of the preamble gives the justification for these rules:

"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. Accordingly, it must be possible to draw up the technical specifications in terms of functional performance and requirements, and, where reference is made to the European standard or, in the absence thereof, to the national standard, tenders based on equivalent arrangements must be considered by contracting authorities."

"To demonstrate equivalence, tenderers should be permitted to use any form of evidence. Contracting authorities must be able to provide a reason for any decision that equivalence does not exist in a given case."

"The technical specifications should be clearly indicated, so that all tenderers know what the requirements established by the contracting authority cover."

"Technical specification" is defined in Annex VI of the Directive. Paragraph 1b is applicable for ICT products. It defines technical specification as
"defining 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 rules on technical specifications and acceptance of proofs are stated in Article 23 of the Directive. Paragraph 1 of Article 23 specifies that technical specifications shall be set out in the contract documentation, and 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, which is one of the key concepts in the US 508 legislation. Undue burden means significant difficulty or expense. 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.)

Paragraph 3 specifies that technical specifications shall be formulated either by reference to standards, or in terms of functional or performance requirements. In addition, certain characteristics can be specified by standards and others in terms of functions and performance. Where referring to standards, each reference shall be followed by the words "or equivalent".

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".

In paragraph 5, the inverse situation is specified. Where a contracting authority refers to functional and performance requirements, it cannot reject a tender for products which 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 recognised body". In paragraph 7, recognised bodies are defined as "test and calibration laboratories and certification and inspection bodies which comply with applicable European standards". In addition, paragraph 7 specifies that "contracting authorities shall accept certificates from recognised bodies established in other Member States."

3.3 What does this mean?

The Directive does not specify *what* requirements the contracting authority may set. Rather, it specifies *how* the requirements should be formulated and what the authority must accept from the tenderer. It follows from the definition that a technical specification may, but not must, include requirements on conformity assessments, i.e. that a conformity assessment procedure should be used in the tender to verify compliance with requirements set out in the technical specification.

The Directive does not clearly state that the fulfilment of a requirement must be verified. However, a decision by the EC Court (Case C-448/01 Wienstrom) lays 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 award criteria." According to the definitions of conformity assessment in the standard EN ISO/IEC 17000, an assessment can be performed either by the supplier (the first party), the customer (the second party) or someone else (a third party).

The contracting authority can always verify that the tender conforms to the stated requirements itself, provided that it has the necessary knowledge and equipment to carry out such 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 carry out the verification during the evaluation of the tenders, e.g. because it would be too time-consuming, the authority may ask the supplier to provide proof, i.e. a conformity assessment, that a certain requirement is complied with in the call for tender. In the sense of EN ISO/IEC 17000, the authority may require either a first party attestation, a supplier's declaration of conformity or a third party certification.

Where requirements on conformity assessments are specified, they shall refer to standards "or equivalent", or be in terms of functions and performance.

It follows from Article 23, paragraph 4, that a specific conformity assessment scheme, even if it is a formal standard, cannot be specified as mandatory. The tenderer has the option to use another method for proof, provided this party can prove to the satisfaction of the contracting authority that it yields equivalent results.

It follows from paragraphs 4 and 5 that a test report from a recognised body is an admissible but not mandatory way of proving compliance with the requirements set out in the technical specification. The term “test report” is not defined in the Directive.

The Directive does not specify what kind of proof a contracting authority can require. A contracting authority is allowed to ask for verification by a third party as long as equivalent verifications made by bodies in other Member States are accepted. Since the Directive gives no guidance on what “equivalent verification” should mean, each contracting authority must detail its own interpretation in order to ensure that the principle of equal treatment is applied.

(Note: there are regulatory frameworks in other countries, e.g. USA, which may be relevant to the upcoming analysis in this project.)

4. Existing conformity assessment schemes on ICT accessibility

Table 2 shows the result of the search for existing conformity assessment schemes in the ICT accessibility field. The method used to identify schemes was two-fold:

- On the one hand, we searched the web for accessibility schemes using keywords such as "certification", "declaration", “conformity assessment" in combination with "accessibility".
- On the other hand, we invited stakeholders to provide inputs on this matter.

The main goal of the table at this stage is just to provide an overview of the state-of-the-art concerning these kinds of schemes. These schemes will be used as references and/or examples for future phases of the project.

Although many of the products (schemes) listed in the table target websites, we have found others related to software and other issues. Section 5 gives a more detailed description of the types of existing schemes found.

There are many third party schemes as well. First party schemes are, obviously, almost impossible to find since they are not advertised on the web.

Table 2 below summarizes the result of the search and the input. "Third party, not fully independent" means that the organisation does not certify products they have developed themselves, but does carry out some activities for the type of products for which they issue certifications.

SDoC is a commonly used acronym for Supplier's Declaration of Conformity.

Organisation, country	**Product(s)**	**Type of scheme**
Italy (several organisations)	Websites, hardware, software	Third party
WebAIM, USA	Websites	Third party, not fully independent

Organisation, country	Product(s)	Type of scheme
SSB Bart, USA	websites, web applications, hardware, software	Third party, not fully independent. Covers only accessibility for visual disabilities
RampWEB, USA	Websites	Third party, not fully independent
Segala, Ireland	Websites	Third party, not fully independent. Certificate is stored in Segala servers and contains detailed information.
ESI (European Software Institute) and CTIC (W3C Office in Spain), (carries out the technical work for AENOR certificate)	Websites	Third party, not fully independent
AENOR, Spain	Websites	Accredited third party
Applus+, Spain	websites, browsers, online service applications (and some products outside the ICT domain)	Third party
Euracert, Europe Consortium: Technosite, AccessiWeb, AnySurfer	Websites	Applied scheme is the same as for the individual member. Common application and logo.
Technosite, Spain	Websites	Third party, not fully independent
AccessiWeb, France	Websites	Third party, not fully independent
Anysurfer, Belgium	Websites	Third Party, not fully independent
SJA, Iceland	Websites	Third party and first party, not fully independent
Funka Nu, Sweden	Websites	Third party, not fully independent
SIUG, Switzerland	Websites	Third party
Access for All Foundation, Switzerland	Websites	Third party
W 3 A, New Zealand	Websites	Third party, not fully independent
DIN Certco, Germany	Websites	DIN Certco accredits third party certification bodies applying the same scheme

Organisation, country	Product(s)	Type of scheme
VPAT, USA	Electronic and information technology	SdoC
TCO Development, Sweden	Laptops, desktop computers, keyboards, displays, printers, mobile telephones. Issues a combined ecological and ergonomic (including accessibility) quality label	Third party
UsersAward, Sweden	Implementation and use of software	Third party
U mark, Japan	Telecommunications equipment	SdoC
Drempelvrij, Netherlands	Websites	Accredited third party
Accessibility Foundation, Netherlands	Websites	Accredited third party and third party control of SdoC
ITS logo scheme, Netherlands	Built environment and physical objects including ICT (excluding the web)	Third party
Software in Zicht, Netherlands	Software	Third party
AccessibilitéWeb, Canada	Websites	Third party, not fully independent

Table 2. Overview of existing accessibility conformity assessment schemes for ICT products

CWA 15554

The CEN Workshop Agreement CWA 15554:2006 [CEN, 2006], Specification for a Web Accessibility Conformity Assessment Scheme and a Web Accessibility Quality Mark, describes a scheme that provides a model for a harmonised web accessibility quality mark. The CWA specifies:

- The missions and functions of a European authority for ownership, management and coordination of the quality mark and the rules and processes for the scheme;
- Criteria that organisations shall meet in order to reach an agreement to issue the quality mark;
- Process to be followed by each organisation before issuing the quality mark;
- Good practices to be followed by organisations issuing the quality mark.

The CWA 15554 specifies criteria and processes for inspection organisations, certification organisations and for supplier's declaration of conformity. It refers to applicable specification standards: EN ISO/IEC 17020 for inspection bodies, EN ISO/IEC 17050 for supplier's declaration of conformity, and EN 45011 for certification bodies. Thereby, the CWA offers options for organisations wanting to improve the credibility of their web accessibility. The organisation can find a scheme that best fits their needs and that can be applied on a voluntary basis.

CWA 15554 does not specify the accessibility requirements against which a website will be assessed, although it is presumed that the assessment will be consistent with the latest adopted version of WCAG. Neither does it specify the methodology for the assessment. The requirements and assessment methodology are supposed to be developed in a separate normative document.

Unified Web Evaluation Methodology (UWEM)

The Unified Web Evaluation Methodology [WAB cluster, 2007] is the result of a joint effort by three European projects encompassing 23 organisations collaborating in the WAB Cluster to develop a common methodology for web evaluation that supports both expert evaluation and fully automated evaluation. The UWEM should ensure that evaluation tools and methods developed for large scale monitoring or for local evaluation are compatible and coherent with each other and with W3C/WAI. The UWEM aims to generate consistent results when different evaluators apply it to the same website. It is suitable for detailed evaluations of single webpages, entire sites (regardless of size) and sets of websites. It is a suitable basis for web accessibility observatories, for the development of certification schemes and for developing test cases for benchmarking evaluation tools. Some schemes and governments apply (parts of) UWEM.

5. Analysis of the schemes

Table 2 in section 4 shows that most of the conformity assessment schemes are for websites. A few of them are third party certifications, i.e. the issuer is independent of both the supplier party and the user/site owner party. For most schemes, the assessing body offers inspection of websites, combined with recommendations on how to improve them in order to comply with WCAG 1.0. These schemes do not conform to the EN ISO 17020 and/or EN 45011 standards, since the organisations are not independent, i.e. they offer consulting services, and do not specify their assessment methods.

A website is an example of objects of procurement where the conformity assessment takes place during a development or customization phase, which is after the procurement is finished. For product development procurements, like websites, the contract award is based on a ranking of factors such as the tenderers skill, delivery time and price, and not on websites other than as evidence of previously delivered services.

Very few examples of schemes dealing with accessibility have been found, other than for websites. One probable reason is that there is a very limited market for third party certification of ICT products. In addition, the ICT industry is generally averse to third party certification and quality marks. This is pointed out in EICTA's *White paper on eAccessibility* [EICTA, 2005] and the IDC White Paper *Using Appropriate Conformity Assessment Tools to Ensure Effective Consumer Protections* [IDC, 2007], for example. ANEC and EDF, in their joint position paper on e-accessibility [ANEC, 2007], do not state any preference for a specific type of conformity assessment, but believe that consumers should be informed about whether or not an accessibility mark has been awarded by an external conformity assessment.

Our findings are supported by the MeAC report (Measuring Progress of eAccessibility in Europe), issued in October 2007 [EC, 2007]:
"Certification of public website accessibility seems to be the main eAccessibility certification theme that is currently being directly addressed in policy in the EU Member States. Exhibit 95 presents the situation across Europe in relation to this theme. Even in this case, it can be seen that certification / labelling of accessibility is an important feature in only a minority of Member States to date and that it seems to play an integral / formal part of the policy approach in just 4 countries so far."
"Apart from web accessibility, there are just a few examples of Member States beginning to address eAccessibility certification in other ICT fields."

The Voluntary Product Accessibility Template (VPAT), which covers a wide range of ICT products, is not a typical supplier's declaration of conformity. SDoC is a first party attestation, as per ISO/IEC 17000, that is, it is a statement, based on a decision following a first party review, that a product meets specified requirements and that this has been demonstrated. While VPATs (Voluntary Product Accessibility Templates) share some overarching functionality, there are differences; primarily because public VPATs are basically marketing information. For the VPAT, suppliers (or manufacturers) disclose to what extent the product addresses requirements, but they do not provide a clear yes/no answer for each requirement and for global product accessibility. Public procurers mainly use VPATs to guide them in learning what there is on the market. Another relevant difference between SDoC and VPAT is based on the consequences of untruthful content. With SDoC, a company can contest a competitor's claim and the authority that holds the SDoC can investigate such claims and reject any found to be untrue. On the other hand, with a VPAT, companies can only contest competitors' claims indirectly, usually as a part of a procurement action and the authority cannot arbitrate claims by one company against another (except for blatant misstatements, such as including a competitor's product name in their documentation to influence searches or changing the wording of a requirement).

The VPAT has made a substantial contribution to raising awareness about accessibility issues. However, there are signs that the scheme does not work as well as expected. See page 36 in *Over the Horizon: Potential Impact of Emerging Trends in Information and Communication Technology on Disability Policy and Practice* by the National Council on Disability in USA, December 2006 [NCD, 2006].

TCO Development, which is a third party certification, has been successful in getting their quality mark for displays recognized by industry world-wide, whereas only one model has applied for its equivalent mark for mobile telephones.

6. Conformity assessment schemes in other domains

6.1 Quality labels

Support-EAM [Support-EAM, 2007], a Specific Support Action under the 6th Framework Programme, made a survey of existing models for quality marks, as an input to the creation of a web accessibility mark (Deliverable 3.1, State-of-the-art of Certification Scheme in Europe). Some of these models are a potential basis for conformity assessment schemes in the framework of this project.

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 to suppliers of training)
- Social Accountability 8000 (social and ethical aspects of company activities)
- Keymark (see 6.2 below)
- CENCER (see 6.3 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)

6.2 Keymark

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.

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 (March 2007).

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 for certifying 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.

The Keymark should not be confused with CE marking [CEN, 2008].

6.3 CENCER

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 consumers confidence that a product complies with the requirements of approved documents [CEN, 2008b].

6.4 Common Criteria (ISO/IEC 15408)

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

Common Criteria is an international method and standard defining requirements on and evaluating the security of ICT products and systems. It can be used by both purchasers (customers, users) and suppliers. It assists the purchaser in formulating functional requirements derived from identified security needs. Suppliers and developers can use Common Criteria as a way of showing that a product complies with a defined evaluation level. This can be verified by a third party, and result in a certificate.
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 organisational third party roles: the Evaluation organisation, which evaluates a product or system against specified requirements; and the Certification body, which issues a certificate verifying that a specified product complies with specified requirements.

There are two types of requirements, which can be defined and stored in a catalogue for reuse:

- Security functions, such as identification, protection of user data, encryption, user integrity etc.
- Assurance requirements, i.e. how accurately the security functions shall be verified. This may involve evaluation of the supplier's design process, delivery procedure, user documentation, testing, etc. There are seven Evaluation Assurance Levels, reflecting an increasing need for evaluation accuracy.

6.5. Study on conformity assessment of electronic procurement

The EU Working Group on Electronic Procurement is currently discussing *Compliance Verification in Electronic Public Procurement*, a study produced by a consultancy company, Carsa [CARSA, 2007]. The objective of the study is to identify, analyse and compare optimum mechanisms for verifying across all EU/EEA Member States that the systems and existing or forthcoming electronic public procurement tools comply with the requirements of the new public procurement Directives 2004/18/EC [EC, 2004] and 2004/17/EC [EC, 2004b].

The study describes three scenarios for how conformity assessment (called "compliance verification" in the study) of electronic procurement systems could be organised. The study does not deal with the requirements that would form the basis for verification.

Scenario 1 is a "light" approach. It is a voluntary scheme and the result of the verification is a quality label. No formal standards are required. Instead, the verification is against guidelines. In this scenario, compliance verification may be both internal and external, although, to ensure mutual acceptance, the results of any internal verification should be revised externally by an independent body. The required administration and coordination could be carried out by the various bodies already involved in the management of electronic procurement. Even if this

scheme is "light", the verification process and the award of the quality label should be rigorous. This scheme is relatively easy to implement.

Scenario 2 is considered as the hardest to implement. It is based on the existence of internationally accepted standards. Aspects critical to interoperability should be mandatory, while others should only require voluntary compliance. The verification procedures result in certifications and must be carried out by accredited external bodies. This scheme requires mutual agreements between all the Member States to ensure that the results of a certification carried out in one country are recognized in all other Member States. A European-level agency, with regulatory power, will be needed for coordination, administration and enforcement.

Scenario 3 is of medium complexity. It is based on the New Approach and European system for harmonised standards. Since compliance with harmonised standards is voluntary, this scheme is voluntary. There may, however, be aspects which are critical to the interoperability of electronic procurement. These aspects may be classified as essential requirements, making their status mandatory. The compliance verification procedures are those defined for the New Approach, and require the participation of notified bodies, i.e. bodies entitled to carry out assessments against harmonised standards. The verifications in this scheme result in certifications. CE marking may be included. Coordination is carried out at national level, but a European-level agency will be needed for conflict resolution and settlement.

A key conclusion by Carsa is that a common scenario is recommended for the EU/EEA as a whole. The study recommends two alternatives that could be implemented across all EU/EEA Member States. One is to use scenario 1, since this is the easiest and most flexible model to implement. The other is a layered alternative, where Member States with technical or financial limitations could use scenario 1 and later, when they are considered to have developed their capacities, move to scenario 2 or 3. Member States with capacities to implement the more complex scenarios 2 or 3 could use one of them directly.

7. Complementary approaches to conformity assessments

7.1 Market surveillance

Market surveillance is an essential tool for the enforcement of the New and Old Approach directives [EC, 2005]. It needs to function effectively in order to provide the following guarantees:

- Uniform application of EU 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 EU law.
- When necessary, they then take action to establish conformity.

In addition to the implicit obligations in the EC Treaty, EU law contains 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 EU, and that uneven enforcement at national level is a barrier to a fully effective system of cross-border co-operation

According to Chapter 8 of the Guide to the Implementation of Directives Based on the New Approach and the Global Approach, the purpose of market surveillance is to ensure that the provisions of applicable directives are complied with across the EU. Citizens are entitled to an equivalent level of protection across the single market, regardless of the origin of the product. Further, market surveillance is important for the interest of economic operators, because it helps to eliminate unfair competition.

Member States must nominate or establish authorities to be responsible for market surveillance. These authorities need to have the necessary resources and powers for their surveillance activities, ensure technical competence and professional integrity of their personnel, and act in an independent and non-discriminatory way respecting the principle of proportionality.

7.2 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 approach to conformity assessment. Sections 7.2, 7.3 and 7.4 are short extracts from this paper.

“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.”

7.3 Best practitioner method

“In Japan a magazine which circulates mostly among government officials publishes “e-city” ranking every year. Questions cover wide areas for example information and service provisioning to the public via the Internet, website accessibility, office work informatization inside local government, policy practices related to community informatization, and information security. Regarding accessibility, the magazine prepares 31 questions such as existence of guidelines, alternative texts to image, consideration of color blindness,

introduction of Content Management Systems and practice of user testing. Relative scores for the answers are calculated and the rankings are published in the magazine. Because of the popularity of the survey, every city competes with each other to get the highest ranking. This example of best practitioner method demonstrates that even if every accessibility function is measured qualitatively and relatively, it is possible to identify the best practitioner."

7.4 Top runner approach

"The approach set the next efficiency standard based on efficiency levels of the most efficient products supplied domestically, including future technological development. The top runner approach can be applied in public procurement of accessible ICT products. If the public sector procures more products of higher ranking, it gives companies incentives to implement accessibility functions in mainstream products. In other words, the public sector sets procurement criteria referring to the data the top runner achieved. This top runner approach uses the results of the best practitioner survey for public procurement. Therefore, identical pros and cons can be identified.

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