STAND4ALL

Trainers manual STAND4ALL training consumers/end-users

Index of the Manual

And than information on the separate topics of the training:

In front of you, you have the trainers manual for the STAND4ALL training end-users/consumers. This manual starts with an 'introduction and background' to the STAND4ALL project and the training. Second the training and its set-up is explained in 'the training course manual'. Third you can find the training material prepared, with, last but not least, the evaluation questionnaires.

INTRODUCTION AND BACKGROUND

I. Introduction to STAND4ALL

Standards for All (STAND4ALL) is a project funded by the European Commission with the main goal of promoting the participation of consumers/end-users in the standardization process. This can be done by using CEN/CENELEC Guide 6 'Guidelines for standards developers to address the needs of older persons and persons with disabilities.' This is the focus of the project and the developed training course. The project started in January 2009 and ended in March 2010. The project consortium is composed of the National Standards Bodies of The Netherlands, Spain and Great Britain, Institute for long-term care 'Vilans' of the Netherlands, User organization BAG Selbsthilfe of Germany, and research institutes from Germany and Belgium.

Participant no. *	**Participant organization name**	**Short name**	**Country**
1 (Coordinator)	Dutch Standardization Institute	NEN	The Netherlands
2	Spanish Association for Standardization and Certification.	AENOR	Spain
3	British Standards Institution	BSI	United Kingdom
4	VILANS	VILANS	The Netherlands
5	German Working Party for the Assistance of Persons with Disabilities and Chronic Diseases	BAG Selbsthilfe	Germany
6	German Research Institute Technology and Disability	FTB	Germany
7	Katholieke Universiteit Leuven Research and Development	K.U.Leuven	Belgium

II. Need for STAND4ALL

There are a number of drivers that have led to the need for a greater involvement of older and disabled people in standardization and recognition of the specific requirements of this user group in order to permit hat involvement.

The UN Convention on the Human Rights of Disabled People, of which the European Union is a signatory, European and Member State legislation and European Union policy all move towards a non-discriminatory society with respect for the individual

and equality of opportunity. The UN Convention in particular, in Article 9, requires the promotion of inclusive design, the development of standards for minimum access and accessibility training.

These legislative and policy drivers reflect developments in demographics and society, whereby people live longer and expect more and better products and services that reflect their potentially changing needs.

The new demographic reality can also provide a business opportunity in terms of inclusive products and services. If *designed for all*, services and products can meet the needs of a broader market.

Standards are a tool of the market that provide for interoperability, safety and market access. If standards can take into account the needs of older and disabled persons then this business opportunity can more easily be realized. However, in order for this to occur, the standardization process itself must reflect those needs. Standardization is a process whereby all interested parties can come together to set common technical specifications for goods, processes and services.

The European Commission has identified the need for training to better enable the views of older and disabled people to be taken into account in standards development. It was for this reason that the STAND4ALL project came about.

III. Goals of the STAND4ALL project

The overall objective of the STAND4ALL training is to increase the effective participation of users with disabilities and their representatives in the standardization process and for committee members to become familiar with disability and accessibility issues. The starting point of the project is CEN/CENELEC Guide 6 -'*Guidelines for standards developers to address the needs of older persons and persons with disabilities*'. This guideline was developed in 2002 and contains guidance on the creation and the revision of standards to ensure greater accessibility of products and services. Guide 6:

- Describes a **Process** by which the needs of older persons and persons with disabilities may be considered during the development of standards
- Provides **Tables** to enable standards developers to relate the relevant clauses of a standard to the factors which should be considered to ensure all abilities are addressed
- Offers descriptions of body functions or human abilities and the practical implications of impairment
- Offers a List of sources that Standards Developers can use

If Guide 6 is properly used, disability issues for older persons and persons with disabilities will be addressed accordingly.

Research shows that this guide is not used as expected and that more information on the arguments to use it and on how it can be used is necessary.

Therefore, the main activity of the STAND4ALL project was the development of two training courses for two main target groups:

1. consumers/end-users;
2. committee members in standardization;

In these courses, information is provided on why consumers/end-users should be included in standardization processes and how this can be organized.

Objectives of training for consumers/end-users:

- Understanding why standards are important and why consumers/end-users should be involved and what the preconditions are under which this could be done (USEM principles)
- Understanding Guide 6 and how this guide can be used in standards development
- Users acquiring knowledge on how to ensure consumer issues are considered in the standardization process and what skills are necessary to achieve this

The training for committee members in standardization focuses on why and how the needs of consumers/end-users can be integrated into standardization processes.

Objectives of training for committee members in standardization are:

- Understanding consumer/end-user needs in standardization
- Understanding the use of Guide 6
- Understanding the requirements for consumer/end-user participation

This training will result in a pool of trained consumers/end-users who are able to take an active part in the work of technical committees in the standardization process. Additionally, the trained committee members can make use of their knowledge and promote the inclusion of the group of consumers/end-users in their standardization work.

Another positive outcome will be the opportunity for users' organizations to discuss the questions of standardization more intensively in their own structures and make it to a prioritised item on their agenda. This can have a multiplier effect so that in future consumers/end-users can discuss the relevant items in the technical committees on the same level as the committee members.

The STAND4ALL consortium has produced materials with a view to facilitating the continuation of the training courses and further dissemination of information, thus ensuring the sustainability of the project. These materials are a website, www.stand4all.eu, and a set of training manuals, of which this document forms part. Also, an e-Learning module is developed that can easily be used by future organisations in preparing any STAND4ALL training.

IV. STAND4ALL Manuals

These training manuals are a tool to enable organizations to reproduce the courses that were run during the STAND4ALL project.

STAND4ALL approach to training manuals

The consortium has developed training manuals for the two training courses that form the core of STAND4ALL: training for standardization Committee members on the needs of older and disabled users and training for older and disabled users on standardization Committees. These courses naturally have a number of similarities, for example similar justifications in terms of need, drivers and design. For

example, it was decided to deliver parts of the training to both sets of trainees together. As the contact between the two target groups was considered very valuable, the two training courses were combined partly. This combined session is then similar presented in both courses and manuals.

Nevertheless, it was considered important to have separate manuals for the courses as the focus of the courses and therefore the modules in the two courses are different. In particular, the topic 'Information on standardization' is to be delivered only to users, as it provides information on the European standardization process, from why standards are important, to who develops them. This kind of information is not useful for people already active in standardization, namely the committee members.

The training courses reflected in the manuals have been used three times by the developers and also by a National Standards Body which was not involved in the early development of the training. With the feedback received from these training courses and ANEC, the training was finalized.

For each training course, the consortium has produced a manual for the trainers and a manual for the trainees. The trainers' manuals provide the training materials, in particular slides, as well as detailed explanations of those slides and background documents. The manual as a whole serves to enable a proficient trainer to set up and deliver a training course that builds on the experiences of STAND4ALL.

The trainees' manuals provide the course material and sufficient background information to take part in the course.

The STAND4ALL training manuals

There are therefore 4 training manuals:

- Trainers' manual for committee members;
- Trainees' manual for committee members;
- Trainers' manual for users;
- Trainees' manual for users.

Each manual follows the same basic structure, comprising an introduction and the training course manual itself. The manuals differ primarily in the course modules and the level of detail with variations based on the subject matter and audience (Committee members/users/trainers/trainees).

The training course manuals provide information on the different topics of the training, the material that can be used and how to present this material. Each module of the training courses consists of:

- short introduction to the topic
- information on the topic
- presentation of the topic
- possible extra material.

Trainers' manual for user/consumer

This manual is the trainers' manual for users/consumer. As such the training course manual contains the background information and slide notes necessary for a trainer to deliver the course to users. The manual is set-up for experienced trainers with basic knowledge of the topic of accessibility and inclusion and standardization. The training course manual is arranged into the following sections:

1. Preparations for the training
2. Programme for the course
3. Training course modules:

i. Welcome and introduction
ii. Motivation and background
iii. Information on Standardization
iv. User Aspects
v. User Participation
vi. Exercises
vii. Role-play
viii. Further Implementation

4. Evaluation
5. Annexes

V. Learning methods in STAND4ALL

Learning methods

The training course has included different learning methodologies. This is based on the topics of the training. For each topic and its goals, the necessary activities and material needed to achieve these goals were investigated and included in the training course structure.

Not only presentations are being used, but also interactive parts form an indispensable part of the course. There are assignments, group discussions, questions to answer, small questionnaires and also a role-play. This is all part of the training structure to make sure the different learning styles of the trainees and their learning preferences are being met. This is also due to the fact that we want the two target groups (committee members in standardization and consumers/end-users) to mingle. This is the start of a business relation.

The part of taught sessions (presentations) reflects the expectation of the trainees who come to a course to receive information from the lessons. The taught presentations are supported by transparencies which to hand out to the trainees. People with visual impairment can receive an electronic version of the handout. From a didactical point of view the use of visual and auditory input, but also the option to read and write (in the handouts) during the session in combination with the interaction with the trainer supports many learning styles. By commenting the

handouts the trainees enhance the already existing information of the handout by their own thoughts or additional inputs of the trainers. In particular this is very suitable for later reflection of the material at home. Large amounts of information can be passed in rather short time in this way. However without consolidating the knowledge and enhance and deepen it, this can lead to low reception of the information. Therefore we have used complementary approaches to connect the information of the taught parts with experiences and emotional actions of the trainees.

In part we used the methodology to collectively construct the knowledge in group assignments and group discussions. This brings the trainees in a very active position. They can involve their own knowledge and experience, combine it with that of the discussion partners and thus open a new horizon. Knowledge constructed in this way keeps very present in the trainees' memory as it is connected with the emotional group experience of the construction process. Another advantage is the need to actively discuss, to identify conclusions and also to present the findings to the other groups. The assignments and group sizes vary in the sequence of the course creating a lively and flexible group dynamics.

As a further emotional learning experience we decided to use a role play close to the end of the course. The role play and its reflection offer great potential for illustrating real life situations and for exercising the use of knowledge in an efficient way. In particular the experience of getting into a perspective, to argue and defend it helps to deepen the understanding of the processes. In the role play the lead for the discussion and the organisation are given to persons experienced with the standardization process, in order to create a realistic framework. Group processes like putting an argument forward, supporting or challenging a position, finding alleys and making compromises can be exercised and reflected.

In this manual the material developed for each topic can be found with a short introduction to the topic and an explanation on how to use the material in the training. This is complemented by notes to go with the presentations. For the topic 'participation in standardization' there are no notes included with the presentation but there is an even more extensive word-document added with a lot of information that can be used in the presentation. This is done because the notes field are not suited for giving the amount of information and for this crucial topic it is important to include a wide scope of information.

There is also a manual for trainees which for each topic, includes some short information, the hand-outs of the presentation and other relevant material. This provides audience and instruction to exercises and descriptions of roles for the role-play.

Additionally, two manuals prepared for the trainees; one for the consumers/end-users and one for the committee members in standardization. The manuals for trainees are meant to be distributed at the beginning of the training course.

TRAINING COURSE MANUAL: trainers' manual for users/consumers

I. Preparations for the training

Set-up of the Training courses

The training is developed to meet the goals that are set. There are two training courses for two different target groups. To have the best outcome, these two target groups need to meet each other and work together. That is why a parallel session for the two target groups is planned. The manual continues with the presupposition that the two courses are planned at the same moment and therefore a parallel session is possible. The parallel topics 'roleplay' and 'further implementation' can also be used if just one target group is present.

Here we describe the content of the course, the topics of the course in short to know what the course consist of.

Note

It is important to schedule 30 minutes for registration at the beginning of the day. During this time, there's a possibility to informally meet the trainees. This is particularly important for the consumer/end-user-trainees as they in general don't have a lot of experience with these kinds of meetings and sometimes need extra attention because of their requirements.

Training course consumers/end-users

Welcome and introduction

This part is to start the day. It is important to start with introducing yourself; who are you, what is your background and why are you providing this course. Secondly, the trainees should introduce themselves: who are they and what is their background? And most important: what are their expectations and learning objectives? The expectations and learning objectives of trainees can be written down on a Flip Chart. The moderator can assist here. You can come back to that in the summary of day one and/or at the end of the course.

Background and Motivation

-> What is going on in Europe (and beyond) which drives the focus on user-perspective? And what are the reasons to do that? One of the fields where user-perspective can be integrated is standardization.

In a 60 minutes presentation with group discussions the most important developments are highlighted and the reasons for a 'user-focused approach' are discussed.

Information on Standardization

-> What is standardization, what is the consequence of standards and what is the process?

In a 60 minutes presentation the highlights of the standardization process are given.

In addition to this you need to be aware of the level of knowledge of the trainees. For example; explain what a mandate is. The focus should be the content of these 'guides'. You should also avoid as much as possible the use of acronyms.

User Aspects

-> What are the preconditions for users to take part in standardization?

In 60 minutes the trainees will think of the preconditions via several questions. In the end of the topic this leads to the USEM principles, the basis for an ideal model of end-user involvement in standardization processes.

User Participation

-> In standardization you can use Guide 6 for the input of a user perspective. What is this guide, how can it help for a user perspective and how can it be used?

Guide 6 will be explained; the concrete use of it will be taught and exercised so that trainees can use it themselves in practice.

Exercises

-> If you want to be part of the standardization world you need to know how you can act in a standardization committee and what skills, experience and focus you need.

In two and a half hours, time is allocated to exercise different aspects of promoting user participation in standardization. This goes from having a good short story about the importance of user participation to setting your strategy for in a committee.

Interactive session: Role Play or Simulation of a TC Meeting

Both of these interactive sessions are proven to be effective and have their advantages.

- *Role-play*

-> In a role play we give a real example of how standardization works and how a committee works.

In 105 minutes a role play with a real example will be prepared, played and evaluated. The importance of the role play is to show how standardization in a committee works and how end-users/consumers can be part of it.

- *Simulation of a TC Meeting*

-> In a Simulation of a TC Meeting, we give a real example of how standardization works and how a committee works.

A product used by lots of consumers - for example a remote-controller- will be discussed. Trainees take a look at an existing standard and are asked to comment on it, with the help/use of Guide 6.

Further Implementation

-> With all the information given in the training it is good to have a look on what the next steps will be. What will the trainees do with the knowledge and experience they have gained?

In 60 minutes the trainees will discuss about their role in standardization and how a user perspective can be improved.

Training course committee members in standardization

The committee members already have experience in standardization, so they do not need information on standardization and do not need to exercise on the skills and focus you need in a committee.

Motivation and Background

-> What is going on in the world which motivates the focus on user-perspective? And what are the reasons to do that? One of the fields where user-perspective can be integrated is standardization.

In a 45 minutes presentation with group discussions the most important developments are highlighted and the reasons for a 'user focused approach' are discussed.

User Participation

-> Having heard why it is important to have a user-perspective it is the question how you can do that in standardization. What are the preconditions for users to participate in standardization? To make sure the content of the standard is user-friendly, you can use Guide 6. During the training, Guide 6 will be explained and different exercises will be carried out to consolidate its use.

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Further Implementation

-> With all the information given in the training it is good to have a look what the next steps are. What will the trainees do with this knowledge and experience they have gained?

In 60 minutes the trainees will discuss about their role in standardization and how a user perspective approach can be improved.

This leads to a schedule with a two-day course for the consumers/end-users and a one day course for the committee members in standardization. A draft schedule is available.

At the evening between the two-day training for the consumer/end-users and prior to the training of the committee members a dinner can be arranged where the trainees can meet each other and get in contact on an informal way. This supports the learning environment and promotes the chances of establishing a sustained business relation and network.

Setting and Important issues

The different training topics can be delivered by one person or by several persons. However the very specific focus of each topic is such that it is very possible that a single person may not be comfortable in covering the whole training.

Where there is more than one trainer, it is beneficial to use a moderator. This moderator welcomes people, introduces the trainers, manages time and is responsible for any arrangements that are required by the trainees/trainers.

The training is prepared for around 12 consumer/end-user trainees and 12 committee member trainees. It is developed for small groups and the set-up of the training is based on this. The developed material is particularly suited for small groups.

For preparing the training and for networking issues there is an e-learning module available. In the e-learning module the parts of the training can be found with some small assignments to check the level of knowledge on a specific topic. This can be used by the trainees to prepare on the training course. This programme can also be used for the trainees and trainers to keep in touch after the training through for example a forum. The e-learning can be found at: http://www.moodle.reha-technologie.de/login/index.php.

The lay out of the training room is preferable in u-form. The trainees can see and hear each other and there is an open feel. There should also be the possibility for small groups of 3/4 persons to discuss during the training on assignments.

With this training course which is partly for consumers/end-users, probably with disabilities, the accessibility of the training is very important. This means you need an accessible venue, accessible training material and an accessible way of presenting the material.

Accessible venue: The meeting room needs to be accessible and large enough for people in wheelchairs to move around. There should be good lighting and acoustics to assist those with a hearing impairment or who are making use of an interpreter. Of course there is a need for an accessible toilet and accessible lunch arrangements. With a two-day training programme for consumers/end-users and with emphasis on the interaction between the two training groups, the set-up of the training also includes an evening programme with a dinner. The location of this has to be accessible as well as any overnight accommodation.

Accessible training material: people with different disabilities can come to the training. For visually impaired people, you have to make sure that the material is also suitable for them. This typically means that they want to have the material in a digital form to put on their computer so it can be enlarged or read with a read speaker. Thus the material has to be sent to trainees beforehand.

Accessible presenting: there are some issues to keep in mind when presenting to an audience with possible vision or hearing impairment. Some rules:

- Talk slowly to assist lip readers and sign interpreters
- Make sure you do not refer to pictures on the slides, but explain the messages contained.
- Make sure documents are given in an accessible form for everyone (word file for blind people, for example)
- Make sure documents are sent beforehand to give the chance for the trainees to have the material organized on their computer system the way they can manage and read it.
- When having all these different people around, be aware that it takes more time for presenting, going to the toilet, etc...
- If there are visually impaired people it is preferable to start each new topic with telling the names who are around the table. This is to know where everyone is seated. In the beginning it is even better to let everyone first tell their name before making comments.

List of materials to use for the training:

- Manuals for trainees
- Laptop and projector
- Flip over with markers
- Tape
- Name tags
- Pens and paper to write on

Evaluation of the training course

There are several ways of evaluating the training course, different methods are used in this case. There are:

- Self evaluation forms: These forms are for the trainers themselves to fill in and give information on how the trainers experienced the task.
- Observer forms: To use this there should be one or two observers appointed for the whole training to make comments on the training, the trainers and how they think the information of the training is passed on.
- Questionnaires for trainees: The questionnaire developed asks questions about the whole training and separate topics. These questionnaires should be handed out at the end of the training (not forgetting that some trainees will prefer to have the questionnaire in digital form so they can complete it on their computers). It is preferable to ask trainees to complete questionnaires right away and had them over before leaving.

To test the knowledge of the trainees there is also a case study prepared. This case study can be sent out to the trainees after the training. A model for the answers is included in this trainer manual.

Using the material

The material for the STAND4ALL training presented in this manual can be used by other organizations. For example standardization organizations can organise the training themselves in the national setting. The training courses are developed with European Commission funding; this should be mentioned on the material if it is used.

The training course is not accredited; there is no official diploma to gain following the training. There is a certificate developed which can be used to give the trainees as a proof they have attended the course.

More information on the project and the material can be found on http://STAND4ALL.eu.

II. Programme for the course

The training for committee members takes two days. Complete familiarisation with Guide 6 and how to use this information in standardization processes is time-consuming. The programme of this course is set up as following:

Day 1	**Program**		**Day 2**	**Program**
8.30 – 9.00	Registration, coffee		8.30 – 9.00	Coffee
9:45 – 10:45	Topic 1 Background & Motivation		9:30 – 10:45	Exercises (exemplary skills)
10:45 – 11:15	**Coffee Break**		**10:45 – 11:00**	**Coffee Break**
11:15 – 12:15	Topic 2		11:00 – 11:30	Exercises continued

	Information on Standardization			
12:15 – 12:45	Topic 3 User Aspects in Standardization (part one)		11:30 – 12:00	Preparation of Interactive session: 'Role play' or 'Simulation of a TC Meeting'
			12:00 – 12:45	Interactive session: 'Role play' or 'Simulation of a TC Meeting'
12:45 – 14:00	**Lunch Break**		**12.45 – 14:00**	**Lunch Break**
14.00 – 14.30	Topic 3 User Aspects in Standardization (part two)			
14:30 – 15:30	Topic 4 User participation in standardization (part one)		14:00 – 14:30	Discussion Interactive session: 'Role play' or 'Simulation of a TC Meeting'
15:30 – 16:00	**Coffee Break**		14.30 – 15:30	Further Implementation
16:00 – 17:00	Topic 4 User participation in standardization (part two)		15:30 –16:00	Closure
	Social event, dinner			Departure

With the information above the training can be organized. For the training materials for the different topics are also prepared. These materials can be used by the trainers, and of course modified where it is needed. The materials in this manual are proved to be useful for the goals the training achieves.

STAND4ALL Training Course [place], [date] for consumers/end-users in standardization

[day], [date]

08:30 – 09:00 h	Registration
09:00 – 09:45 h	Welcome and introduction of trainers and participants
09:45 – 10:45 h	Topic 1: Background and motivation
10:45 – 11:15 h	**Coffee break**
11:15 – 12:15 h	Topic 2: Information on Standardization
12:15 – 12:45 h	Topic 3: User Aspects in Standardization (part one)
12:45 – 14:00 h	**Lunch break**
14:00 – 14:30 h	Topic 3: User Aspects in Standardization (part two)
14:30 – 15:30 h	Topic 4: User participation in standardization; How to use Guide 6? (part one)
15:30 – 16:00 h	**Coffee break**
16:00 – 17:00 h	Topic 4: User participation in standardization; How to use Guide 6? (part two)
	Dinner

[day], [date]

08:30 – 09:00 h	**Coffee**
09:00 – 09:30 h	Summary of day 1
09:30 – 10:45 h	Exercises (exemplary skills)
10:45 – 11:00 h	**Coffee break**
11:00 – 11:30 h	Exercises to be continued

After this morning session the consumers/end-user and committee members in standardization group will join together

11:30 – 12:00 h	Preparation of role play
12:00 – 12:45 h	Interactive role play
12:45 14:00 h	**Lunch Break**
14:00 – 14:30 h	Discussion of interactive role play
14:30 – 15:30 h	Further implementation
15:30 – 16:00 h	Closure

STANd4ALL

Topic 'Welcome and Introduction'

Introduction to 'Welcome and introduction'

The goal of this topic is to make trainees feel at ease and to provide background information regarding the STAND4ALL training, its initiation, set up, and the expected results from trainees.

It is very important to have a positive learning environment in which people feel inspired and comfortable to learn in. The first session of the course, this 'Welcome and introduction' session is extremely important to reach that.

Further, this will be achieved via:

- Good contact prior to the training, including follow-up telephone calls. These phone calls are part of the recruitment and not always held in English.
- The trainees will receive an envelope with information on the training, location and contacts in their hotel.
- The training day begins with half an hour registration and informal session with coffee and tea.

These prior steps can be used by the trainer as an ice-breaker as well, by simply referring to it or concretely ask what trainees have received from STAND4ALL so far.
It is also important to emphasize that during the training there is a host, who is available for all questions during the day.

The aim of the topic “Welcome and Introduction" is further to provide understanding of the concept of 'Accessibility in Standardization" so that trainees understand the need for the STAND4ALL training.

Within this topic we will discuss the following issues:

- What are the background and objectives of the STAND4ALL training?
- Introduction of both trainers and trainees
- The set-up of the training

Make sure in the Welcome and Introduction session that:

- The aim of the training is that the standardization experts need to learn about accessibility and that accessibility experts (thus: users) need to know about standardization.
- The goals of the training are clear for everyone. Check this with the goals and expectations the trainees have themselves. It is important for trainees to know what the objectives of the topics of the training are.
- The training is as interactive as possible. Do not use just presentations and have lectures. Add stories, pictures and examples. The role play is a good example of an interactive learning method.

For this topic a presentation is prepared in which the project STAND4ALL and the objectives of the training is presented. There is also a document prepared with extra information for the trainer which can be used for this session. For the presentation 30 minutes is scheduled.

Annexes:

- STAND4ALL document 'Welcome and introduction'
- Presentation

For further reading and more information the following website can be used:

- www.STAND4ALL.eu

Information on Welcome and Introduction

Preliminary note: This topic should be treated as an interactive discussion, so please encourage trainees to ask questions throughout.

Trainers and other key persons (contact persons for the venue etc) need to be aware of the requirements of disabled people in the audience throughout the course, but in this first presentation of the training it is extremely important to make the trainees feel at ease.

Therefore, it is recommended to carefully check the list of trainees, including their organizations and country beforehand.

The trainer should start introducing him/herself. Inform the trainees with your name, company, country, some personal details and what your link is with the training. Also include some information about your experience with disability and standardization, your aims of today and that you're happy to provide the training.

The roll-call of delegates is very important as it gives an opportunity for trainees to become part of the group. This part should be interactive and give us an idea of trainees' learning objectives.

Please invite trainees and ask them:

Who are you and What do you expect today? Write down some of the statements made by trainees, for example on a Flip Chart

It is wise to introduce the concept of the STAND4ALL training slowly, by giving information on the background of the STAND4ALL project. You can then proceed with some information regarding the STAND4ALL trainings and today's' session.

<u>Background STAND4ALL</u>
The STAND4ALL consortium was established in October 2008, after a Call for Tender by the European Commission on 'Training of stakeholders on consultation on standardization'. Seven organizations from six different countries in Europe decided to collaborate in order to reply successfully to the European Commission.
After the award of the contract, the actual work began 1st of January 2009. The STAND4ALL consortium was developed to include inputs from key stakeholder groups such as national standards bodies, research institutes and user organizations.

As the STAND4ALL acronym implies, the consortium has included the idea of STANDARDIZATION and STANDARDS considering ALL needs, which also includes the universal principle of Design for All. STAND4ALL is about including people with disabilities, not only in the content of the standards, but also in the standardization process.

The consortium has worked hard to establish an enlarged European network of 'CEN/CENELEC Guide 6'-experts and accessibility specialists in the field of standardization. STAND4ALL aimed to ensure that it was recognised that the essential requirements from older people and people with disabilities need to be taken into account in the field of standardization.

STAND4ALL confirmed that CEN/CENELEC/ETSI/TCs, wherein standards are developed, have the responsibility to take on board a wide range of representatives in their particular field. In practice, consumers are not well represented. This applies to consumers in general, but even more so to consumers with disabilities. In CEN/CENELEC/ETSI/TCs representatives are not well informed about the needs of older people and those with disabilities and that qualified users (who represent user organizations) with disabilities rarely participate in the standardization process.

It is therefore needed both to inform representatives in CEN/CENELEC/ETSI/TCs about the needs of people with disabilities and to encourage them to take these needs into consideration while developing a standard as to involve users with disabilities in the field of standardization. CEN/CENELEC Guide 6–'*Guidelines for standards developers to address the needs of older persons and persons with disabilities*' is an appropriate tool to give representatives in standardization a better understanding about these needs and how to implement these needs.

STAND4ALL has developed (and also implemented in the period October 2009-Febryuary 2010) training courses for persons with disabilities (and their representatives) and for experts ('committee members') in standardization.

The training course focuses on the implementation of the requirements of CEN/CENELEC Guide 6 in the work of technical committees and on the guidance to people with disabilities and their organizations and to disability and accessibility experts on how they can participate in the standardization process.

According to STAND4ALL, a long-lasting impact of the trainings will be an enlarged European network of 'CEN/CENELEC Guide 6'-experts and accessibility specialists in the field of standardization so that the essential requirements from elderly people and people with disabilities are taken into account in the field of standardization.

This STAND4ALL training will:

- Facilitate participation of user organizations in the standardization process
- Ensure that the use of CEN/CENELEC Guide 6 in the field of standardization is improved
- Qualify more users (which represent user organizations) with disabilities to participate in European standardization

NOTE

- In the context of this report consumer / end-user refers to people with disabilities and the elderly, representatives of their organizations, and disability and accessibility experts.
- The training has been delivered in four different European cities (Madrid, Brussels, London and Dublin) to almost 90 stakeholders.

Training set-up

There are two trainings; one for (representatives of) users and one for committee members.

The objectives of the user training are:

- Understanding why standards are important and why consumers/end-users should be involved and what the preconditions are under which this could be done (USEM principles)
- Understanding Guide 6 and how this guide can be used producing standards
- Users have knowledge on how to bring forward consumer issues and what skills are necessary in doing so

The training course for committee members in standardization will place more focus on: Why and how the needs of consumers/end-users can be integrated into standardization processes.

Although these training courses have a slightly different focus, the end goal for both will be a good use of Guide 6 in standardization and knowledge from both groups on each other's world.

Overall goal of STAND4ALL: standards which are developed, and do have consequences for consumers/end-users, must consider all stakeholders, also people with disabilities.

Definition of trainees

- Users: people with knowledge on accessibility issues, but no – or little - knowledge on standardization.

In the context of this training consumers/end-user refers to people with disabilities and the elderly, representatives of their organizations, and disability and accessibility experts.

- Committee members in standardization: people involved in standardization (at both national or European level) with no – or little- knowledge on accessibility issues.

In short set-up of the STAND4ALL training:

- 2 days for users
- 1 day for committee members in standardization
- Different topics, several exercises, short intermezzos and time to get to know your European colleagues/ other trainees
- Combined session of the two groups
- Today is the first day, tomorrow is the second day.

Tomorrow will be the first day for the training for committee members in standardization ("TC experts"). The contact between the two target groups is very valuable. They will get in touch with each other, which is the first step in getting to work together. Therefore the two training courses are partly combined. The combined session is the 'Role play'. In a role play we give a real example of how standardization works and how a committee works.
In 105 minutes a role play with a real example will be prepared, played and evaluated. The importance of the role play is to show how standardization in a committee works and how end-users/consumers be part of it. Besides the role-play, there is also another option for an interactive session described in the manuals which is a little bit more focused on working together on a change in a standard using Guide 6.

Please make sure in the Welcome and Introduction session that:

- The aim of the training is that the standardization experts need to learn about accessibility and that accessibility experts (thus: users) need to know about standardization.
- The goals of the training are clear for everyone. Check this with the goals and expectations the trainees have themselves. It is important for trainees to know what the objectives of the topics of the training are.
- The training is as interactive as possible. Do not use just presentations and have lectures. Add stories, pictures and examples. The role play is a good example of an interactive learning method.

Welcome and Introduction

Good morning,

Welcome everybody. My name is (….).

I work for …

I am happy you all showed interest to take part in this STAND4ALL Training session, here in ... At …premises.

In total, we have …. trainees today, coming from (different countries from Europe):

-Namely : (sum up countries of trainees)

Let me first give you the agenda for this first presentation (this introduction) and for todays' program (next slide)

Content presentation

- Background and objectives STAND4ALL Training
- Introducing ourselves
- The training

2

This first presentation is a welcome and a introduction to the STAND4ALL training.

Let me first give you some background on the STAND4ALL project, before telling more about the STAND4ALL trainings and today's' session

Then, we'll introduce ourselves:

partners in the consortium and trainers for today.

But also you, the trainees!!

Finally, I'll give you some information on today's training program

Background STAND4ALL

In theory, European standardization institutions:
all stakeholders involved in the process

In Practice, European standardization institutions:
NOT all stakeholders involved in the process

3

What is a standard?

Put at its simplest, a standard is an agreed, repeatable way of doing something. In Europe, we do this by publishing documents that contain a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition.

Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers and users of a particular material, product, process or service.

This is done in the world of European standardization, namely within CEN/CENELEC and ETSI TCs. ***We'll explain more on standardization later today > topic 2.***

These European standardization institutions CEN, CENELEC and ETSI have the responsibility to take on board a wide range of representatives in their particular field while developing a standard.

In best case, all interested parties are represented.

In practice, however, this is not the case. In practice, consumers/end users are not well represented.

This applies to users consumers/end users in general, but to elderly and disabled consumers and end/users in particular.

Objectives STAND4ALL

- An EU-funded project, in which both
  - consumers (or end users) and
  - committee members in standardization
- are trained to take into account the needs of older people and people with disabilities in standardization.

4

So, because of this situation – the 'ignorance' of the requirements of the elderly and disabled in standardization - and because of the aim to change this situation, STAND4ALL was set up.

STAND4ALL stands for:

-Promotes the idea of standardization + STANDARDS considering ALL needs, including the universal principle of Design for All.

Not only in the content of the standard, but also in the standards development.

To improve the impact of elderly and disabled people, STAND4ALL simulates the use of CEN/CLC Guide 6. To reach this, we'll train both consumers/end users and TC experts in the use of this guide and user participation in standardization. Standards which are developed , and do have consequences for consumers/end users, must consider all stakeholders, including elderly and/or disabled people.

Therefore, the STAND4ALL project does not train only consumers/end users but also professionals already working in standardization: The committee members.

The training of these two target groups have a different focus.

The training course for professional users will focus a bit more on:

-Facilitate participation of users in standardization

-Qualify more users for participation in standardization

The objectives for the users are therefore :

Understanding why standards are important and why consumers/end-users should be involved and what the preconditions are under which this could be done (USEM principles)

Understanding Guide 6 and how this guide can be used producing standards

Users have knowledge on how to bring forward consumer issues and what skills are necessary in doing so

The training course for committee members in standardization will focus a bit more on:

-On why and how the needs of consumers/end-users can be integrated into standardization processes.

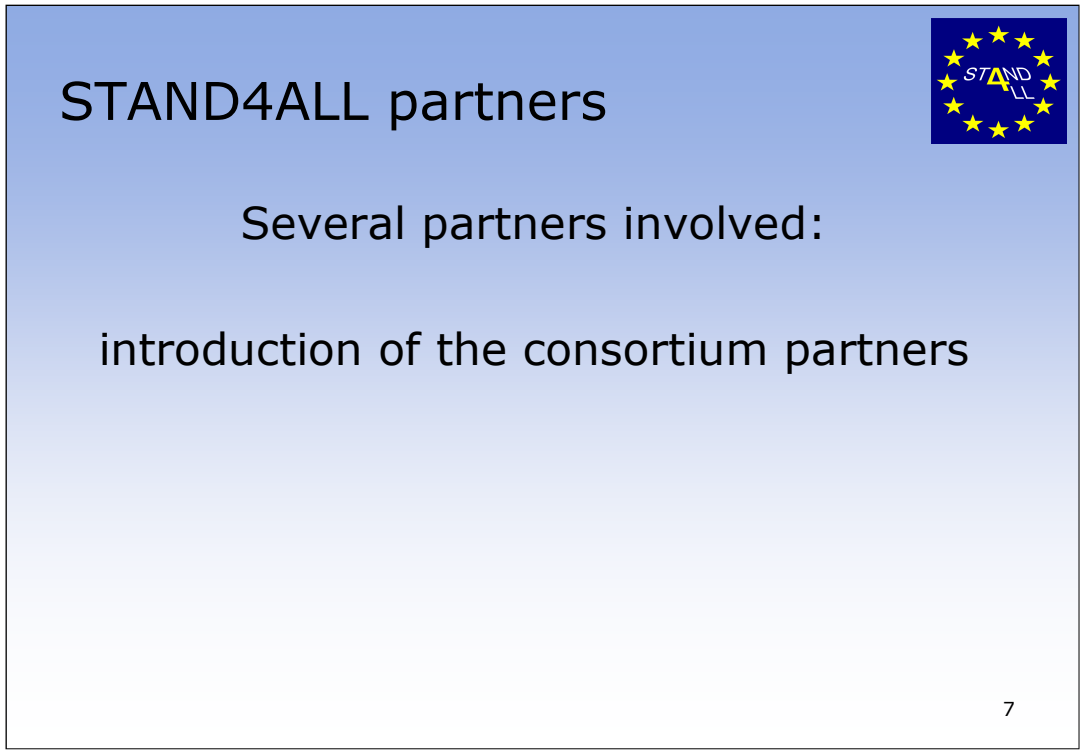
Although these training courses have a slightly different focus, the end goal for both will be a good use of Guide 6 in standardization and knowledge from both groups on each other's world. Overall goal of STAND4ALL: standards which are developed, and do have consequences for consumers/end-users, must consider all stakeholders, also people with disabilities.

STAND4ALL trainees

- Users: people with knowledge on accessibility issues, but no – or little - knowledge on standardization.
- Committee members in standardization: people involved in standardization (at both national or European level) with no – or little- knowledge on accessibility issues.

6

In the context of this training consumers/end-user refers to people with disabilities and the elderly, representatives of their organisations, and disability and accessibility experts.



This training is set up by the STAND4ALL consortium, this STAND4ALL consortium consists of 7 different parties, coming from

-Spain: Aenor

-UK: BSI

-The Netherlands: NEN and Vilans

-Belgium: KUL

-Germany: FTB and BAGH

Representatives from these organisations will now introduce themselves.

Together we/they have developed the training and together delivered the training from October 2009 until February 2010.

(They now introduce themselves, some of them are trainers today):

In February 2010 one extra session was held in Dublin, at NSAI premises. This course was delivered in close collaboration with NSAI.

NSAI delivered a part of training, as a test case to see how/ if a NSB itself was able to provide the STAND4ALL course.

After introduction from ourselves (the trainers for this session), we now move to the trainees.

This part should be interactive and give us an idea of trainees' learning objectives.

Perhaps write down some of the statements made by trainees, for example on a Flip Chart

Content of training

- 2 days for users
- 1 day for committee members in standardization
- Different topics, several exercises, short intermezzos and time to get to know your European colleagues/ other trainees
- Combined session of the two groups

9

Today is the first day, tomorrow is the second day.

Tomorrow will be the first day for the training for committee members in standardization (“TC experts”).

There will be a combined session with these TC experts, so that we can get to know each other and learn from each other.

After all, the standardization experts need to learn about accessibility

Accessibility experts or: users need to know about standardization

Programme day 1

- Welcome and Introduction
- Background and Motivation
- Information on standardization
- User Aspects in standardization
- User participation in standardization; how to use Guide 6?

10

The schedule is also in your manual, but let me please explain shortly.

After this 'Welcome and introduction', we'll continue with 'Background and motivation'

9:00 – 9:45 Welcome and introduction

9:45 – 10:45 Topic 1Background & Motivation

10:45 – 11:15 Coffee Break

11:15 – 12:15 Topic 2Information on standardization

12:15 – 12:45 Topic 3User Aspects in standardization (part one)

12:45 – 14:00 Lunch Break

14.00 – 14.30 Topic 3 User Aspects in standardization (part two)

14:30 – 15:30 Topic 4User participation in standardization (part one)

15:30 – 16:00 Coffee Break

16:00 – 17:00 Topic 4User participation in standardization (part two)

Programme day 2

- Summary of day 1
- Exercises (exemplary skills)
- Preparation of interactive session
- Discussion interactive session
- Further Implementation
- Closure

11

Tomorrow, we'll continue.

Summary of Day 1

Exercises (exemplary skills)

Coffee Break

Exercises continued

Preparation of interactive session (role play or simultation of a TC meeting)
> this is were we have the combined session with the committee members

Lunch Break

Discussion interactive session

Further Implementation

Closure

Have a good day!

STAND4ALL

Topic 'Background and motivation'

Background and Motivation

This topic has the following goal:
Understanding the need for consumers/end-users' input in different international and national developments and how to organise to make consequent changes.

Why do we want to promote the user perspective in standardization? Is it to be a good guy? Maybe it is a legal obligation or very interesting for marketing purposes?

There are several developments at national level, European level and on global level which give a push to consumer/end-user participation. The developments, regulations, etcetera that are important will be mentioned in this topic. Of course the link with standardization is being made. What is the value of standardization with keeping in mind the user perspective? And what can the role of consumers/end-users or committee members in standardization be to have a more user-focus in the standardization process?

The topic consists of the following parts:

1. Non-discrimination, equal rights (Developments in the US, UN convention). It is our duty to make sure all people have the same rights and possibilities. The UN convention on the human rights of disabled people is there to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms.
2. Because of growth of the elderly population more people need help and a larger economic impact can be observed -> more political interest. In the growing of this group there has also been a shift in how the society thinks of inclusion for all. There has been a shift from the medical model of disability to the social model of disability in which the problems of a disability are located in the society instead of in the individual. This is an important change in how we look at people with disabilities and one with consequences for how we arrange our society.
3. Solutions; there are several organizations and movements focused on including consumers and people with disabilities in particular. Examples are given in the presentation.

For this topic only one form of teaching is prepared: the presentation. It is a presentation of approximately 45 minutes. It is important to give an idea of the background.

Annex:

- STAND4ALL document background and motivation
- presentation

Examples where to find information related to this topic:

- website UN (www.un.org/disabilities)
- Wikipedia for info on the social model (http://en.wikipedia.org/wiki/Social_model_of_disability)
- Website on design for all (www.designforalleurope.org)

Information on topic ‘Background and Motivation’

The topic ‘Background and motivation’ is built up of 5 sub-topics.

Sub-topic 1: policy and legislation
Sub-topic 1 is about relevant policy and legislation within European and International contexts and how these cover ‘equality’ and ‘accessibility for people with disabilities’.

The EU promotes the active inclusion and full participation of disabled people in society, in line with the EU human rights approach to disability issues. Disability is a rights issue and not a matter of discretion. This approach is also at the core of the UN Convention on the Rights of People with Disabilities, to which the European Community is a signatory.

UN convention
In 1994 the standard rules on the equalization of opportunities for persons with disabilities were accepted by the United Nations. Although not a legally binding instrument, the standard rules represent a strong moral and political commitment of Governments to take action to attain equalization of opportunities for persons with disabilities. The rules serve as an instrument for policy-making and as a basis for technical and economic cooperation.

The 22 rules are:
Rule 1. Awareness-raising
Rule 2. Medical care
Rule 3. Rehabilitation
Rule 4. Support services
Rule 5. Accessibility
Rule 6. Education
Rule 7. Employment
Rule 8. Income maintenance and social security
Rule 9. Family life and personal integrity
Rule 10. Culture
Rule 11. Recreation and sports
Rule 12. Religion
Rule 13. Information and research
Rule 14. Policy-making and planning
Rule 15. Legislation
Rule 16. Economic policies
Rule 17. Coordination of work
Rule 18. Organizations of persons with disabilities
Rule 19. Personnel training
Rule 20. National monitoring and evaluation of disability programmes in the implementation of the Rules
Rule 21. Technical and economic cooperation
Rule 22. International cooperation

In 2006 the Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted at the United Nations Headquarters in New York, and was opened for signature on 30 March 2007. There were 82 signatories to the Convention, 44

signatories to the Optional Protocol, and 1 ratification of the Convention. The Convention entered into force on 3 May 2008.

The purpose of the convention is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity. These rules are moral and political guides which the member states follow.

There are eight guiding principles that underlie the Convention and its specific articles:
- Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons
- Non-discrimination
- Full and effective participation and inclusion in society
- Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity
- Equality of opportunity
- Accessibility
- Equality between men and women
- Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities

These rules and general principles on accessibility are set as a response to a shift in the world's population (more people with disabilities) and that although pre-existing human rights conventions offer considerable potential to promote and protect the rights of persons with disabilities, this potential was not being tapped.

In 2006 the international community accepted a new human rights agreement. This agreement has judicial consequences.
(http://www.un.org/disabilities)

A Toolkit was designed to focus more specifically on the Conventions provisions regarding accessibility to information and communication technologies (ICTs). The UN Convention on the Rights of Persons with Disabilities (CRPD) establishes a range of rights and responsibilities. It establishes rights for persons with disabilities and responsibilities for governmental and private sector players from signatory and ratifying countries. The Toolkit was designed to address policy makers and regulators in all of the ICT areas. This toolkit is not complete yet, but there is already a lot of information on how to work with the 'rules' of the convention to bring it into practice.

Also the European Community and its Member States have confirmed their view that disability is a broad Human Rights issue. That is why they set up the EU Disability Strategy that is build upon three pillars:
- EU anti-discrimination legislation and measures, which provide access to individual rights
- Eliminating barriers in the environment that prevent people with disabilities from exercising their abilities
- Mainstreaming disability issues

This STAND4ALL training is part of this framework.

In America there is significant regulation to eliminate discrimination on disabilities. This is not included in the presentation because it is not the European legislation, but it shows how regulation is also possible.

Americans with Disabilities Act

On July 26, 1990, President George H.W. Bush signed into law the Americans with Disabilities Act of 1990 (ADA) -- the world's first comprehensive civil rights law for people with disabilities. The Act prohibits discrimination against people with disabilities in employment (Title I), in public services (Title II), in public accommodations (Title III) and in telecommunications (Title IV). The ADA has been described as the Emancipation Proclamation for the disability community.

PURPOSE- It is the purpose of this Act is:

(1) to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities;

(2) to provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities;

(3) to ensure that the Federal Government plays a central role in enforcing the standards established in this Act on behalf of individuals with disabilities; and

(4) to invoke the sweep of congressional authority, including the power to enforce the fourteenth amendment and to regulate commerce, in order to address the major areas of discrimination faced day-to-day by people with disabilities.

On September 25, 2008, President George W. Bush signed into law The ADA Amendments Act of 2008 (ADAAA). It is intended to give broader protections for disabled workers and "turn back the clock" on court rulings which Congress deemed too restrictive.[4] There were some major changes made in ADA. The ADAAA includes a list of major life activities.

Signing of the Americans with Disabilities Act. President George H.W. Bush (center) is flanked by Evan Kemp, Chairman, Equal Employment Opportunity Commission (left) and Justin Dart, Chairman, President's Committee on Employment of People with Disabilities (right). Standing are the Rev. Harold Wilke (left) and Sandra Swift Parrino, Chairperson, National Council on Disability (right).

Rehabilitation act

The U.S. Rehabilitation Act of 1973 prohibits discrimination on the basis of disability in programs conducted by Federal agencies, in programs receiving Federal financial assistance, in Federal employment, and in the employment practices of Federal contractors. The standards for determining employment discrimination under the Rehabilitation Act are the same as those used in title I of the Americans with Disabilities Act.[1] In 1998 an Amendment to Section 508 of the Rehabilitation Act was developed. One of the key sections is Section 508.

Section 508 establishes requirements for electronic and information technology developed, maintained, procured, or used by the Federal government. Section 508 requires Federal electronic and information technology to be accessible to people with disabilities, including employees and members of the public.[1] (Wikipedia)

Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. ‘ 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.
(http://www.section508.gov/index.cfm?FuseAction=Content&ID=3)

An accessible information technology system is one that can be operated in a variety of ways and does not rely on a single sense or ability of the user. For example, a system that provides output only in visual format may not be accessible to people with visual impairments and a system that provides output only in audio format may not be accessible to people who are deaf or hard of hearing. Some individuals with disabilities may need accessibility-related software or peripheral devices in order to use systems that comply with Section 508.[1] (Wikipedia)

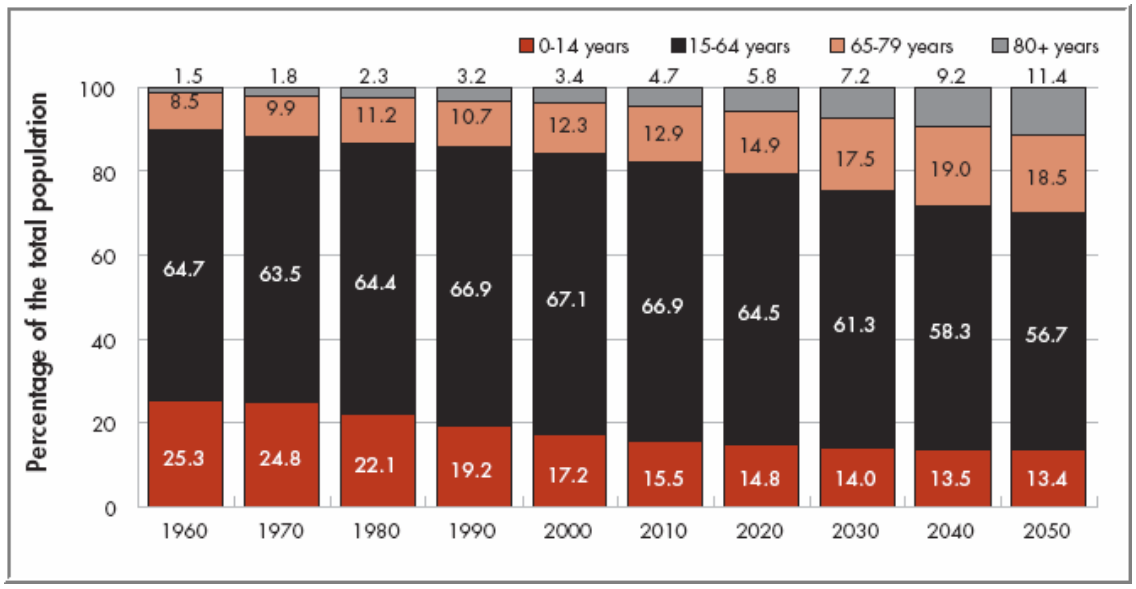
Sub-topic 2: demographic changes
Sub-topic 2 is on demographic issues and changes in society which underline the need for a consumer focus, especially for consumers with more needs than others.

People getting older
As people are living longer, there is an increasing number of older people which has an impact on the number of disabled people due to age related impairments. The United Nations estimates that by 2050 one out of every five people will be over 60 years, and by 2150, one third of the worlds' population is expected to be 60 years of age or older.
In Europe we see the same trend. In 1995 there were 101 (15%) million of 65+, in 2050 Europe will have 173 (20%) million of 65+.

Other research show even more progressive rises.

By 2020, 25% of the EU's population will be over 65. To respond to this growing demographic challenge, the Council of Ministers approved a Commission's plan to make Europe a hub for developing digital technologies designed to help older people to continue living independently at home.
(http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/994&format=HTML&aged=0&language=EN).

In the EU-25 countries, this means a change from 2000 when 15.7% of the population was over 64, to an estimated 17.6% in 2010 and 20.7% in 2020 (Figure A.1.1; Table A.1.1).
Figure A.1.1: Population structure by major age group for EU-25 countries (1960 to 2050 estimates)



see also Table A.1.1 below (EC 2007a)

Table A.1.1: Population structure by major age groups: EU-25 for 1960 through 2050 by decade (EC 2007a)

Age	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
80+ years	1.5%	1.8%	2.3%	3.2%	3.4%	4.7%	5.8%	7.2%	9.2%	11.4%
65-79 years	8.5%	9.9%	11.2%	10.7%	12.3%	12.9%	14.9%	17.5%	19.0%	18.5%
15-64 years	64.7%	63.5%	64.4%	66.9%	67.1%	66.9%	64.5%	61.3%	58.3%	56.7%
0-14 years	25.3%	24.8%	22.1%	19.2%	17.2%	15.5%	14.8%	14.0%	13.5%	13.4%

The trends by country are also interesting, and vary considerably (Figure A.1.2). The EU-25 countries had a dependency ratio of approximately 18 percent in 1970, but expected to rise to approximately 27% by 2010 and 54 percent by 2050; across the EU the 2010 prediction ranges from approx 17 percent in Slovakia to 32 percent in Italy (Figure A.1.2).

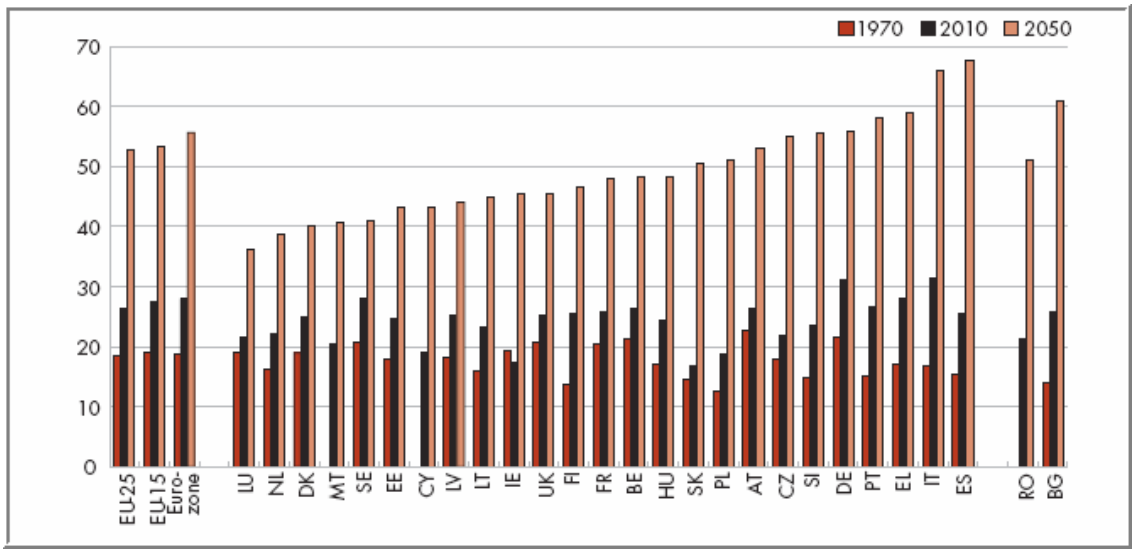


Figure A.1.2: Old age dependency ratio for EU-25 countries (1970 and 2010, 2050 estimates)
(population aged 65 and over as a percentage of the working age population [15-64 years]) (EC 2007a)

Besides people getting older there are less young people. People do not get that many children as 50 years ago. This means that there will be put tremendous pressure on society in terms of supporting the elderly population, and any means to assist them to continue contributing to and participating in society, and to "age in place", needs to be adopted.

This trend shows that we the costs of the ageing society will rise to take care of them properly. To make sure that the healthcare system stays feasible we need to have a good look at the system at the moment and opportunities to change and reduce costs. The urge arises to do something to make sure we can cope with the 'problems' that will arise when the group of elderly continues to grow.

People living independent for longer period of time
Another trend is that elderly people are living at home more and more instead of living in nursing homes.

People living at home. Need for practical houses and products to use themselves.

In Europe, most elderly people appear to live alone and home care receives priority. This may be the result of specific promotion of independence for the elderly or it may be the consequence of a lack of care facilities, resulting in the responsibility for care being left to the family.

In all countries an increase in the number of the elderly people living independently is apparent. Living independently is often the choice of the elderly themselves, but in some countries elderly people are also compelled to live independently because there are too few care facilities or insufficient places.
(Bouwcollege: healthcare and welfare for the elderly in other European countries; report number 546, January 2003)

This trend means that there are more houses needed to be used by elderly, which mostly have some kind of a disability. And to live as independent as possible, products and services should be useable by this target groups as well.

More opportunities
Disabled people have more opportunities; they are able to improve their life chances through education, employment and social participation so they demand access to services.
This is partly because of changed regulations; anti-discrimination rules that this is possible. The whole community is more focused on how to include people then how to put people with possibilities far away in nursing homes. There are also more technical possibilities; technical aids are developed which can assist people to accomplish several activities. For example a hearing aid can help people hard of hearing to follow a meeting. Home automation, also called domotics, can make sure the lights turn on and of automatically and nurses will be alarmed when someone has fallen in the house.

And older people's aspirations for inclusion are growing – 'grey power'. This is about mobilizing retired people as well as all people that are over-fifty or have already taken early retirement.

Sub-topic 3: models of disability and inclusion
Sub-topic 3 is about two models which are focused on people with disabilities and how the society, including products and buildings, can be designed to include people with disabilities.

The Social Model of Disability
Inclusive design and the adaptation of technology to people with special needs are approaches to technology that are closely related with the social model of disability. Michael Oliver coined the phrase "social model of disability" in 1983 (see Oliver & Sapey, 2006, 29) as a way to describe an approach that had been emerging for some time. This social model was a response to the deficiencies of the "individual model of disability".
According to the **individual model of disability**, the "problem" of disability is located within the individual, and the problems that people with disabilities experience are direct consequences of their impairment. Consequently, the main task of professionals is to help the individual adjust to his or her disabling condition. According to Michael Oliver, there are two aspects to this:

> first, there is physical adjustment through rehabilitation programmes designed to return the individual to as near normal a state as possible; and second, psychological adjustment that helps the individual to come to terms with his or her physical limitations. (Oliver & Sapey, 2006, 22)

According to Oliver, one of the aspects of the individual model is the medicalisation of disability. He argues that this medicalisation is inappropriate because disability is a social state and not a medical condition, so medical intervention in and control over disability is inappropriate. Illness and disability are not the same thing, even though some illnesses may have disabling consequences and disabled people may have illnesses at various points in their lives (Oliver, 1990). Because of the medicalisation of the individual model of disability it is known to many as the **medical model of disability**.

The **social model of disability** locates the problem of disability within society. In other words, the cause of the problems is not individual limitations "but society's failure to provide appropriate services and adequately ensure the needs of disabled people are fully taken into account in its social organization" (Oliver, 1990). Furthermore, the consequences of this failure do not simply fall on individuals but systematically on people with disabilities as a group, "who experience this failure as discrimination institutionalised by society" (Oliver, 1990).
Instead of "treating or rehabilitating the patient", the social model focuses on full functional participation in society. The individual and social models of disability are conflicting models and difficult to integrate (van Roosmalen & Ohnabe, 2007, 53). Anti-discrimination legislation, inclusive design, rehabilitation engineering[1], and more inclusive standards all play a role within the social model of disability and can enable persons with disabilities to participate in society.

[1] "Rehabilitation engineering is the systematic application of engineering sciences to design, develop, adapt, test, evaluate, apply, and distribute technological solutions to problems confronted by individuals with disabilities. Functional areas addressed through rehabilitation engineering may include mobility, communications, hearing, vision, and cognition, and activities associated with employment, independent living, education, and integration into the community." http://en.wikipedia.org/wiki/Rehabilitation_engineering.

Design for All/Inclusive Design

Design for All is design for human diversity, social inclusion and equality. This holistic approach constitutes a creative and ethical challenge for all planners, designers, entrepreneurs, administrators and political leaders.

People also speak about Inclusive Design: The design of mainstream products and/or services that are accessible to, and usable by, as many people as reasonably possible without the need for special adaptation or specialized design. (The British Standards Institution (2005) British Standard 7000-6:2005).

Design for All/Inclusive Design aims to enable all people to have equal opportunities to participate in every aspect of society. To achieve this, the built environment, everyday objects, services, culture and information – in short, everything that is designed and made by people to be used by people – must be accessible, convenient for everyone in society to use and responsive to evolving human diversity.
The practice of Design for All makes conscious use of the analysis of human needs and aspirations and requires the involvement of end users at every stage in the design process. In should be embedded within the design and development process, resulting in better designed mainstream products that are desirable to own and satisfying to use.

(From The EIDD Stockholm Declaration©, 2004 (www.designforalleurope.org))
(The British Standards Institution (2005)British Standard 7000-6:2005)

Read more:
http://www.inclusivedesigntoolkit.com
http://www.designforalleuropa.org

Sub-topic 4: EU initiatives and organizations
What does the Council of Europe (COE) offer to member states on Universal Design?

The Council of Europe offers members several solutions with regard to universal design, like:
- Recommendations to governments, Plans and Examples
- Coordinated Resolutions

Here an example of a coordinated Resolution:

Council of Europe Resolution ResAP(2007)3, "Achieving full participation through Universal Design".

"Recommends that the governments of the member states of the Partial Agreement in the Social and Public Health Field (note 1), having due regard to their specific national, regional or local structures and respective responsibilities:

i. promote full participation in community life, and in particular, prevent the creation of new barriers by designing, from the outset, solutions that are accessible and usable for all; and in doing so, take into account and integrate as appropriate in their policy, legislation and practice the principles of Universal Design;

ii. be guided, in their processes of integrating Universal Design principles in policy, legislation and practice, by the measures advocated in the appendix to this resolution;

iii. promote the application of Universal Design in the implementation of Recommendation Rec(2006)5 of the Committee of Ministers to member states on the Council of Europe Action Plan to promote the rights and full participation of people with disabilities in society: improving the quality of life of people with disabilities in Europe 2006-2015;

iv. assure to this end the widest possible dissemination of this resolution amongst all parties concerned, for example through awareness-raising campaigns and co-operation with the private sector and civil society, involving, in particular, non-governmental organizations of people with disabilities."

Met opmaak: Engels (Groot-Brittannië)

Note (1)
These countries are: Austria, Belgium, Bulgaria, Cyprus, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

What does the European Commission offer to member states (e.g. National Standards Bodies) on Universal Design?

The Commission promotes and supports the process of technical standardization in various sectors through mandates to the European Committees for Standardization (CEN, CENELEC and ETSI).

Some examples (can also be found via http://stand4all/links.html and http://ec.europa.eu/enterprise/policies/european-standards/standardization-policy/policy-activities/services/index_en.html) :

- M/376: Standardization Mandate to CEN, CENELEC and ETSI in support of European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain (PDF) (7 December 2005)
    - The CEN documents for phase 1 of this mandate are available on the website of CEN BT WG 185 pt.
    - The ETSI documents for phase 1 of this mandate are available on the website of Specialist Task Force 333 (accessible version) or Specialist Task Force 333 (ETSI version).
- M/420: Standardization Mandate to CEN, CENELEC and ETSI in support of European Accessibility Requirements for Public Procurement in the Built Environment (PDF) (21 December 2007).

There are several organizations focusing on the elderly and disability focus in Europe, to make sure that life will be possible for this growing group of people. For example, by Design for All. For a good idea on what is going on in Europe, it is important to know which organizations are active and in what way. For this training it is also interesting because it gives opportunities for cooperation and liaison.

EDF
One of these organizations is EDF. The European Disability Forum (EDF) is an independent European non-governmental organization (NGO) that represents the interests of 65 million disabled people in the European Union and stands for their rights.

EDF's mission is to promote equal opportunities for disabled people and to protect their Human Rights, making sure that no decisions concerning disabled people are taken without disabled people.

EDF was created in 1996 by its member organizations to defend issues of common concern to all disability groups, and to be an independent and strong voice for disabled citizens towards the EU institutions and other European authorities.

It is a democratic European platform that believes that a society in which disabled people are fully included, is a better society for all.

http://www.edf-feph.org/page_generale.asp?docid=14010

European blind union
EBU aims to protect and promote the interests of all blind and partially-sighted people in Europe. Its objects and powers are set out in Article II of its Constitution. EBU currently has 45 member countries, each represented by a national delegation. Its work is directed by an Executive Board of 13 elected members who are accountable to a General Assembly held every four years.

European deaf union
The European Union of the Deaf (EUD) is a European non-profit making organization whose membership comprises National Associations of Deaf people in Europe.

Established in 1985, EUD is the only organization representing the interests of Deaf Europeans at European Union level.
EUD aims to establish and maintain EU level dialogues, making sure deaf issues are raised. We do this in consultation with National Deaf Associations' members.

Age Europe
AGE, the European Older People's Platform, aims to voice and promote the interests of older people in the European Union and to raise awareness of the issues that concern them most. Everyone in the European Union is increasingly affected by decisions taken by its institutions : the Council of Ministers, the Commission, the European Parliament and the Court of Justice. Decisions affect the daily lives of all its inhabitants - including older people.

ANEC
Another organization focused on users, so not only people with disabilities, but active in the field of standardization is ANEC.

ANEC, the European consumer voice in standardization, defends consumer interests in the process of standardization and certification.

This means representing the European consumer interest in the creation of technical standards developed to support the implementation of European laws and public policies.
Although that may not sound important or interesting, standards provide the nuts and bolts of modern society. Ever thought why your mobile phone works away from home? Yes, standards. Ever thought why you need to carry a bag full of electrical adaptors when you travel abroad? That's right - a lack of standards!
But standards address more than issues of interoperability for consumers.
The use of standards can also:
- raise consumer protection and reduce the risk of accidents
- help promote environmental protection
- make the quality of services more consistent
- ensure people of all ages and abilities have equal access to products and services
- serve to underpin the digital age and the information society

DATSCG
In standardization there are several special interest groups, one of them is the Design for All and Assistive Technologies Standardization Co-ordination Group (DATSCG). This group addresses the area of eAccessibility. This WG aims to be a single standardization entry point for people with disabilities and the organizations that represent them. DATSCG is part of ICTSB (information and communications technologies standards board). So this means its focus is on ICT in standardization and not on every standard that is produced.

Position CEN
CEN is conscious about the special interest Group of consumers: people with disabilities. During the European Year of people with disabilities in 2003 for example the three European standards organizations fully supported this campaign and organized a large conference with the theme ''Accessibility for All', which covered accessibility in the public domain, in the home and on the move, as well as comparing the situation in Europe to that in other regions of the world.

(From the CEN-website <http://www.cen.eu/cenorm/news/success+stories/index.asp>)

For CEN, the high profile events of 2003 were the culmination of many years of hard work by dedicated experts. As a result, the CEN portfolio of published standards now includes many documents, which take into account the needs of people with disabilities, for example:

EN 12182 - Technical aids for disabled persons - General requirements and test methods

EN 81-70 - Safety rules for the construction and installations of lifts - Particular applications for passenger and good passengers lifts - Part 70: Accessibility to lifts for persons including persons with disability

EN 1970:2000 - Adjustable beds for disabled persons - Requirements and test methods

EN ISO 10535:1998 - Hoists for the transfer of disabled persons - Requirements and test methods

And it is not only in the physical domain that CEN has been working to improve conditions for people with special needs; e-Accessiblity is an important issue in the modern world and one that has also been tackled by CEN. Standards have been drafted to improve wheelchair access to machines with electronic card readers such as ATMs (Automated Teller Machine) and to facilitate the use of Smart Cards for people with a visual impairment by applying raised characters, to name but two.

These standards are an important step towards improving life for many people, providing them with access to products and services that were previously unavailable to them. This is not only important for people personally affected by disability but also for the European market, which, thanks to these standards, has a wider client base and greater potential.

Sub-topic 5: Developments in standardization
Sub-topic 5 is about solutions/opportunities within standardization. It focuses on initiatives that already exist and give power to consumers/end-users.

CEN/CENELEC Guide 2: Consumer interests and the preparation of standards
CEN/CENELEC developed a guide to cover consumer interests in standardization. 'Member bodies of CEN and CENELEC recognize and support the objectives of the EEC preliminary for a consumer protection and information policy, in particular that there should be 'consultation with and representation of consumers in the framing of decisions affecting their interests'.
It is a principle of standards activity that all interests affected by the work are taken into account.

Recommendations:
- Where a CEN or CENELEC committee is developing a European standard of interest to consumers, member bodies should seek means to encourage the active participation of consumers in national delegations.
- Standards work is by nature technical and complex. Where possible and necessary, member body staff should provide consumer representatives with briefing on technical issues and guidance on standards procedures.

CEN/CENELEC Guide 6: Guidelines for standards developers to address the needs of older persons and persons with disabilities
CEN/CENELEC developed also a guide especially developed for including user requirements of people with disabilities -> Guide 6.

The guide is a document for participants in standardization activities at CEN and CENELEC that contains guidance for the creation and the revision of standards to ensure greater accessibility of products and services. The document is a "Guide", in other words, not a European Standard (EN). The guide is identical to ISO/IEC Guide 71 was adopted by both the CEN Technical Board and the CENELEC Technical Board, and published in January 2002. The adoption of CEN/CENELEC Guide 6 resulted from a European mandate to the European standardization organizations. (wikipedia)

The guide is supposed to be used in standardization process. This is of course the focus of this training; how to make sure Guide 6 is implemented. We will have a good look at Guide 6 later in the training.

M376
Design for All and Assistive Technologies Standardization Co-ordination Group (DATSCG) addresses the area of eAccessibility as we discussed earlier.

EUROPEAN ACCESSIBILITY REQUIREMENTS FOR PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES IN THE ICT DOMAIN – M/376
The aim of the mandate M/376 is to enable the use of public procurement and practice for ICT´s to remove barriers to participation in the Information Society by disabled and older people. The mandate was given by the European Commission to the European Standards Organizations (ESOs) to come up with a solution for common requirements and conformance assessment. The mandated work will happen in 2 phases. Phase 1 is about the production of an Inventory of European and international accessibility requirements and assessment of suitable testing and conformity schemes. The actual standardization

activities (with among others the production of an EN specifying for all ICT products and services within each of the technical areas the corresponding requirements for accessibility) will take place in Phase 2.
(http://www.ictsb.org/Working_Groups/DATSCG/Index.htm).

Motivation and background

Goal of this topic

- To understand what the drivers are for involving disabled and older people in standards development
- To inform you about some relevant EU wide initiatives

2

Point 1 – Explain to participants that involvement is not about being 'nice' it's only disabled and older people that can give a professional and personal view on how issues affect them.

Point 2 – Need to understand that there is already some important work going on at EU level.

The drivers for involvement

- Policy and legislative drivers
- Demographic changes and changes in society
- The business case
- The political and moral case

3

This sets out for the participants what the presentation will cover. Subsequent slides will make clear that there are many sound reasons for ensuring standardization takes account of and involves older and disabled people in the process.

Policy and legislative drivers

- The UN Convention on the Human Rights of Disabled People
- EU and Member State legislation on non-discrimination and rights of disabled people

4

Point 1 – Point out that the UN Convention on the Rights of Disabled People is a new 'legislative' measure that has been long overdue and requires signatory nations to specifically address barriers and discrimination disabled people face every day. If standards do not properly address the issues faced by older and disabled people, especially by using exclusion clauses to avoid catering for them, there could be a breach of the Convention.

Article 9 of the Convention is especially relevant to standards for it requires that:

•develop and monitor minimum access standards and guidelines for public services and facilities

•ensure that the private sector makes services to members of the public accessible

•provide accessibility training

•ensure signs in public buildings are in easy read and Braille

•ensure more assistance and sign language interpreters are available to support access to public buildings and facilities

•promote accessible information and access to Information and Communication Technology (for example computers and the internet) for disabled people

•promote inclusive design for new information and communication technologies so that, from the start, these are designed to be accessible to, and easy to use for, disabled people.

Point 2 – Some member states like UK and Ireland have quite good anti-discrimination legislation, but their legislation is not prescriptive; in other words it does not detail exactly what 'an accessible' building is, it just states that they should be accessible. So standards can help to define in specific terms what access means in relation to specific situations, so they could be used by organisations as tool to help them comply with the law.

UN Convention

- Purpose of the convention:

  To promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity

5

In 1994 the standard rules on the equalization of opportunities for persons with disabilities were accepted by the united nations. Although not a legally binding instrument, the Standard Rules represent a strong moral and political commitment of Governments to take action to attain equalization of opportunities for persons with disabilities. The rules serve as an instrument for policy-making and as a basis for technical and economic cooperation. There are 22 rules.

In 2006 the Convention on the Rights of Persons with Disabilities and its Optional Protocol was adopted at the United Nations Headquarters in New York, and was opened for signature on 30 March 2007. There were 82 signatories to the Convention, 44 signatories to the Optional Protocol, and 1 ratification of the Convention. The Convention entered into force on 3May 2008.

The purpose of the convention is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity. The rules are moral and political guides which the member states follow.

It's important to note that respect for the dignity of disabled people to live an independent life free of barriers is a key theme requirement of the convention.

UN Convention: Guiding Principles (1)

- Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons
- Non-discrimination
- Full and effective participation and inclusion in society
- Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity

6

There are eight guiding principles that underlie the Convention and its specific articles:

- Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons

- Non-discrimination

- Full and effective participation and inclusion in society

- Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity

- Equality of opportunity

- Accessibility

- Equality between men and women

- Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities

The presenter should emphasise the last bullet; one of the key issues in standards is the need to remove 'exclusion clauses' which state that certain things cannot be done in order to make them accessible for disabled people. This is an 'easy option' and perpetuates the social, political and economic exclusion of disabled people who are seen as 'different ' and 'special cases' thus situating them outside of society and not part of it.

There are eight guiding principles that underlie the Convention and its specific articles:

- Respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons

- Non-discrimination

- Full and effective participation and inclusion in society

- Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity

- Equality of opportunity

- Accessibility

- Equality between men and women

- Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities

These rules and general principles on accessibility are set as a response to a shift in the world's population (more people with disabilities) and that although pre-existing human rights conventions offer considerable potential to promote and protect the rights of persons with disabilities, this potential was not being tapped.

In 2006 the international community accepted a new human rights agreement. This agreement has judicial consequences.

EU and Member State legislation

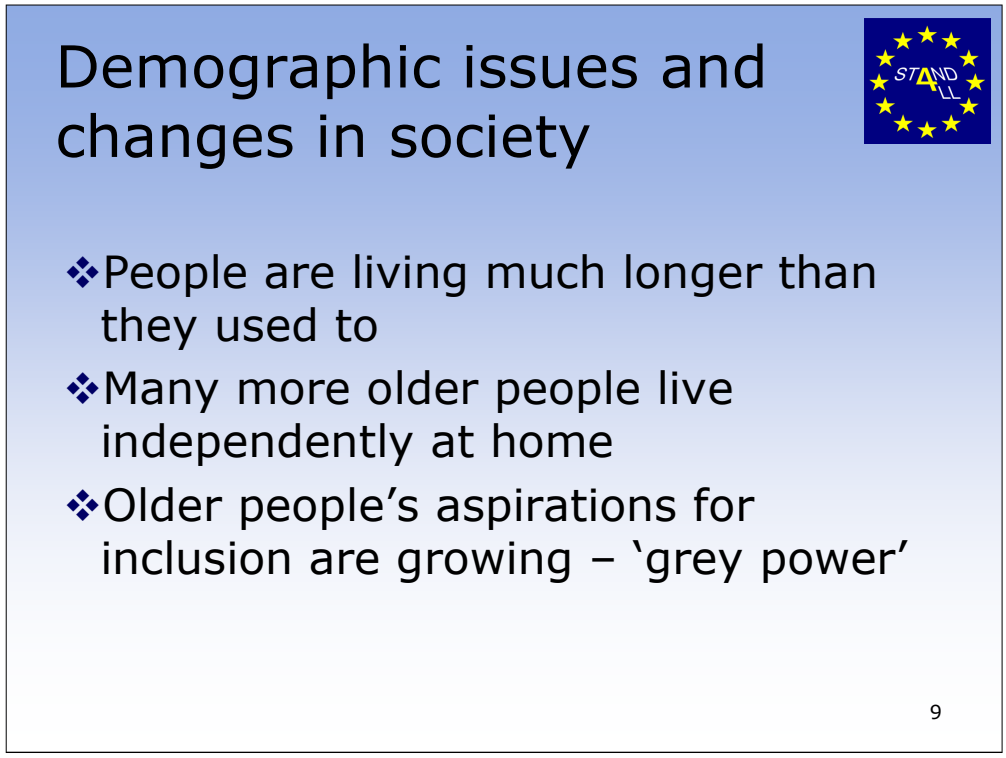
- EU Employment Equality Directive – will affect any service or product used in am employment context
- Member State legislation e.g. in the UK the Disability Discrimination Act which includes rights of access to employment, services, education, housing and transport

8

Point 1 - There is legislation at European level, admittedly not on rights of access to goods and services, but the employment equality directive of 2002 is still relevant, for example if you are providing office accommodation and facilities to your workers they will need to be accessible to disabled people as well, and standards

Point 2 - Reinforce point about standards help to comply with generalist equality legislation.

Point 3 – national legislation will vary and trainees should be encouraged to find out what applies in their country to assist when being involved in the development of national standards. Where training is being provided only within a country, then it would be helpful if the trainer provided such information.



Key points are that people live longer but are also expecting more and better products and services which means they must be inclusive.

In some EU states, such as the UK, older people are becoming more of a political force for change on a range of issues, especially since the pensions crisis where for various reasons people may not be getting as much pension or may have to wait longer for it.

Standards are a way of setting requirements to make those products and services better.

Useful statistics that can be mentioned:

The shift in the population is partly because people are living longer. This means that a great proportion of the population is elderly and that proportion is growing. The United Nations estimates that by 2050 one out of every five people will be over 60 years, and by 2150, one third of the worlds' population is expected to be 60 years of age or older.

In Europe we see the same trend. In 1995 there were 101 (15%) million of 65+, in 2050 Europe will have 173 (20%) million of 65+.

Other research show even more progressive rises:

SOURCE "Ageing well" Europa Press release 23 June 2008: "European Commission unleashes €600m for development of new digital solutions for Europe's elderly people.

By 2020, 25% of the EU's population will be over 65. To respond to this growing demographic challenge, the Council of Ministers approved today a Commission plan to make Europe a hub for developing digital technologies designed to help older people to continue living independently at home.

(http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/994&format=HTML&aged=0&language=EN).

Demographic issues and changes in society

- More disabled babies are being born and surviving into adulthood
- Many more disabled people living independently not institutions
- More disabled people are able to improve their life chances through education, employment and social participation so they demand access to services

10

Presenter to note that over the last 20 years the lives of disabled people have really changed. The issue of the rights of disabled people to be born, and to live full and independent lives regardless of their impairment, is much more recognised. The disability movement in the US and in Europe has pushed for an end to the isolation of disabled people in institutions where they often lived shorter, more restricted lives. Now that this is changing the political pressure to make society more inclusive is growing all the time.

The Business Case

- More older and disabled people expecting access to employment and services – they will purchase products that meet their requirements
- Making products and services inclusive can save money - no retrofitting

11

Presenter to note following from last slide that the higher aspirations and expectations of disabled people and the fact that many more disabled people have money to spend creates a market for good inclusive products and services, so industry supporters of standards can see a business benefit in using inclusive standards.

Also to note that trying to fix a problem 'after the event' is much more costly than following inclusive design principles in the first place.

The Business Case

- More disabled people are setting up their own businesses to provide products – competition will only increase
- Take the lead of Mac where access software is part of the operating system...smart companies know the way forward

12

Point 1 – more disabled people are starting to set up businesses to provide accessible products and services and so this will increase choice and create more market pressure to supply better goods and services.

Point 2 – this is an example, presenter should invite participants to think of their own and if possible come prepared with own further examples.

The Political/Moral Case

- Political awareness of disabled people about their position in society – recognising and understanding the causes of exclusion and oppression and how to tackle them
- The Social Model of Disability

13

Point 1 – need to emphasise that the link to standards is that if a standard is not inclusive, and is implemented by an organisation, then it will further entrench existing barriers.

Point 2 – Presenter needs to state they will explain what the social model is and how it's relevant on next slide.

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The picture (someone in a wheelchair, looking up at a bank of luggage lockers where the controls are far too high to reach) sums up what's been said so far: the fact that this person cannot use the provision arises from poor design in the first place and the result is a barrier and loss of dignity for the disabled person (they would have to ask someone to help them access it).

NOTE TO PRESENTERS Remember to describe the picture for trainees who cannot see it.

Social Model of Disability

- Instead of locating the problem within the individual (**individual model of disability**), The **social model of disability** locates the problem of disability within society. The cause of the problems is society's failure to provide appropriate services and adequately ensure the needs of disabled people are fully taken into account in its social organisation

15

Disabled people reject the medical model which focuses on them not being 'normal' and needing to be made 'normal' through medical intervention

Social model developed by disabled people – the problem is society, it has not designed its attitudes, ways of doing things and physical environment to include all disabled people and that is what disables us.

Instead of "treating or rehabilitating the patient", the social model focuses on full functional participation in society. The individual and social models of disability are conflicting models and difficult to integrate (van Roosmalen & Ohnabe, 2007, 53). Anti-discrimination legislation, inclusive design, rehabilitation engineering, and more inclusive standards all play a role within the social model of disability and can enable persons with disabilities to participate in society.

More information on the individual model of disability, the medical model of disability and the social model of disability can be found in the manual.

Design for All

- Design for All (DfA)/Inclusive design:
- Design for All is design for human diversity, social inclusion and equality
- To achieve this, the built environment, everyday objects, services, culture and information must be accessible, convenient for everyone in society to use and responsive to evolving human diversity.

16

Design for All is design for human diversity, social inclusion and equality. This holistic approach constitutes a creative and ethical challenge for all planners, designers, entrepreneurs, administrators and political leaders.

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(From The EIDD Stockholm Declaration©, 2004 (www.designforalleurope.org))

(The British Standards Institute (2005)British Standard 7000-6:2005)

Some relevant EU wide initiatives

There is a range of European legislation and initiatives which are relevant to this topic. The following slides provide some examples. It is noted that to maintain currency of the slides, the trainer should check whether any new legislation, directives or mandates have been created since this presentation was compiled in early 2010.

Useful information can be found on the Europa website (http://ec.europa.eu), for example on the home page of DG Employment, Social Affairs and Equal Opportunities (http://ec.europa.eu/social/home.jsp?langId=en). For standardization issues, the DG Enterprise and Industry website standards pages can be consulted (http://ec.europa.eu/enterprise/policies/european-standards/index_en.htm).

EU Policy (1)

- CoE Resolution ResAp (2001)1 "on the introduction of the principles of universal design into the **curricula** of all occupations working on the **built environment**" ("Tomar Resolution")
- => "Universal design"
- ResAP(2007)3 "Achieving full participation through Universal Design"

18

The Council of Europe Committee of Ministers Resolution ResAP(2001)1 on the introduction of the principles of **universal design** into the
curricula of all occupations working on the built environment was adopted by the Committee of Ministers
on 15 February 2001, at the 742nd meeting of the Ministers Deputies.

It was undertaken as part of integrating disabled people into the community, in line with the principles of independent living, by eliminating barriers.

Resolution ResAP(2007)3 "Achieving full participation through Universal Design" was adopted by the Committee of Ministers on 12 December 2007
at the 1014th meeting of the Ministers' Deputies with the purpose of recommending that member states integrated Universal Design principles in policy, legislation and practice, using guidelines supplied in an Annex to the document.

It took account of various earlier resolutions and declarations, including the 2001 ResAP, above, and subsequent recommendations such as: Recommendation Rec(2006)5 of the Committee of Ministers to member states on the "Council of Europe Action Plan to promote the rights and full participation of people with disabilities in society: improving the quality of life of people with disabilities in Europe 2006-2015". This states that "the application of Universal Design principles is of paramount importance for improving the accessibility of the environment and the usability of products".

NOTE Universal design is another term which relates to inclusivity, it is typically used in relation to architectural planning where it is intended to describe buildings, products and environments that are aesthetically pleasing and inherently accessible to all, including physically disabled people.

EU Policy (2)

- Recommendation Rec(2006)5 of the Committee of Ministers to member states on the Council of Europe Action Plan to promote the rights and full participation of people with disabilities in society: improving the quality of life of people with disabilities in Europe 2006-2015
- EU Disability Action Plan (DAP) 2008-2009

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Council of Europe Committee of Ministers Recommendation Rec(2006)5 of the Committee of Ministers to member states on the Council of Europe Action Plan to promote the rights and full participation of people with disabilities in society: improving the quality of life of people with disabilities in Europe 2006-2015 was adopted by the Committee of Ministers on 5 April 2006, at the 961st meeting of the Ministers' Deputies. Essentially it is about promoting the Council of Europe action Plan which covers a very wide range of topics.

The Action Plan is described as being intended to provide a roadmap for policy makers, to 'enable them to design, adjust, refocus and implement appropriate plans, programmes and innovative strategies' and acknowledges the basic principle that society has a duty towards all its citizens 'to ensure that the effects of disability are minimised through actively supporting healthy lifestyles, safer environments, adequate health care, rehabilitation and supportive communities.'

Many of these actions are highly relevant to standards.

https://wcd.coe.int/ViewDoc.jsp?id=986865

The objectives of the broader plan above were to embed disability issues in mainstream legislation.

The focus of the EU Disability Action Plan (DAP) 2008-2009 was accessibility in the labour market and, of particular relevance to standardization, boosting accessibility of goods, services and infrastructures.

http://ec.europa.eu/social/main.jsp?catId=430&langId=en

Relevant Organisations

There are several organizations focusing on older and disabled people and their issues in Europe. The following slides describe some. Trainers may wish to add examples of organizations in their own country where training is being delivered at a national level.

The European Disability Forum (EDF) is an independent European non-governmental organisation (ENGO) that represents the interests of 65 million **disabled people** in the European Union and stands for their rights. It is a generic organization for any kind of disability.

EDF's mission is to promote equal opportunities for disabled people and to protect their Human Rights, making sure that no decisions concerning disabled people are taken without disabled people.

EDF was created in 1996 by its member organisations to 'defend issues of common concern to all disability groups, and to be an independent and strong voice for disabled citizens towards the EU institutions and other European authorities'.

It believes that a society in which disabled people are fully included, is a better society for all.

www.edf-feph.org

There are several European organizations dedicated to people with specific disabilities:

European blind union

EBU aims 'to protect and promote the interests of all blind and partially-sighted people in Europe'. EBU currently has 45 member countries, each represented by a national delegation. Its work is directed by an Executive Board of 13 elected members who are accountable to a General Assembly held every four years. Its objects and powers are set out in Article II of its Constitution.

www.euroblind.org

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The European Union of the Deaf (EUD) is a European non-profit making organization whose membership comprises National Associations of Deaf people in Europe. Established in 1985, EUD is stated to be the only organization representing the interests of Deaf Europeans at European Union level.

EUD aims to establish and maintain EU level dialogues, making sure deaf issues are raised and does this in consultation with National Deaf Associations' members.

www.eud.eu

Age Europe

AGE, the European Older People's Platform is a European network of around 150 organisations of and for people aged 50 plus. It aims to voice and promote the interests of older people in the European Union and to raise awareness of the issues that concern them most.

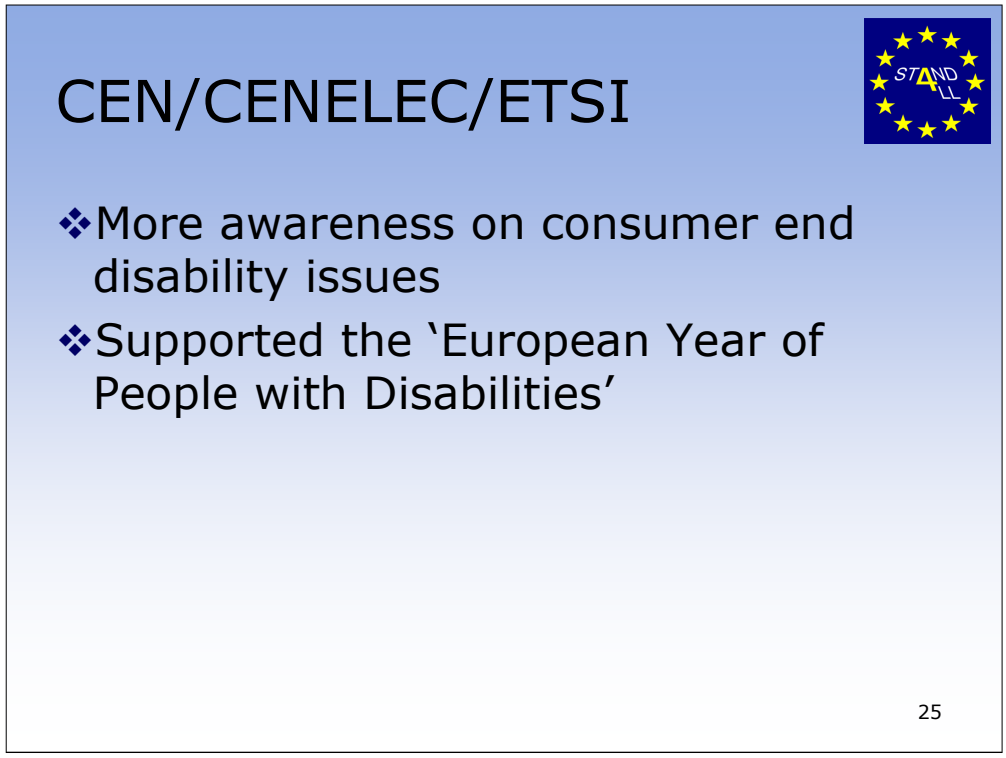
www.age-platform.eu

Another organization focused on users, not only people with disabilities, which is active in the field of standardization is ANEC.

ANEC describes itself as the 'European voice of consumers in standardization'. It has observer status on the Technical Committees of the European standards bodies and trains consumer representatives to provide input to those committees, linking with relevant national consumer organizations. It operates with a series of working groups focusing on key priority areas such as child safety, the environment, services and the digital age.

www.anec.eu

In standardization there are several special interest groups, one of them is the Design for All and Assistive Technologies Standardization Co-ordination Group (DATSCG). This group addresses the area of eAccessibility. This WG aims to be a single standardization entry point for people with disabilities and the organisations that represent them. DATSCG is part of ICTSB (information and communications technologies standards board). So this means its focus is on ICT in standardization and not on every standard that is produced.



The European standards organizations CEN, CENELEC and ETSI which develop standards across a broad range of topics all have work underway in relation to accessibility. During the European Year of people with disabilities in 2003, they together organized a large conference with the theme ''Accessibility for All', which covered accessibility in the public domain, in the home and on the move, as well as comparing the situation in Europe to that in other regions of the world.

(From the CEN-website <http://www.cen.eu/cenorm/news/success+stories/index.asp>)

Over the years, a large number of standards have been produced specifically addressing aspects of accessibility, some relating to specific assistive devices and, more recently, others about ensuring accessibility within mainstream products.

Two examples of standards which have been around for some time:

EN 12182 - Technical aids for disabled persons - General requirements and test methods

EN 1970:2000 - Adjustable beds for disabled persons - Requirements and test methods

It is not only in the physical domain that CEN has been working to improve conditions for people with special needs; e-Accessiblity is an important issue in the modern world and one that has also been tackled by CEN. Standards have been drafted to improve wheelchair access to machines with electronic card readers such as ATMs (Automated Teller Machine) and to facilitate the use of Smart Cards for people with a visual impairment by applying raised characters, to name but two.

These standards are an important step towards improving life for many people, providing them with access to products and services that were previously unavailable to them. This is not only important for people personally affected by disability but also for the European market, which, thanks to these standards, has a wider client base and greater potential.

Title page for subsequent slides…

standardization requests (mandates) are the mechanism by which the Commission requests the European Standards Organisations (ESOs), CEN, CENELEC and ETSI, mentioned earlier. to develop and adopt European standards in support of European policies and legislation.

Draft mandates are drawn up by the Commission services through a process of consultation with a wide group of stakeholders. Before being formally addressed to the ESOs, they are submitted for opinion to the Member States in the Standing Committee of the 98/34/EC Directive

The following are some mandates of particular relevance to accessibility (The link, below, has a further link which gives access to a database of mandates: http://ec.europa.eu/enterprise/policies/european-standards/standardization-requests/index_en.htm)

Mandate 283 - Mandate to the European Standards Bodies for a guidance document in the field of **safety and usability** of products by people with special needs (e.g. elderly and disabled). This resulted in the adoption of ISO Guide 71 Guidance to standards developers on the needs of older and disabled people, as CEN Guide 6. This document will be explained in another part of this training.

Mandate 273 - Mandate to the European Standards Bodies for standardization in the field of **information and communications technologies** (ICT) for disabled and elderly people. This mandate led to a large programme of standardization work in the ICT area taking into account accessibility.

European Mandates (2)

- Mandate 292 - Mandate to the European Standards Bodies for a guidance document in the field of **safety** of consumers and children - **Product information**.
- Mandate 293 - Mandate to the European Standards Bodies for a guidance document in the field of **safety** of consumers and children - **Child safety**.

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These two mandates resulted in guidance to be used by people developing standards on the topics identified:

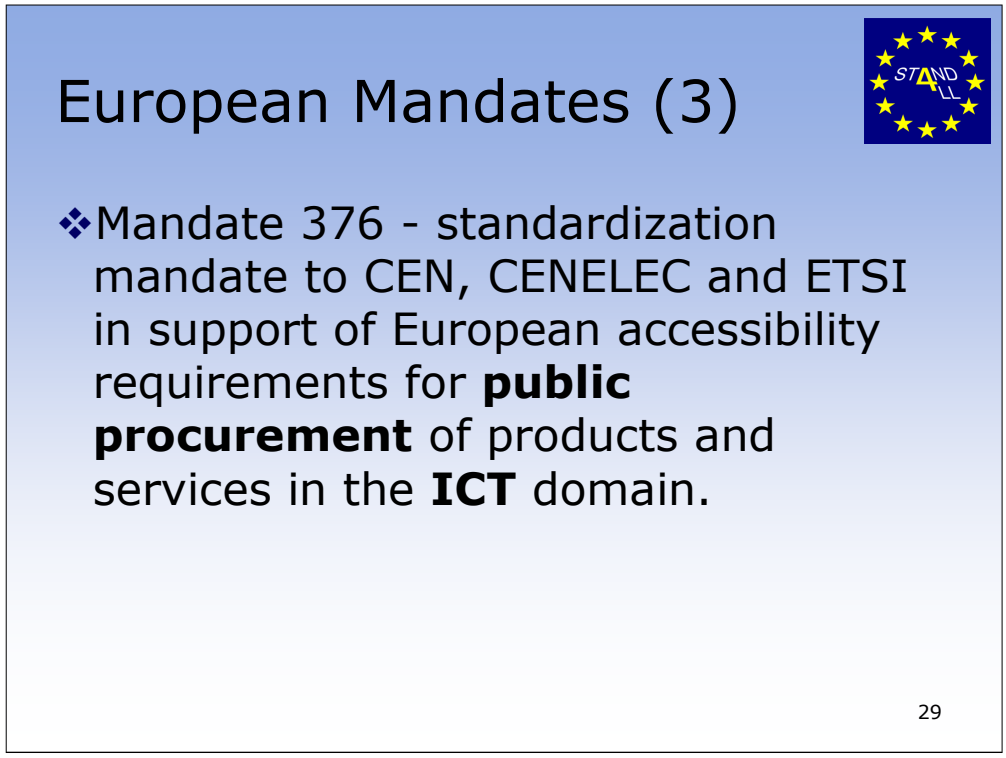
Mandate 292 resulted in CEN/CENELEC Guide 11 Product information relevant to consumers - Guidelines for standard developers

Mandate 293 resulted in CEN/CENELEC Guide 14 Child safety guidance for its inclusion in standards

All the CEN and CEN/CENELEC Guidance documents can be downloaded from:

http://www.cen.eu/boss/supporting/Reference%20documents/guides/Pages/default.aspx

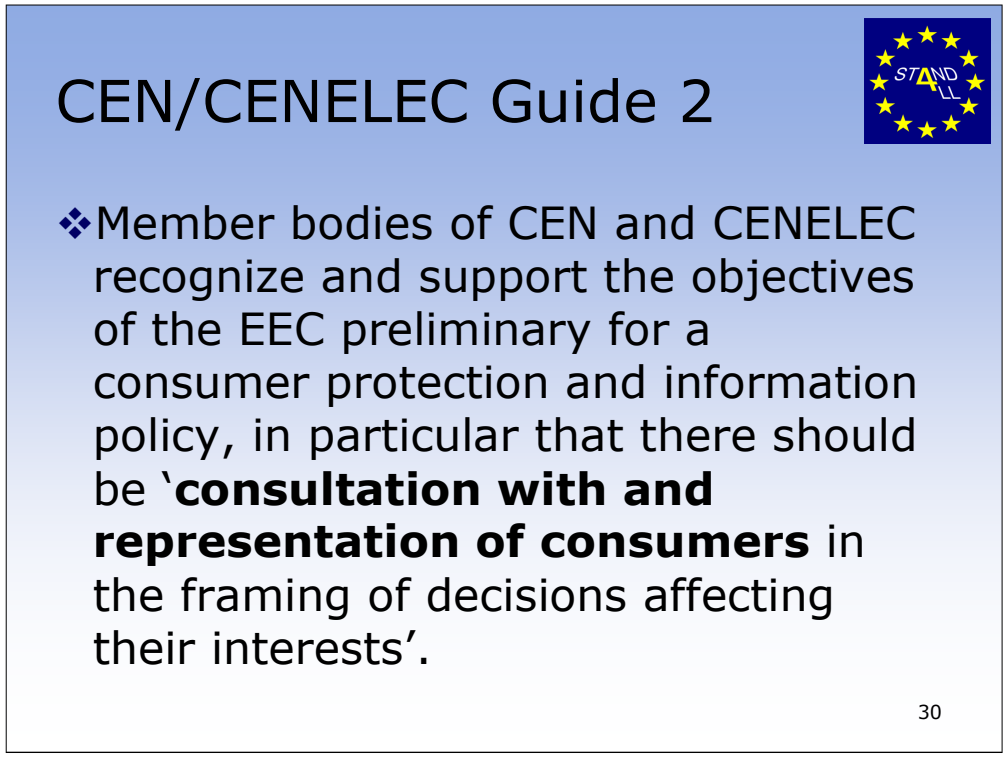
These documents are important as is safety but there is a need to be aware that standards safety can be seen as paramount, which can result in action being taken to exclude use by disabled people, so a balance needs to be found. Similarly there are sometimes apparent conflicts in the requirements for the safety of children and the needs of older or disabled people (for example child resistant closures on medicines which are difficult for some older people to open). Increasingly work is underway to balance all needs.



Design for All and Assistive Technologies Standardization Co-ordination Group (DATSCG) addresses the area of eAccessibility as we discussed earlier.

EUROPEAN ACCESSIBILITY REQUIREMENTS FOR PUBLIC PROCUREMENT OF PRODUCTS AND SERVICES IN THE ICT DOMAIN – M/376

The aim of the mandate M/376 is to enable the use of public procurement and practice for ICT´s to remove barriers to participation in the Information Society by disabled and older people. The mandate was given by the European Commission to the European Standards Organisations (ESOs) to come up with a solution for common requirements and conformance assessment. The mandated work will happen in 2 phases. Phase 1 is about the production of an Inventory of European and international accessibility requirements and assessment of suitable testing and conformity schemes. The actual standardization activities (with among others the production of an EN specifying for all ICT products and services within each of the technical areas the corresponding requirements for accessibility) will take place in Phase 2. (http://www.ictsb.org/Working_Groups/DATSCG/Index.htm).



CEN/CENELEC Guide 2: Consumer interests and the preparation of standards

Cen/cenelec developed a guide to cover consumer interests in standardization. This is important for consumers in general – recognising the importance of their participation in the standards development process, and also for disabled consumers – who from personal experience are better equipped to be aware of the impact of some provisions in standards on those with impairments.

Key parts from Guide 2 are:

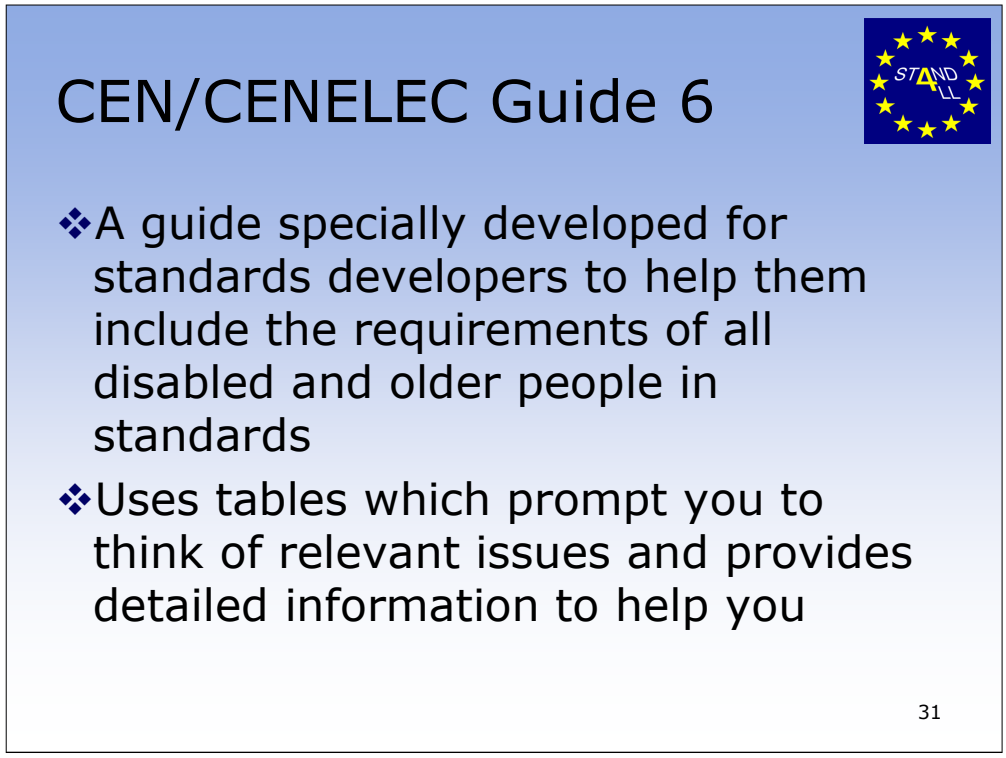
'Member bodies of CEN and CENELEC recognize and support the objectives of the EEC preliminary for a consumer protection and information policy, in particular that there should be 'consultation with and representation of consumers in the framing of decisions affecting their interests'.

It is a principle of standards activity that all interests affected by the work are taken into account.

Recommendations:

Where a CEN or CENELEC committee is developing a European standard of interest to consumers, member bodies should seek means to encourage the active participation of consumers in national delegations.

Standards work is by nature technical and complex. Where possible and necessary, member body staff should provide consumer representatives with briefing on technical issues and guidance on standards procedures.



As previously indicated, the consequence of Mandate 283 was CEN/CENELEC Guide 6. this will be described in more detail in another part of the training programme.

CEN/CENELEC Guide 6: Guidelines for standards developers to address the needs of older persons and persons with disabilities

The guide is a document for participants in standardization activities at CEN and CENELEC that contains guidance for the creation and the revision of standards to ensure greater accessibility of products and services. The document is a "Guide", in other words, not a European Standard (EN). The guide is identical to ISO/IEC Guide 71 was adopted by both the CEN Technical Board and the CENELEC Technical Board, and published in January 2002.

The guide is supposed to be used during the standardization process. This is of course the focus of this training; how to make sure Guide 6 is implemented.

Redefining Experts

- By working together disabled people and committee members can understand complex issues and work together to deal with them
- It's exciting – many issues and solutions will never have been thought about before!

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Points self explanatory but the last one is trying to enthuse participants that not all the answers are known, but we can learn a lot from each other and maybe think of some new solutions.

STAND4ALL

Topic 'Information on Standardization'

Introduction to 'Information on standardization'

The goal of this topic is: To understand what standards are, how they are developed, and why consumers should be involved.

The topic “Information on standardization” is developed to assist users overcome the barrier of lack of knowledge and provided basic information on the standards development process, in line with similar training courses delivered by national standards bodies of EU member states.

Put at its simplest, a standard is an agreed, repeatable way of doing something. It is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers, users and regulators of a particular material, product, process or service.

Within this topic we will discuss the following issues:

- What is a standard? A look at the different types of standards and the benefits they bring to society
- What is standardization? How are standards developed? European and International implications
- Why is consumer involvement important in standardization?

This topic can be started with showing a product where standardization is an important issue. For example: different mobile telephone adapters or electricity plugs. There is not one standardised form.

For this topic a presentation is prepared in which the basics of European standardization is presented. For further reading and more information the following documents and websites can be used:

- Handson Standardization (A starters guide to standardization for experts in CEN technical bodies) (CEN)
- Involving people with disabilities in the Standardization Process (John Gill)
- Website CEN (www.cen.eu)
- Website etsi (www.etsi.org)

This prepared topic will take 60 minutes.

Annexes:

- STAND4ALL document ' Information on standardization'
- Presentation
- Overview of NSB’s and ESO’S

Information on standardization – background material

General

The goal of this topic is: To understand what standards are, how they are developed, and why consumers should be involved.
The focus here is *European* standardization and thus the European Standardizations Organisations (ESOs) CEN, CENELEC and ETSI are key.

The topic "Information on standardization" is developed to assist users overcome the barrier of lack of knowledge and provides basic information on the standards development process, in line with similar training courses delivered by national standards bodies of EU member states.

For further reading and more information about the European standardization process, the CEN/CENELEC Internal Regulations should be used:

Part 1: Organization and Structure
Part 2: Common Rules for Standards Work
Part 3: Rules for the Structure and Drafting of European Standards

These documents can be obtained via:
http://www.cen.eu/boss/supporting/Reference_20documents/Internalregulations/Pages/default.aspx

BOSS is the unique source of reference for all CEN System operations. It gives essential information on the key processes and structures in the CEN System and thus on the European system as a whole.
Boss means: Business Operations Support System. CEN Boss gives access to the various tools and related supporting services available to facilitate the work of standards developers.

For further reading about the subject 'standardization', the following documents and websites can be used:

- CEN Compass: The world of European Standards, via http://www.cen.eu/cen/AboutUs/Pages/default.aspx
- CEN - A success story, via http://www.cen.eu/cen/AboutUs/Pages/default.aspx
- Website CEN (www.cen.eu)
- Website CENELEC (www.cenelec.eu)
- Website etsi (www.etsi.org)
- Hands-on Standardization (A starters guide to standardization for experts in CEN technical bodies) (CEN), via www.stand4all.eu/links
- Involving people with disabilities in the Standardization Process (John Gill), via www.stand4all.eu/links

- Access to information on standards and routes into the European standardization process, via http://www.newapproach.org

For further reading, the following literature can be used:
- Constructing a European market: standards, regulation, and governance, by Michelle P. Egan. Oxford University Press, 2001
- Users with Disabilities and Standards, by Christian Buhler FTB (Research Institute Technology and Disability). Springer-Verlag Berlin Heidelberg 2008

Note: This topic should be treated as an interactive discussion, so please encourage trainees to ask questions throughout.

Session objectives

To present an overview of the importance and benefits of standardization

To provide an understanding of the key stakeholders involved in standardization

This Topic will provide a general background to the world of standards, why they are important, who uses them, how they are developed.
Of equal importance is who develops them and how can you get involved which is the reason of the STAND4ALL training course

Standardization: an introduction

Put at its simplest, a standard is an agreed, repeatable way of doing something. It is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers, users and regulators of a particular material, product, process or service.
In this presentation you will learn out more about the standards in Europe, e.g. standards from the European Standards Organisations: CEN. CENELEC and ETSI.

Thus, you will learn more about development processes and procedures in to be followed by CEN, CENELEC and ETSI committees for the development and drafting (and subsequent maintenance) of European Standards and other CEN/CENELEC and ETSI deliverables.

You will also learn more about the CEN, CENELEC and ETSI technical committees. Information about the structure, scope of work, participation of each committee will be discussed in general, while detailed information

per technical committee can be found via the websites of CEN, CENELEC and ETSI.

CEN
http://www.cen.eu/cen/Sectors/TechnicalCommitteesWorkshops/CENTechnicalCommittees/Pages/default.aspx

CENELEC
http://www.cenelec.eu/Cenelec/Technical+work/TC+web+sites

ETSI
http://portal.etsi.org/portal/server.pt/community/home/312

What is a standard?

There are many definitions of a 'standard'. Very generally, a standard might simply be defined as '*a set of rules for ensuring quality*'

Some thoughts..
Although standards (and standardization) don't cross our minds throughout our daily lives - yet we daily benefit from the "invisible" support of standards. Standards make aspects of life safer, healthier and more convenient, as well as ensuring quality and bringing us economic benefits.

The world would be a lot more inconvenient without standards. Example make this clear: "you are unable to withdraw money from an automated telling machine if your bank card is too small or to thick to fit in the slot; you are unable to use the copy machine at your office if you use a different size of paper (instead of A4 format); you are unable to use your USB stick on someone else's computer if the stick is too small for the portal".

In short, products and services might not work as expected. They may be incompatible with other equipment. Besides the fact that they may not even connect with them, the quality of products and services is not guaranteed. Or in worst case scenario's the non-standardized products and services may even be dangerous.

On the contrary, standardized products and services are widely accepted, commonly trusted and highly valued. These standardized goods are commonly accepted being safe, secure and of a high quality.

According to the European Standardization Organisations "Standardized products and services are valuable confidence builders".

What is a standard? An agreement!

Cartoon in the PPT presentation: two people are seen standing on each side of borderline. One is holding a three pin plug and the other a two pin socket. Apparently, the plug does not fit in the socket. It is clear that there is NO European standard here for the plugs and socket. As soon as you cross the border, your products are not compatible anymore.

A standard is a document established by consensus that provides rules, guidelines or characteristics for products, services and systems. Thanks to standards, simple things like the size of a credit card – and all the products and services related to it- can be the same everywhere. If there's no standard for the services or product, there can be differences in these products and services. These differences vary in terms of safety, security, compatibility etc.

Standards can help us to ensure public safety and because they can assure that products and services meet their safety requirements. Because of these safety standards, the public can live and work in a safer, sustainable and a more reliable environment.

Besides the safety aspect, it is also of great importance that standards can reduce costs; change is easy to implement when heterogeneous resources work together.

Standards also improve quality of products and services as they anticipate and respond to changes and developments in the market, customer demand and business priorities. Standards also improve quality of goods as they use value from business assets, including people, process, and technology.

Types of standard

There are different kinds of standards; namely Specification ("shall"), Guidance ("should"), a Process (e.g. manufacturing or provision of services) or Test method (e.g. laboratories)

Specification – historically, the most common type of standard is a specification. This could be a set of requirements for any of the following: an object, a type of material, a component, a system, or even a service. The language used (in English) is ‘shall’ do something

A common example of a specification is the thread of a screw. If standards were not agreed for screw threads, nuts and bolts would not fit together; at least you would have to try the sizes of many different nuts before you found one to fit! Another example is the SIM card in a mobile telephone. If they were not made to a standard size – manufacturers of mobile telephones would have huge problems ensuring that all the different types of SIM cards would fit in

their phones, so you can see how standards avoid this inefficiency. Also consider ATM machines and debit cards, the list goes on….

Specification standards are commonly quoted in contracts in the exchange of goods and services, so if the goods or service do not meet the requirements of the standard – it could be considered as a breach of contract.

Sometimes standards only provide guidance on best practice, using the words 'should'; in this case the requirements can be seen as a recommendation (contents of the notes are not in any way be construed as being requirements).

The differences between 'shall' and 'should' are explained as follows by the ESOs:

> A standard is structured in a manner where the specific requirements pertaining to each individual clause are defined and stated in a frame-box. Informative guidance has been provided as an aid in interpreting the requirements where considered appropriate. This guidance is in the form of notes in association with the pertaining requirements clause and uses the terms "should" (recommendation), "may" (allowance) and "can" (possibility). Organizations wishing to implement the standard would be expected to consider all recommendations where the term "should" is used.

It is also possibly to 'certify' to a specification standard. There are various options to do so. The organisation using the standard may self certify and claim compliance or could have 'third party' certification, where an external auditor or test house establishes if the organisation has truly complied with the terms of the standard – this can lead to the awarding of certification marks, such as the keymark, across Europe or national marks such as the BSI Kitemark or the AENORN mark. It depends on the aims of the sector and users of the standards what kind of certification system suits best.

Process: a common type of standard used in industries and businesses across the world. A factory may set their own internal standards for a process such as maintenance of a piece of machinery, or monitoring of temperature in a store room. Alternatively an office based business may have internal standards for signing contracts. At international level a suite of consumer standards exist – ISO 10000, 1,2 and 3 which are all process standards on putting together Codes of conduct, complaints handling procedures and mechanisms for alternative dispute resolution. At European level the complaints handling standard has been incorporated into standards for postal delivery services.

Test method: In engineering, science, manufacturing, and business, it is vital for all interested people to understand and agree upon methods of obtaining data and making measurements. Using a standard test method, published by a respected standards organization, is a good place to start. For example, it is

common for a physical property to be strongly affected by the precise method of testing or measuring that property. It is vital to fully document experiments and measurements and to provide needed definition to specifications and contracts. Sometimes it is more useful to modify one or to develop a new one.

Levels of standard

In addition to the *types* of standard – we should also think about the *levels* of standards.

There are numerous levels of standards and the slide in the PPT shows a summary:

- International Standards (agreed world wide, internationally)
- European Standards (agreed in Europe)
- National Standards (agreed at national level, in a country)

- Trade Standards (agreed by an association)
- Internal Standards and Procedures (for example within an organisation)

An explanation from bottom to top:

- The lowest level of standard to consider is an **internal standard** (company standard)– this is any standard or procedure developed by an organisation in their general operation. These are commonly referred to as Standard Operating Procedures (SOPs). For example, to operate a Nuclear power plant, there may be hundreds of SOPs.

- A **trade standard** could be a standard agreed by a specific sector, usually by a trade association. An example of this could be a code of good practice.

- **National standards**, are developed in National Standards Bodies. These standards will have a national interest. These national standards have to be approved by the National Standards Body.

For example, the standards developed by the British National Standards Body, BSI (British Standardization Institution). The British Standards need to be approved by BSI. See box below. The reference BS means "British Standard".

BSI gives recommendations on fire detection and fire alarm systems in new and existing dwellings and buildings of all sizes. The standards and publications are essential reference for specifiers, designers and installers, including fire brigades, local authorities, housing associations, fire alarm contractors, building control officers, consulting engineers, electrical contractors and building surveyors.

National standards in this field are:

BS 5839-1:2002+Amendment 2:2008
Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance

BS 5839-6:2004
Fire detection and fire alarm systems for buildings. Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings

BS 5839-8:2008
Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning and maintenance of voice alarm systems

European and **International** standards are developed in a similar way to those at the national level but the standards bodies are operating at a higher level.

European standards are developed via European Standards Bodies (ESOs, e.g. CEN, CENELEC and ETSI), but with input provided through the National Standards Bodies. These standards will have a European interest.

For example, European Standards (EN) need to be approved by CEN. An EN must be implemented by all CEN National Standardization Bodies, who must also withdraw any conflicting national standards.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving a European Standard the status of a national standard without any alteration. A European Standard exists in three official versions (English, French, & German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

See box below. The reference EN means "European Standard".

An example of a European standard is the approval of CEN of EN 12520 'Furniture - Strength, durability and safety - Requirements for domestic seating'. The standard was drafted by CEN Technical Committee 207 'Furniture' and published by all the CEN members.

International standards are developed in the International Organization of Standardization (ISO), or the International Electrotechnical Committee (IEC) via the National Standards Bodies. These standards will have an international interest. See box below. The reference ISO indicates an "International Standard".

An example of an international standard is the approval of ISO 9001 'Quality management systems -Fundamentals and vocabulary'. This International Standard describes fundamentals of quality management systems, which form the subject of the ISO 9000 family, and defines related terms.
This standard was drafted by ISO Technical Committee 176 on Quality Management and Quality Assurance. The 9000 series was developed to assist organizations, of all types and sizes, to implement and operate an effective quality management system (QMS). The ISO 9000 series is used worldwide.

In the context of this STAND4ALL course we will be talking mainly about formal standards developed within national or European standards bodies.

Standards that are developed in the European and/or National Standardization Bodies (NSBs) are developed through consensus. This means consensus by balanced committees of stakeholders in the specific field. Standards are thus developed according to the following principles:

- Consensus
  The views of all interests are taken into account: manufacturers, vendors and users, consumer groups, testing laboratories, governments, engineering professions and research organizations.
- Industry wide
  European solutions to satisfy industries and customers worldwide
- Voluntary
  International standardization is market driven and therefore based on voluntary involvement of all interests in the market-place.

According to CEN/CENELEC:
"A standard is a document, established by consensus and approved by a recognized body (National Standard Body NSB) that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context. Standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits".

CEN, CENELEC and ETSI are business facilitators in Europe, removing trade barriers for European industry and consumers.

Its mission is to foster the European economy in global trading, the welfare of European citizens and the environment. CEN, CENELEC and ETSI have agreed to work closely together in standards development at European level and so they provide a platform for the development of European Standards.

CEN, CENELEC and ETSI are the only recognized European organizations drafting and adopting of European Standards.
CEN is a major provider of European Standards in all areas of economic activity
CENELEC is a major provider of European standards in the area of electro technology.
ETSI is a major provider of European standards in the area of telecommunication

The need for standards

Standards in our daily lifehttp://www.standardsusers.org/ -standards%20in%20daily%20life
When you, as a European citizen, decide to purchase a new car, you will find that there are a range of different brands and types of cars. How do you know which brand and what type of car is suitable for you? You will have a set of expectations or features – for example given by your work as it is a company car - what you look for in the new car. This might vary from safety features (airbags) to luxury features (electric windows) and financial features (expenses per month).

The features you are looking for are called a set of criteria or standards.
You use your **own standards** to decide on the car, that, you think will be the best solution for you.

In this case, not only your own standard is important. It is also important that the car you preferred can be used. Imagine that this 'Best Solution' car comes from Korea. As a European citizen you might live and work in Brussels and you might want to use this Korean car there. Although imported from overseas, the car still needs to be used here without a problem. This is possible, because cars all over the world are manufactured according to an agreed, repeatable way. Standards ensure products purchased from other countries can be used in your own country.

Thus, standards ensure consumers get products –and services-, which are safe, easy to use, fit for consumption, suitable for use and durable.

Benefits of standards

- Support legislation
- Assist innovation

- Cost optimisation
- Product safety
- Environmental impact
- Energy efficiency
- Access to markets across borders
- Consumer & customer confidence

NEEDS AND BENEFITS:
At the highest level, standards support regulation. European Directives, such as the Low voltage Directive, Machinery directive or General Product Safety Directive and the new Services directive, set broad principles which are underpinned by more detailed standards.

Standards are developed by consensus with all the stakeholders around the table including the people who use standards in their work; manufacturers, procurers, regulators and the end users, consumers. They are thus a more participative and flexible way of agreeing details.

Standards also allows cost effective compliance, reduces liability, allows risk management and the governance of operations.

Other benefits include,
- **Assist innovation** Standards can provide business opportunities by allowing new markets to be developed, influencing technology change and the evolution of industry
- **Cost optimization** by reducing transaction costs, economic procurement, ensure uniformity or compatibility, flexibility in the supply chain and allow best practice
- **Product safety** Minimize hazards and specify safety warnings
- **Environmental impact and energy efficiency** Reduce negative impacts and improve environmental performance
  Access to markets cross borders Prevent trade barriers and, open up new markets and expand existing ones

And last but by no means least:
- **Consumer and customer confidence** Quality management, define product and service information/ instructions and provide framework for contractual obligations and complaints management

In short, standards facilitate good trade and ensure consumers in a country are also protected.

More specific benefits: benefits for consumers

- Enables useful comparison between products and services
- Can improve sustainability of products (economic, environmental, social)

- Ensures required safety (and quality) levels are met

Standardization in Europe

- Managed by CEN/CENELEC
- CEN has 30 National Members, includes BSI in UK, AENOR in Spain, NEN in Netherlands
- CENELEC also has 30 National Members
- Standards are key to the European single market

European standards development; how do standards get started?

Work on standards can be stimulated and/or initiated by a number of different means:

- New legislation e.g. European Directives or national laws
- High profile issues e.g. environmental concerns
- Consumer or business concerns

New legislation In the EU, all member state countries must have a national standards body as a member of CEN – the European Standards organisation. For some EU laws (under the New Approach), standards are required for their implementation. In this case CEN OR CENELEC is 'mandated' to develop the standards, which in turn must be adopted by the national members.

High profile issues standards can be initiated by high profile issues, such as sustainability – BSI have recently developed a standard for measuring CO2 and AENOR has created a WG to develop standards on sustainability on Civil engineering works.

Also, **Consumer concerns/pressure** can lead to standards work – another British example is the standard on adventurous activities abroad – where for example school parties go off to another country to ski, sail or climb mountains. Another Spanish example is the standards on accessibility in beaches, health spas or natural protected areas.This is now likely to become an international standard.

There are six phases in the European standards development process:

1. "New Work item" initiated
2. Development of technical content
3. Public comment
4. Consideration of comments
5. Approval Publication
6. National implementation

In more detail, this means:

1. The need for a standard is expressed by any kind of sector (see the three points above) sector. The specific sector communicates this need to a National Standards Body, so that formally a New Work Item can be proposed to the members of the particular ESO (CEN, CENELEC or ETSI). A proposal for new work can be put forward only to one of the ESO's; this depends on the nature[1] of the work.
2. Once the need for an European Standard in the particular field has been recognized (by approval of the New Work Item Proposal by the members of the ESO), this phase involves definition of the technical scope of the future standard. This phase is carried out in working groups which technical experts from countries interested in the subject matter. These technical experts can be people from industry, test houses, consumer organizations etcetera. Once the experts agree on the basis of the standard (e.g. technical aspects to be covered in the standard), the next phase starts in which countries negotiate the detailed specifications within the standard.
3. After reaching a level of agreement within the group, the document becomes available for public enquiry whereby any interested party can make comments on the content of the document.
4. After completing the public enquiry phase, the document gets back to the technical committee to take these comments on board. This is a consensus-building phase and of high importance as countries can be poles apart in their approach to a specific issue. This results in a draft European standard. Afterwards, the document is offered for formal voting by (for example CEN) National members.
5. The final phase comprises the formal approval of the draft European Standard. Once approved, it goes for final editing and publication.
6. After that, the agreed text is published as an EN European Standard. It is important to note the concept of national transposition whereby once the standard is published, all CEN members will have to transpose the European standard and withdraw any conflicting national standard.

The published European Standards need to be continually reviewed in order to remain relevant in the face of changing circumstances. The

[1] CENELEC is responsible for European Standardization in the area of electrical engineering, ETSI is for telecommunication while CEN cover all other technical areas.

implementation of the standards must fit into a country's overall strategy for the sectors development.

CEN Internal Regulations state: *"A European Standard (EN) is a normative document made available by CEN/CENELEC in the three official languages. The elaboration of a European Standard includes a public enquiry, followed by an approval by weighted vote of CEN/CENELEC national members and final ratification. The European Standard is announced at national level, published or endorsed as an identical national standard and every conflicting national standard is withdrawn. The content of a European Standard does not conflict with the content of any other EN (and HD for CENELEC). A European Standard is periodically reviewed. During the development and whole lifetime of the European Standard, standstill applies."*

Drafting European Standards

Standards are thus driven by business, but drafted by experts in the particular field. These experts are both members of their National Standards Body and member of the Technical Committee (TC) wherein the standard is developed. This TC may have some Working Groups (WG) carrying out parts of the work).

Basically the process is initiated by a New Work Item NWI proposal from the Technical Committee or any other interested stakeholder. This NWI is assigned to a CEN, CENELEC or ETSI technical committee. The document gets developed within the assigned Technical Committee passing through various stages (Working Document, Draft Standard etcetera).

The aim of standards is to facilitate trade and communication, without barriers. To achieve this objective, the experts need to take the following into account:

- be as complete as necessary within the limits specified by its scope,
- be consistent, clear and accurate,
- take full account of the state of the art,
- provide a framework for future technological development,
- be comprehensible to qualified persons who have not participated in its preparation

Also, the experts need to take into account the principles for the drafting of documents (e.g. European standards). These include 'homogeneity' and 'consistency of documents'.

Homogeneity

Uniformity of structure, of style and of terminology needs to be maintained both within each document, as within a series of associated documents

(different parts of a standard). This also includes the numbering of the documents and the use of identical wording throughout the associated documents.

Consistency of documents

The text of every standard needs to be in accordance with existing standards published by the ESO and includes standardized terminology, principles and methods of terminology and technical drawings.

A Technical Committee at the European level is comprised of representatives of National Standardization Bodies (for example, BSI from the UK, NEN from the Netherlands, AENOR from Spain, DIN from Germany), European trade associations, policy bodies from CEN or ISO, and other European interest groups such as ANEC.
Members of the TC (or its WG) attend meetings throughout the year (usually one or two face-to-face meetings per year). The purpose of a meeting is to:

- make decisions on work programme
- prepare drafts e.g. through working groups
- consider national comments on drafts

These purposes may be achieved by other means (e.g. e-committees email) as the work should be carried out by correspondence as far as possible.
The ESO's have specific requirements for the organization of a face-to-face meeting, as these meetings are very costly (experts need to travel to and stay at the location and also need to spend a working day) such as document distribution requirements and related deadlines. Of high importance is also the written record of principal decisions taken during the meeting ('Minutes of the Meeting' and 'Resolutions taken at the Meeting'). These are confirmed and distributed to all members.

Representation on Technical Committees

Standards are drafted in a Technical Committee by experts in specific field. But then, WHO in this specific fields?

A Technical Committee consist of representatives from a specific field (see also initiators of new work). These are representatives from trade associations, consumer bodies*****, standards users, professional institutions, research organisations, trade unions, education bodies, enforcement bodies, government departments and certification bodies. Representatives (experts) provide input to and concretely work on a standard and they represent a body and its view, not a personal view.

In all formal technical committees, there is also a secretary and a chairman. The role of the Chairman is to guide discussion, ensure all views are heard, & manage the meeting

The role of the secretary (usually NSB staff) is to ensure standards policy and procedures are followed, organise the meeting, take minutes

Note: As private, voluntary organizations, the ESOs themselves are not directly representative of government interests. CEN, CENELEC and ETSI consensus on European standards reflects agreement across a range of stakeholders in the specific field. It also reflects a consensus across national standards bodies at the approval level. National positions on European standards are not necessarily government positions, although government experts may participate in developing these positions with their counterparts from the private sector.

In the PPT, there's an image of a TC Meeting. That image is an ideal situation. In an ideal situation, all stakeholders are (equally) represented, while in practice it is not. In practice, consumers in general are not well-represented. This counts even more for elderly and disabled consumers.

***** *Why have consumer involvement?*

- Consumers are affected by standards and are the 'end users' of many.
- Increased public credibility for standards
- Consumers trust NSB standards because they address the needs of all stakeholders.
- Faster, cheaper and better standards
- Consumers bring a common sense and "plain English" approach.
- Involving consumers (the end user) from the start can speed up the process and avoid costly mistakes.

Benefits of user involvement

Is the users' input better than the professionals'? The answer is that at least the input is different. Users' input is found to have a higher possessed user-value and so they are considered the "experts" as regards suggesting services that are useful for them.

- Promote understanding so views of all stakeholders are considered
- Specific knowledge and skills
- Understand user's different situations and (im)possibilities
- Increase satisfaction for all users

So that standards are a suitable tool to make products and services accessible for as many consumers as possible, irrespective of their age and abilities.

Information on standardization

This session provides more information about the " World of standardization", specifically, the world of European standardization.

Agenda

- Introductions
- Session objectives
- What is a standard?
- How are standards developed?
- Who is involved?
- What is the process?

2

The session can start with an introduction from each participant (if this was not done correctly in the opening session).

This session can be best explained by the use of some concrete examples of standards, e.g. 'standardized products' . For that reason, it is suggested that the trainer brings with him (for example) ;

- credit card

- Mobile phone charger

A4 paper

These examples can illustrate the presentation

Session objectives

- To present an overview of the importance and benefits of standardization
- To provide an understanding of the key stakeholders involved in standardization

3

This Topic will provide a general background to the world of standards, why they are important, who uses them, how they are developed.

Of equal importance is who develops them and how can you get involved which is the reason you are here today.

We will treat this topic as an interactive discussion, so please ask questions throughout.

What is a standard?

- Any ideas?

4

Please ask the audience if there's any idea to this question and start the discussion.

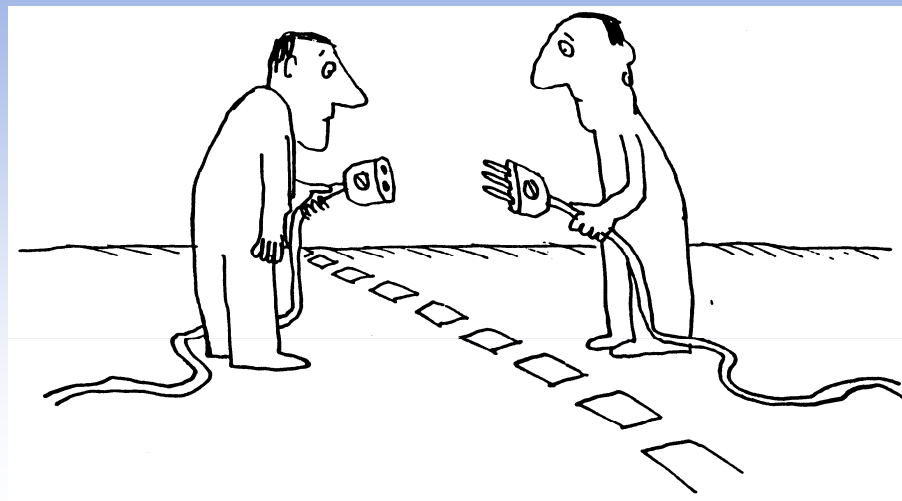
As an answer to this question, please show the examples:

-Credit card : worldwide agreement on size, with with a magnetic stripe or a plastic smart card with a chip, that contains a unique card number and some security information such as an expiration date. Not only agreements for the card itself but also for its further use: the automated teller machine (**ATM**), where the customer is identified by inserting the unique card.

-A4 paper: the size of this piece of paper is fixed in a standard and used in most countries in the world today. The format fits into a coherent system; copy machines etcetera worldwide can use this size.

These examples of standards (paper size A4, credit card size,) show : "European standards are everywhere"

An agreement!



5

The question on the previous slide was: What is a standard? We showed you two examples from standardized products (credit card and A4 paper format).

Generally,

The answer is: It is an agreement!

Agreement, or: agreed /repeatable way of doing something

Contains precise criteria, to be used as a rule/guideline/definition

It:

-Voluntary in application

-Reflects CONSENSUS

-Established by **all interested parties** (all? How about the users?)

With this illustration you could explain the areas wherein these agreements have not jet been made and what the difficulties are.

This, you can link to difficulties for consumers.

Please show the mobile phone recharger and explain that obviously the plug does not fit in the socket, as soon as you cross the border. This happened probably to some trainees.

These examples of standards (paper size A4, credit card size,) show : "European standards are **ALMOST** everywhere" …

Types of standard

- Specification: 'shall', e.g. material
- Guidance: 'should'
- Process, e.g. manufacturing or *provision of services*
- Test method, e.g. laboratories

6

Let's describe some common types of standard:

Specification – historically, the most common type of standard is a specification. This could be a set of requirements for any of the following: an object, a type of material, a component, a system, or even a service. The language used (in English) is *'shall'* do something

A common example of a specification is the thread of a screw. If standards were not agreed for screw threads, nuts and bolts would not fit together, at least you would have to try the sizes of many different nuts before you found one to fit! Another example, is the SIM card in a mobile telephone, if they were not made to a standard size – manufacturers of mobile telephones would have huge problems ensuring that all the different types of SIM cards would fit in their phones, so you can see how standards avoid this inefficiency. Also consider ATM machines and debit cards, the list goes on….

To mention some examples of standards including accessibility requirements.

Specification standards are commonly quoted in contracts in the exchange of goods and services, so if the goods or service do not meet the requirements of the standard – it could be considered as a breach of contract.

It is also possibly to 'certify' to a specification standard, the organisation using the standard may self certify and claim compliance or could have 'third party' certification, where an external auditor or test house establishes if the organisation has truly complied with the terms of the standard – this can lead to the awarding of certification marks, such as the keymark, across Europe or national marks such as the BSI Kitemark or the AENOR N mark.

Sometimes standards only provide guidance on best practice, using the words *'should'*

Process: – a common type of standard used in industries and businesses across the world. A factory may set their own internal standards for a process such as maintenance of a piece of machinery, or monitoring of temperature in a store room. Alternatively an office based business may have internal standards for signing contracts. At international level a suite of consumer standards exist – ISO 10000,1,2 and 3 which are all process standards on putting together Codes of conduct, complaints handling procedures and mechanisms for alternative dispute resolution. At European level the complaints handling standard has been incorporated into standards for postal delivery services.

Test method:- In engineering, science, manufacturing, and business, it is vital for all interested people to understand and agree upon methods of obtaining data and making measurements. For example, it is common for a physical property to be strongly affected by the precise method of testing or measuring that property. It is vital to fully document experiments and measurements and to provide needed definition to specifications and contracts.

Using a standard test method, perhaps published by a respected standards organization, is a good place to start. Sometimes it is more useful to modify one or to develop a new one. Again, documentation and full disclosure are very necessary.

Levels of standards

- International Standards
- European Standards
- National Standards

- Trade Standards (agreed by an association)
- Internal Standards and Procedures

7

In addition to the types of standard – we should also think about the levels of standards. There are numerous levels of standards and the slide shows a summary:

- International Standards
- European Standards
- National Standards

- Trade Standards (agreed by an association)
- Internal Standards and Procedures

Lets start at the bottom and work our way up….

The lowest level of standard to consider is an **internal standard** (company)– this is any standard or procedure developed by an organisation in their general operation. These are commonly referred to as Standard Operating Procedures (SOPs). For example, to operate a Nuclear power plant, there may be hundreds of SOPs.

A **trade standard** could be a standard agreed by a specific sector, usually by a trade association. An example of this could be a code of good practice.

National standards, are developed in National Standards Bodies. These standards will have a national interest.

The same goes for **European** and **International** standards respectively.

In the context of STAND4ALL we will be talking mainly about formal standards developed within national or European standards bodies.

Please threat this part as interactive as possible and try to get a discussion going with trainees.

The three questions will be explained in the following slides, but short answers here can be:

Who uses standards?

The people who use a specific product or service, for example : engineers, trade unions, product desginers, test labs.

Why do we need them?

Standards provide detailed guidance to a consistent, uniform way of doing something.

What are the benefits?

For example, instead of each engineer designs in his own preferred style, they will all design to the standards outlined in a document. This to make sure a consistent, uniform way of doing something. In that case, a single user has the benefit of the experience of the entity.

Benefits of standards

- Support legislation
- Assist innovation
- Cost optimisation
- Product safety
- Environmental impact
- Energy efficiency
- Access to markets across borders
- Consumer & customer confidence

9

NEEDS AND BENEFITS ANSWERS:

At the highest level, standards support regulation. European Directives, such as the Low voltage Directive, Machinery directive or General Product Safety Directive and the new Services directive, set broad principles which are underpinned by more detailed standards.

Standards are developed by consensus with all the stakeholders around the table including the people who use standards in their work manufacturers, procurers, regulators and the end users, consumers. They are thus a more participative and flexible way of agreeing details.

Other benefits attributed to standards are:

which in turn allows cost effective compliance, gives, reduces liability, allows risk management and the governance of operations

Other benefits include,

•**Assist innovation** They can provide business opportunities by allowing new markets to be developed, influencing technology change and the evolution of industry

•**Cost optimization** by reducing transaction costs, economic procurement, ensure uniformity or compatibility, flexibility in the supply chain and allow best practice

•**Product safety** Minimize hazards and specify safety warnings

•**Environmental impact and energy efficiency** Reduce negative impacts and improve environmental performance

•**Access to markets cross borders** Prevent trade barriers and, open up new markets and expand existing ones

And last but by no means least

•**Consumer and customer confidence** Quality management, define product and service information/ instructions and provide framework for contractual obligations and complaints management

Benefits for consumers

- Enables useful comparison between products and services
- Can improve sustainability of products (economic, environmental, social)
- Ensures minimum safety (and quality) levels

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A standard can make a product better, more usable and safer.

Many standards play – indirectly- a role in the life of people. Standards can thus affect day to day living and so, potentially also the quality of life. Therefore the views and experiences of those affected by a standard should be taken into consideration.

How are standards developed?

standardization is the process of developing standards

Questions

- How do standards get started?
- Who is involved?
- Where does it take place?

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standardization is the general process of developing standards

<INTERACTIVE PART> - ASK SOMEONE WHO HAS BEEN INVOLVED TO SAY A BIT HERE, IF POSSIBLE

Questions

How do standards get started?

From the starting point, this could be a problem, a wish, a regulation !

Who is involved?

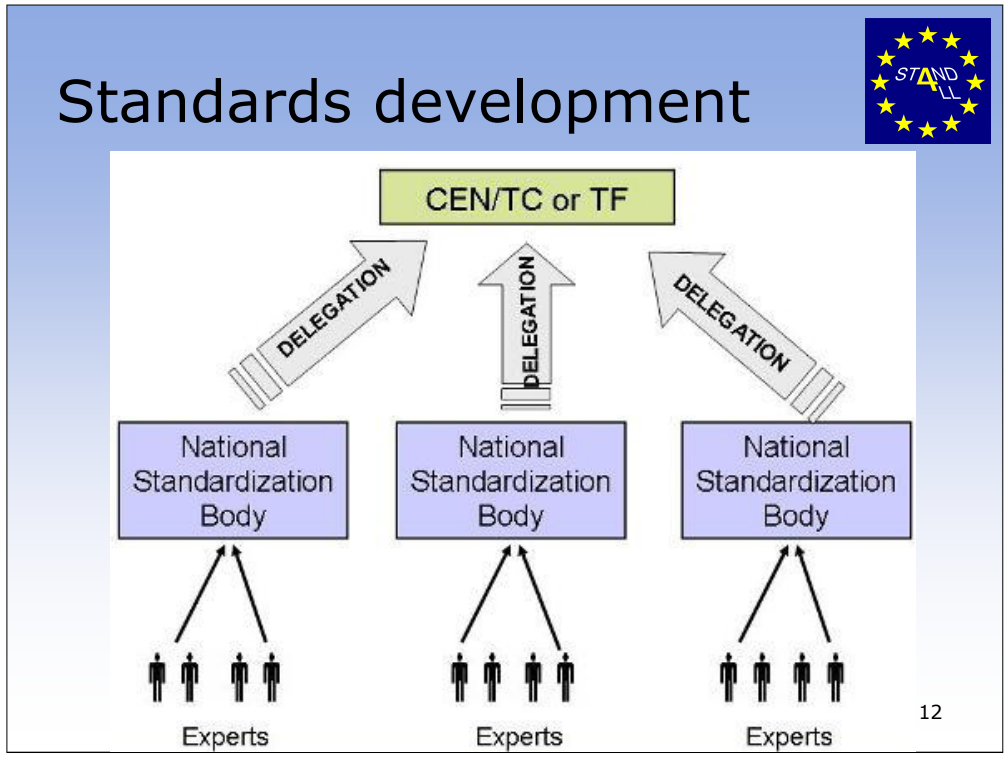
Developers of standards: standardisers. Who are these people ?

Not just anyone…but anyone with a specific knowledge!

Where does it take place?

In general, each country has a single recognized National Standards Body (NSB). Examples include AENOR, DIN, BSI, NEN.

These NSBs have restricted membership and often having formal procedures for due-process among voting members



This illustration explains clear the process (and therefore illustrates even more the previous slide)

Concrete ways of user participation; as a member of a National Mirror Committee (on a subject) or as an expert in a European WG or TC.

Always via your National Standards Body (NSB).

Give examples of NSBs (in line with nationality of the trainees) and the city of the premises, so that is more concrete to them.

For example: In UK, there's BSI (British Standards Institute), in London.

How do standards get started?

- Standards can be stimulated by
- New legislation, e.g. European Directives or national laws
- High-profile issues, e.g. environmental concerns
- Consumer or business concerns

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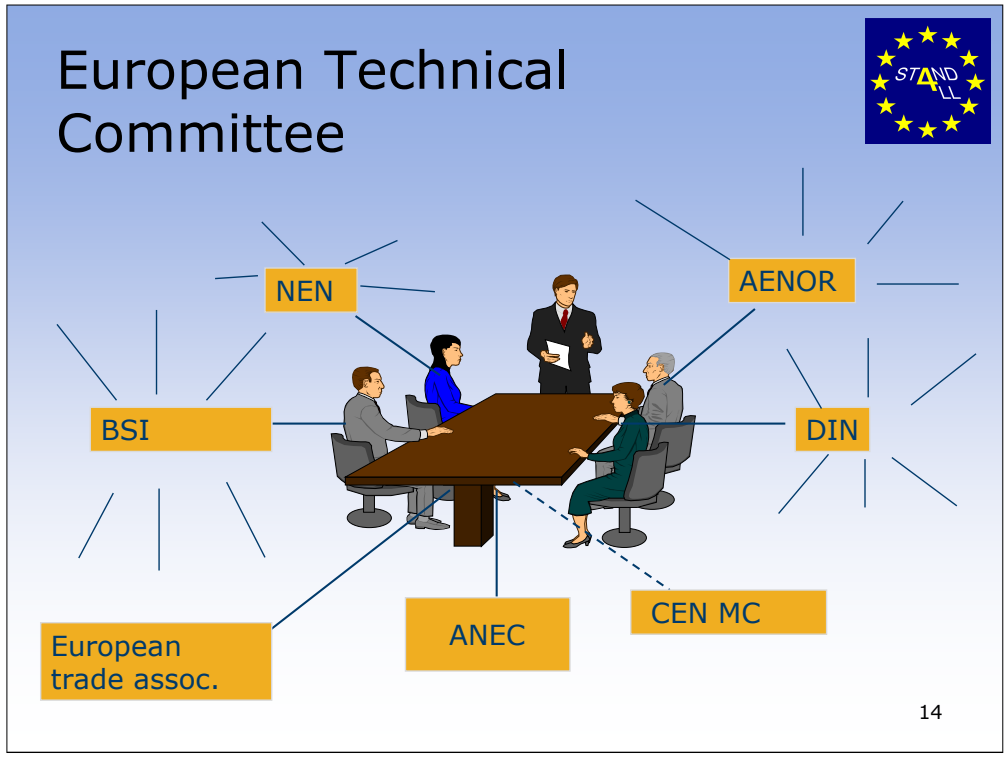
Work on standards can be initiated by a number of different means.

New legislation In the EU, all member state countries must have a national standards body as a member of CEN – the European Standards organisation. For some EU laws (under the New Approach), standards are required for their implementation. In this case CEN OR CENELEC is 'mandated' to develop the standards, which in turn must be adopted by the national members.

High profile issues standards can be initiated by high profile issues, such as sustainability – BSI have recently developed a standard for measuring CO2 and AENOR has created a WG to develop standards on sustainability on Civil engineering works.

Also, **Consumer concerns/pressure** can lead to standards work – another British example is the standard on adventurous activities abroad – where for example school parties go off to another country to ski, sail or climb mountains. Another Spanish example are the standards on Accesibility in beaches, Health spas or Natural protected areas.This is now likely to become an international standard. *Good to have a business e.g.?*



The principal entity which is involved in the development of standards is the Technical committee (which may have some working groups carrying out parts of the work).

[SLIDE SHOWS A MEETING – TABLE AND COMMITTEE MEMBERS WITH BALLOONS OFF LISTING ORGANSIATIONS: NEN, AENOR, BSI, DIN, etc see below:,

Membership of European Technical Committees is comprised of representatives from:

- EU Member state National standards bodies (NSBs)
- European trade associations
- Policy bodies from CEN/ISO
- Other European interest groups, such as ANEC and EDF

Meeting purpose

- When necessary to:
- make decisions on work programme
- prepare drafts e.g. through working groups
- consider national comments on drafts
- May be achieved by other means (e.g. e-committees, email)

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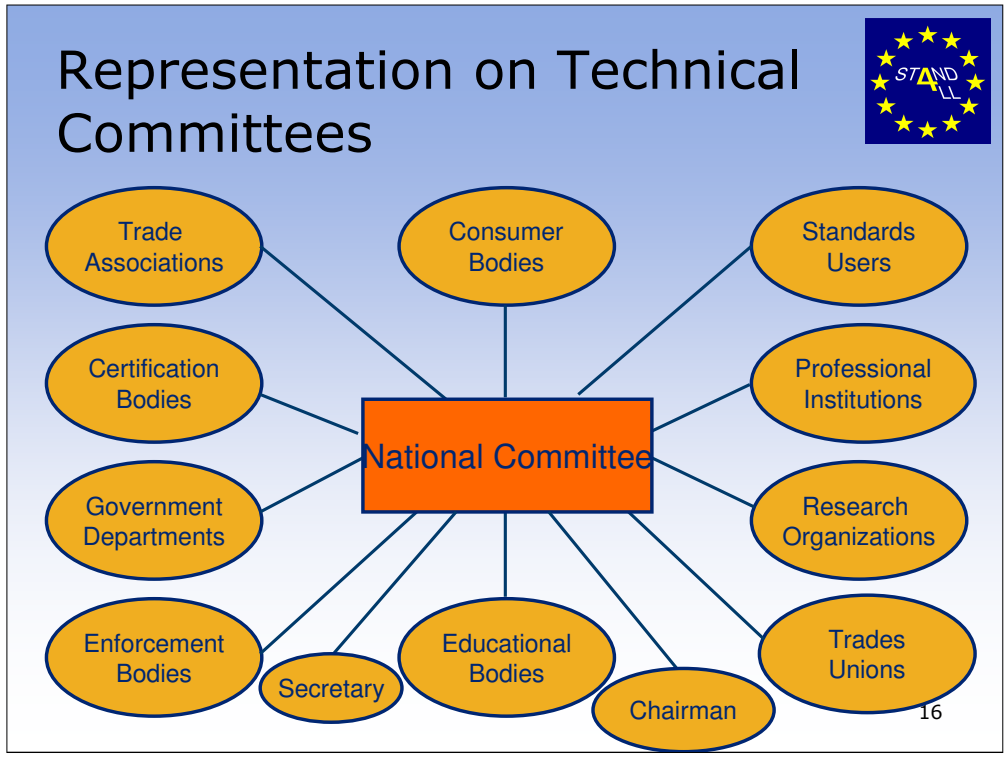
There are several formal rules for organising a standardization meeting, like sending out the relevant document (registration form and agenda in time).

The agenda needs to be set up properly in order to respond to the needs of the meeting. It provides therefore a path for the meeting to follow

A meeting should be well organized in terms of distribution of the documents, regisatrion, starting – end time but also the accessibility of the premise itself.

The meeting should be to the point. All participants have the chance to have his or her say – sometimes via ' head of delegation' (depends on the nature of the meeting).



Standards are drafted by experts in specific field . But then, WHO in this specific fields?

Delegations from the NSBs are typically determined by the national 'mirror committees'

Here is a typical constitution of a technical committee [DIAGRAM SHOWS BOX FOR COMMITTEE SURROUNDED BY THE STAKEHOLDERS, SEE BELOW]

(additional stakeholders: " industry", " academia", "public authorities" and " Consumer organisations")

Chairman: Leads the discussion and work, an expert in the field *should this be at the top??*

Secretary: Usually NSB staff

NEED to List all other stakeholders for script to supply as course materials

Where there is more than one member per nominating body, **all** should speak with **one** voice.

How do we choose people? Can they nominate themselves? Representing a body, representing a view, not a personal view

In all formal technical committees, there is a secretary, and a chairman. Explain roles:

The role of the Chairman is to guide discussion, ensure all views are heard, manage the meeting

The role of the secretary is to ensure standards policy and procedures are followed, organise the meeting, take minutes

Please state that this illustration is an ideal situation.

In an ideal situation, all stakeholders are (equally) represented, while in practice it is not. In practice, consumers in general are not well-represented. Elderly and disabled consumers even worse.

Why have consumer involvement?

- Consumers are stakeholders: end users
- Increased public credibility for standards
- Faster, cheaper and better standards

17

Consumers are one of the stakeholders listed in the previous slide – why should they be present?

Consumers are affected by standards and are the 'end users' of many.

Increased public credibility for standards

Consumers trust NSB standards because they address the needs of all stakeholders.

Faster, cheaper and better standards

Consumers bring a common sense and "plain English" approach.

Involving consumers (the end user) from the start can speed up the process and avoid costly mistakes.

Benefits of user involvement

- Promote understanding, so views of all stakeholders are considered
- Specific knowledge and skills
- Understand user's different situations and (im)possibilities
- Increase satisfaction for all users

18

Involving users gives them a voice and allows them to speak out and act for themselves.

Users can be consulted on particular issues.

User involvement is most valuable when it leads to direct improvements that reflect service users' rights and needs.

So that…

…standards are a suitable tool

- to make products and services accessible
- for as many consumers as possible,
- irrespective of their age and abilities.

19

This sentence explains again why it is important to have users on board

Summary

- What is a standard?
- Who develops standards?
- Why do we need standards?
- What is the process?
- Why is it important to have user involvement?

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European Standardisation Organisations

ESO	Address	Contact
CEN-CENELEC Management Centre	Avenue Marnix 17 B-1000 Brussels	Tel: + 32 2 550 08 11 Fax: + 32 2 550 08 19 www.cen.eu
ETSI Secretariat	650, Route des Lucioles 06921 Sophia-Antipolis Cedex FRANCE	Tel.: +33 (0)4 92 94 42 00 Fax: +33 (0)4 93 65 47 16 www.etsi.org

National Standards Bodies

Country	NSB	Address	Contact
Austria	ASI - Austrian Standards Institute	Heinestraße 38 AT-1020 Wien	Tel: + 43 1 213 00 0 Fax: + 43 1 213 00 650 office@as-institute.at http://www.as-institute.at
Belgium	NBN - Bureau de Normalisation/Bureau voor Normalisatie	Rue de Birminghamstraat, 131 B-1070 Brussels	Tel: + 32 2 738 01 11 Fax: + 32 2 733 42 64 info@nbn.be http://www.nbn.be/
Bulgaria	BDS - Bulgarian Institute for Standardisation	13, Lachezar Stanchev str. Izgrev Complex BG-1797 Sofia	Tel: + 359 2 817 45 04 Fax: + 359 2 873 55 97 standards@bds-bg.org http://www.bds-bg.org/
Croatia	HZN - Croatian Standards Institute	Ulica grada Vukovara 78 HR-10000 Zagreb (Republic of Croatia)	Tel: + 385 1 610 60 95 Fax: + 385 1 610 93 21 http://www.hzn.hr/ hzn@hzn.hr
Cyprus	CYS - Cyprus Organisation for Standardisation	Limassol Avenue and Kosta Anaxagora 30, 3rd Floor CY-2014 Nicosia	Tel: + 357 22 411 411 Fax: + 357 22 411 511 cystandards@cys.org.cy http://www.cys.org.cy/
Czech Republic	UNMZ - Czech Office for	Biskupský dvur 5	extrel@unmz.cz

	Standards, Metrology and Testing	CZ-110 02 Praha 1	http://www.unmz.cz Tel: + 420 221 802 802 Fax: + 420 221 802 301
Denmark	DS - Danish Standards	Kollegievej 6 DK-2920 Charlottenlund	Tel: + 45 39 96 61 01 Fax: + 45 39 96 61 02 dansk.standard@ds.dk http://www.ds.dk
Estonia	EVS - Estonian Centre for Standardisation	Aru Street 10 EE-10317 Tallinn	info@evs.ee http://www.evs.ee/ Tel: + 372 605 50 50 Fax: + 372 605 50 70
Finland	SFS - Suomen Standardisoimisliitto r.y.	P.O. Box 130 FI-00101 Helsinki	sfs@sfs.fi http://www.sfs.fi/ Tel: + 358 9 149 93 31 Fax: + 358 9 146 49 25
France	AFNOR - Association Française de Normalisation	11, rue Francis de Pressensé FR-93571 La Plaine Saint-Denis Cedex	norminfo@afnor.org http://www.afnor.org/ Tel: + 33 1 41 62 80 00 Fax: + 33 1 49 17 90 00
Germany	DIN - Deutsches Institut für Normung e.V.	Burggrafenstraße 6 D-10787 Berlin	postmaster@din.de www.din.de Tel: + 49 30 26 01 0 Fax: + 49 30 26 01 12 31
Greece	ELOT - Hellenic Organization for Standardization	313, Acharnon Street GR-111 45 Athens	info@elot.gr http://www.elot.gr/ Tel: + 30 210 21 20 100 Fax: + 30 210 22 83 034
Hungary	MSZT - Hungarian Standards Institution	Horváth Mihály tér 1. HU-1082 Budapest	isoline@mszt.hu http://www.mszt.hu/ Tel: + 36 1 456 68 00 Fax: + 36 1 456 68 84
Iceland	IST - Icelandic Standards	Skúlatún 2 IS-105 Reykjavik	http://www.stadlar.is/forsida/ stadlar@stadlar.is Tel: + 354 52 07 150 Fax: + 354 52 07 171
Ireland	NSAI - National Standards Authority of	1 Swift Square Northwood	http://www.nsai.ie/ nsai@nsai.ie

	Ireland	Santry IE-Dublin 9	Tel: + 353 1 807 38 00 Fax: + 353 1 807 38 38
Italy	UNI - Ente Nazionale Italiano di Unificazione	Via Sannio, 2 IT-20137 Milano	http://www.uni.com/ uni@uni.com Tel: + 39 02 70 02 41 Fax: + 39 02 70 10 61 06
Latvia	LVS - Latvian Standards Ltd	K. Valdemāra Street 157 LV-1013 Riga	https://www.lvs.lv/ LVS@lvs.lv Tel: + 371 7 371 308 Fax: + 371 7 371 324
Lithuania	LST - Lithuanian Standards Board	T. Kosciuškos g. 30 LT-01100 Vilnius	lstboard@lsd.lt lstboard@lsd.lt Tel/Fax: + 370 5 212 62 52
Luxembourg	ILNAS - Institut Luxembourgeois de la normalisation, de l'accreditation, de la sécurité et qualité des produits et services	B.P. 10 LU-2010 Luxembourg	http://www.ilnas.public.lu/fr/index.html normalisation@ilnas.etat.lu Tel: + 352 46 97 46 62 Fax: + 352 46 97 46 39
Malta	MSA - Malta Standards Authority	Second Floor, Evans Building Merchant Street MT-Valletta VLT 03	francis.e.farrugia@msa.org.mt http://www.msa.org.mt/ Tel: + 356 21 24 24 20 Fax: + 356 21 24 24 06
The Netherlands	NEN - Nederlands Normalisatie-instituut	Vlinderweg 6 NL-2623 AX Delft	info@nen.nl www.nen.nl Tel: + 31 15 2 690 390 Fax: + 31 15 2 690 190
Norway	SN - Standards Norway	P.O. Box 242 NO-1326 Lysaker	http://www.standard.no/ info@standard.no Tel: + 47 67 83 86 00 Fax: + 47 67 83 86 01
Poland	PKN - Polish Committee for Standardization	skr. poczt. 411 PL-00-950 Warszawa	http://www.pkn.pl/ intdoc@pkn.pl Tel: + 48 22 55 67 591 Fax: + 48 22 55 67 786
Portugal	IPQ - Instituto Português da Qualidade	Rua António Gião, 2 PT-2829-513 Caparica	http://www.ipq.pt info@mail.ipq.pt

			Tel: + 351 21 294 81 00 Fax: + 351 21 294 81 01
Romania	ASRO - Romanian Standards Association	Str. Mendeleev 21-25 RO-010362 Bucharest 1	http://www.asro.ro/ international@asro.ro Tel: + 40 21 316 32 96 Fax: + 40 21 316 08 70
Slovakia	SUTN - Slovak Standards Institute	Karloveská 63 PO Box 246 SK-840 00 Bratislava	int@sutn.gov.sk http://www.sutn.sk Tel: + 421 2 60 29 44 74 Fax: + 421 2 65 41 18 88
Slovenia	SIST - Slovenian Institute for Standardization	Šmartinska cesta 152 SI-1000 Ljubljana	http://www.sist.si/ sist@sist.si Tel: + 386 1 478 30 13 Fax: + 386 1 478 30 94
Spain	AENOR - Asociación Española de Normalización y Certificación	Génova, 6 ES-28004 Madrid	info@aenor.es http://www.aenor.es Tel: + 34 91 432 60 00 Fax: + 34 91 310 31 72
Sweden	SIS - Swedish Standards Institute	Sankt Paulsgatan 6 SE-118 80 Stockholm	http://www.sis.se info@sis.se Tel: + 46 8 555 520 00 Fax: + 46 8 555 520 01
Switzerland	SNV - Schweizerische Normen-Vereinigung	Bürglistraße 29 CH-8400 Winterthur	http://www.snv.ch/ info@snv.ch Tel: + 41 52 224 54 54 Fax: + 41 52 224 54 74
UK	BSI - British Standards Institution	389 Chiswick High Road GB-London W4 4AL	http://www.bsigroup.com/ info@bsigroup.com Tel: + 44 208 996 90 00 Fax: + 44 208 996 74 00

STAND4ALL

Topic 'User Aspects in Standardization'

Introduction to 'User Aspects / Priorities in Standardization'

This topic has the following goal: To understand the needs and benefits for consumer/end-user participation and the conditions and struggles to do so.

The views and experiences of consumers and end-users are an important contribution to the process of standardization. But how can consumers / end-users contribute to the process of standardization? What are the practical issues which need to be resolved? Which skills do they have and which additional training is required? What are barriers to participation and how can they be resolved?

The topic will consist of the following parts:

- Standards, are you aware of any standards which are relevant for you?
- What are your skills, what expertise would you need and what else is required to participate in the process of standards development?
- What could be barriers for end user co-operation in standardization?
- How can barriers be overcome? Who needs to do what?
- The USEM concept - an ideal model of end-user participation in standardization.

This topic consists of a few brief group assignments followed by a presentation. These group assignments are actually the first opportunities of the trainees to work together. There are a few things to consider beforehand. First of all take a look at the time available and plan the topic accordingly. The more time you spend on the group assignments the less you have for your presentation.
During the group assignments it would be helpful to ask other trainers to join the discussions or participate as a moderator asking questions thus steering the discussion in the right direction. The assignments are not difficult but there is a tendency that trainees prefer to solve problems rather than talking about how they could contribute the problem solving process.
The groups should also be changed. This requires a sufficiently large room or additional space where few big groups and many small groups can work. You should plan beforehand which group sizes would be best for each task. It might even be possible to assign the trainees to discuss the subject during a break (coffee or lunch break).
After each assignment someone from each group will report the findings of the group. These answers should be written down on a flipchart. It would be good if you remember who said what. Maybe an assistant trainer might be able to help you.
In the second part a presentation introduces the USEM concept to the trainees. The USEM concept consists of six principles and each principle

shall be matched against some answers given by the trainees. This can be done simply by stating the USEM principle and mentioning the answers given by the trainees (even naming the trainee who contributed). Alternatively this can be done one a screen with pins / magnets and cardboard cards. It really depends what is available and what would be suitable to use.

Further instructions are included in the respective presentation.

This topic will take at least 60 minutes.

Annexes:

- STAND4ALL document 'User Aspects / Priorities in Standardization'
- Presentation “User Aspects / Priorities in Standardization”
- Presentation “The USEM Concept”

Example where to find information related to this topic:

- Website USEM (www.usem-net.eu)

Information on topic ‘User Aspects’

The topic ‘User Aspects’ consists of 2 sub-topics.

Topic 3 of the STAND4ALL curriculum deals on one hand with the current situation of user involvement in standardization activities and on the other hand with the barriers to user involvement. Barriers and difficulties to the involvement of consumers/end-users will be identified. The trainees will be guided to develop solutions to resolve the issues identified. This will lead to the introduction of the USEM concept as an ideal model for end-user participation in standardization.

Sub-topic 1: importance of participation in standardization and barriers to achieve that
In this sub-topic the focus is on the knowledge of the trainees. It is important that they think of standardization and how they think they can interact and get involved in it.

Background information on the current participation of consumers/end-users

At the start of the STAND4ALL project (first half of 2009) surveys among consumer/end-user and standardization organizations were undertaken. The surveys were conducted as online surveys with the questionnaires being sent to the respective organizations.
419 technical committees of the European Standardization Organizations (ESOs) were contacted. 41 of 258 CEN (15.9%), 24 of 96 CENELEC (25.0%) and 3 out of 65 ETSI (4.6%) technical committees replied and participated in the survey. In addition 30 National Standardization Bodies (NSBs) were contacted of whom 14 responded to the questionnaire. There were also 30 consumer/end-user organizations of whom 9 (30.0%) responded.
Over two thirds of the National Standardization Bodies (71.4%) stated that the interests of people with disabilities and of old age are represented in their organization.
In contrast only 5% of those technical committees which responded to the questionnaire replied that somebody represents the interests of people with disabilities or of old age. 90% declared that there is no such representation.
In conclusion the situation regarding national standardization bodies appears to be good but with room for improvement. The situation among the European Standardization Organizations urgently requires attention hence the need for initiatives such as USEM or STAND4ALL.

Sub-topic 2: USEM concept
Sub-topic 2 is about the USEM concept: the model of ideal end-user involvement in the development of standards.

The USEM concept is based on the FORTUNE concept which was developed almost a decade ago to involve lay people in research and development activities. The USEM project is one of the initiatives that aim to increase the participation of end-users in standardization. The USEM project formulated six principles that should govern the involvement of end-users in standardization activities. Even though representation of older persons and persons with disabilities in standardization work is still too low, it is possible to demonstrate that the USEM principles map to principles used by standardization organizations.

The six principles of the USEM concept are:

- Partnership as a basis.
- Users are members and/or representatives of user organizations.
- Financing contribution should not be a barrier for participation.
- Accessibility of all relevant materials and premises is guaranteed.
- Every partner guarantees confidentiality, respect and expertise.
- Detailed plan for the process and user involvement.

The different principles will be explained in more detail.
If you want to find more information on the USEM concept, have a look at www.usem-net.eu.

1. Partnership as a basis

The co-operation will be based upon the spirit of partnership and will have a positive approach. Partnership means the state of being of a person or organization that shares or takes part with others in a project or business with shared risks and profits. Partnership can be viewed as a key notion of the USEM concept.

The USEM concept defines partnership as a common affair and a challenge that supposes a necessary contribution of different parties. Form the point of view of the USEM concept the own contribution of the partners and the responsibility for the quality of the contribution has to be emphasised. Common affair means to share a positive attitude with respect and recognise equal status.
Somebody can make a specific personal contribution when this person is responsible for this contribution and receives retribution.
The central quest and challenge of the USEM concept is to bring together user expertise and technical expertise in mutual recognition where both parts provide their specific knowledge. The aim is to achieve the best progress and result in standardization activities.

Different roles

- Partnership supposes different roles.
- Each project has its own specifications.
- The partners are acting based on own expertise, experiences and background.
- The contributions are different.

Therefore it is important to achieve consensus about roles and contributions before and starting reflecting a form of co-operation. It is very useful to reflect on the co-operation during a project.

Communication

- A good communication between partners is a necessary pre-condition for having a successful partnership.
- Communication is always interaction between persons with different experiences, skills and background. Each partner has his/her own terminology, concepts and his/her own ways of interaction.
- Communication in a project challenges partners to build up a common level of knowledge and understanding.

Attitude

- Partnership is asking for a co-operative attitude
- Partners have to be constructive in their approach and loyal towards their common affairs they are working for. It is always helpful to be self-critical to the own contribution and action.
- A motto for successful partnership: Looking for solutions, not for problems.

2. Users are members and/or representatives of user organizations.

This principle addresses two issues:

- People must not stick to their individual case, which is the very personal experience, but reflect on the experiences of a group, which means other people. This requires an ability to overcome the own personal point of view as well as having a good understanding of disability.
- In order to do this they shall have the support of a user organization. The user group can be an organization around an impairment group; it can be an umbrella organization. Of course a person with a specific disability can -strictly speaking- only speak for this group. However, people with disabilities can have a common ground of understanding, which is the experience as living as a person with disability in society. From this perspective they can speak across disability groups. Of course it is important, that they do not only look at the own impairment requirements (even if a blind person is usually not at the same expert level on deafness as on blindness). Here Guide 6 has to play an important role, which speaks about all the requirements. It is also the responsibility of the user organizations, to work with their representatives on this issue.

The corresponding principle in standardization states that like any other participant in standardization, user participants are also expected to defend the positions of the constituency on whose behalf they participate.
(See for example recommendation 3 in CEN/CENELEC Guide 2 “Consumer interests and the preparation of standards”: “Where a CEN or CENELEC committee is developing a European Standard of interest to consumers, Member bodies should seek means to encourage the active participation of consumers in national delegations.”)

3. Financing contribution should not be a barrier for participation.

All partners in the project receive appropriate payments for their contribution. The contribution of users is not handled as a volunteering activity, but as a fully valuable contribution to the project.
In standardization, participants pay for participation. For consumers/end-users this is difficult to arrange. This must be taken into account.
Recommendation 6 of CEN/CENELEC Guide 6 states "Where the representation of consumers is hampered through the lack of finance, Member bodies should use their best efforts in finding solutions to overcome these difficulties."

4. Accessibility of all relevant materials and premises is guaranteed.

All project materials, communications and premises are made accessible to the users; Alternative formats for print material, appropriate communication media, accessible meeting sites, rooms and hotel accommodation, personal assistance.

Several accessibility guidelines and checklists have been published including the following:

York Region – Accessible Meetings:
http://www.amcto.com/wb3/db2file.asp?fileid=21222

The Royal National Institute of Blind People (RNIB) offers information regarding the accessibility of the built environment as well as web accessibility:
http://www.rnib.org.uk

U.S. Department of Justice: Expanding your Market: Accessible Information Exchange Meeting on a Level Playing Field:
http://www.ada.gov/business/accessiblemtg.htm

Ontario: Ministry of Community and Social Services: Plan an Accessible Meeting:
http://www.accesson.ca/mcss/english/how/howto_meeting.htm

Easter Seals: Myths and Facts About People with Disabilities:
http://www.easterseals.com/site/PageServer?pagename=ntl_myths_facts

Accessible meetings, courses and conferences - a tool for the all-inclusive organiser
In this guide the Directorate for Health has collected relevant advice and information in order to remove barriers towards disabled people. The guide includes checklists and is meant to be a working tool in the planning of events:
http://www.helsedirektoratet.no/publikasjoner/veiledere/accessible_meetings__courses_and_conferences_2915

eAbilities - Guidelines for the Involvement of end-users in research and development activities:
http://www.eabilities-eu.org/documents/eAbilities_Booklet.pdf

Social Care Institute for Excellence (SCIE) guidelines for making information accessible:

http://www.scie.org.uk/publications/misc/accessguidelinespublications.asp

Social Care Institute for Excellence (SCIE) guidelines for making events accessible:
http://www.scie.org.uk/publications/misc/accessguidelinesevents.asp

Disability Awareness:
http://www.familyvillage.wisc.edu/general/disability-awareness.html

Disability Awareness:
http://www.openroad.net.au/access/dakit/

Americans with Disabilities Act Accessibility Guidelines (ADAAG) Checklist for Buildings and Facilities:
http://www.access-board.gov/adaag/checklist/a16.html

King County, Office of Civil Rights, Disability Access and Compliance:
http://www.metrokc.gov/dias/ocre/DA.htm

5. Every partner guarantees confidentiality, respect and expertise.

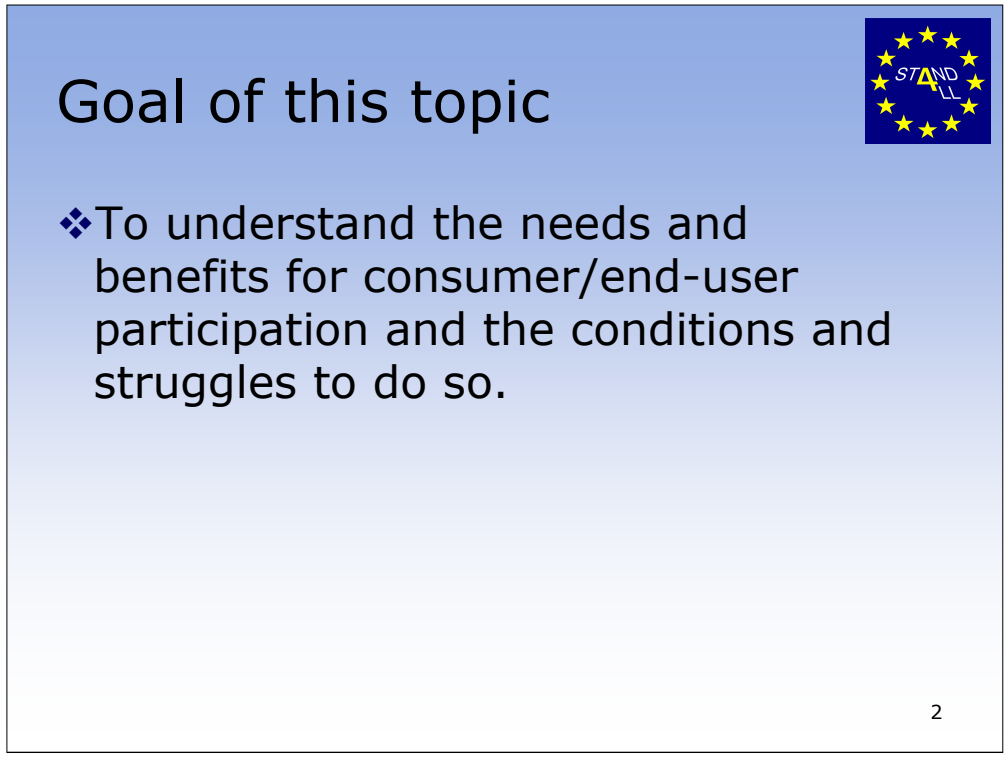
Every partner has to provide qualified staff members to the project. Staff members provide the right attitude, respect, expertise and skills for the project. They accept project rules and constraints like timing, budgets, confidentiality, etc.

6. Detailed plan for the process and user involvement process.

The plan contains details regarding the availability of drafts, meetings and opportunities for commenting / influencing the standardization work and expectation of user participation. It contains also appropriate work packages and tasks of user participation. User participation is planned and described with the same detail as all other items of the project plan, including responsibilities, methods, timing, and budgets.

User Aspects / Priorities in standardization

Standards, Skills, Barriers and Requirements



It might be an idea to mention a few situations which are relevant to the trainees and to which they can relate. However there is a danger that the trainees do not discuss their role but the problem. It is always a good idea to ask some trainers to support you by joining in or by taking part in the discussions with the trainees. These trainers can then guide the trainees, make suggestions and ensure that the discussion remains on target. Also remember that this the first time the trainees are asked to work together.

Standards?

- Are you aware of any standards?
- Where is it relevant for you?

3

Link to the previous topic information on standardization.
Ask the trainees to think of the effect of standards in their daily life?
What is standardized in their world?
In their home for example?

How to interact?

- How can you as users interact with technical experts in the process of standards developing?
  - Which expertise do you have/ need?
  - Any skills you need?
  - What else is required for successful interaction?

4

You may ask the trainees what their role can be in the process of standardization.

What are the qualities they have which are useful in standardization?

This is potentially a dangerous question as the trainees tend to wish to be engineers (discussing the problem rather their role in the process).

Try to direct the trainees to mention the obvious qualities such as the daily experience, the ability to speak English, the ability to speak for a group of people, to get organised etc.

The second part of the task is to identify areas where additional training is required. And finally what else is required for successful interaction. Do not think so much in terms of standardization but in terms of specialists and laypeople working together. They might not understand each other as the experts use a technical vocabulary or jargon. So training requirements do not only include the people with disabilities but also the specialists.

Barriers

- What could be barriers for consumers/ end-users to co-operate in standardization?
  - Organisation?
  - Situation?
  - Attitude?
  - Others?

5

Ask the trainees to think of the possibility of working in standardization. What do they come across that make that work difficult? Take the answers of the previous question into consideration. Try to consider all aspects of participation including for instance finances, schedule of the meeting, accessibility issues (location, information) etc.

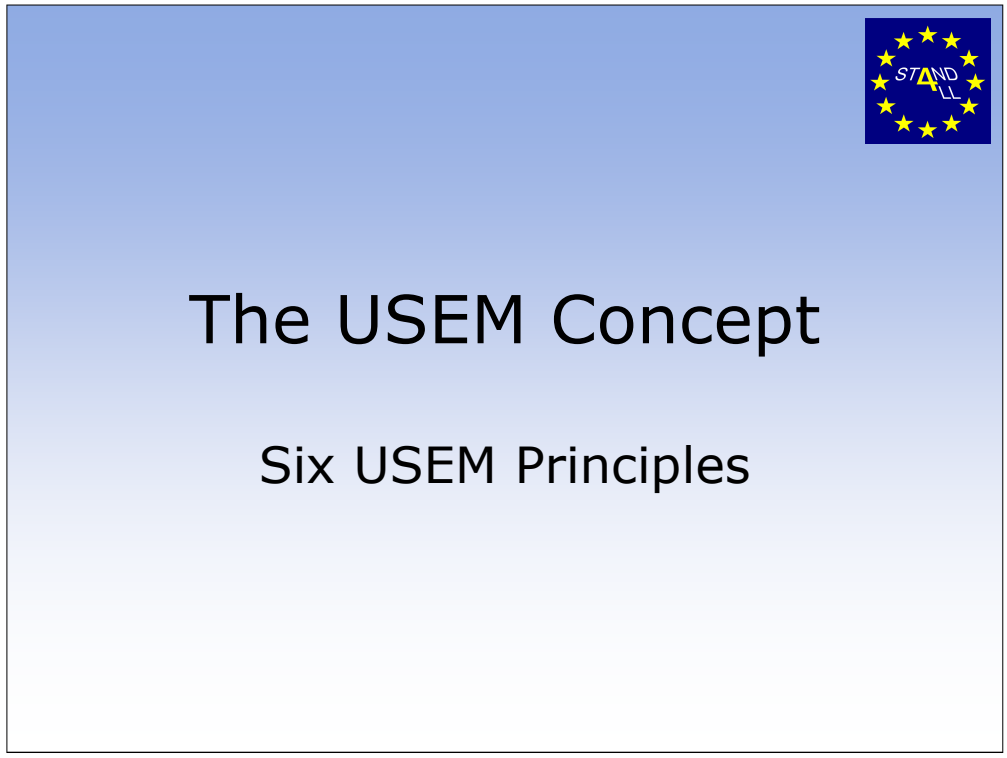
The answers will be written on a flip over.

Make it happen

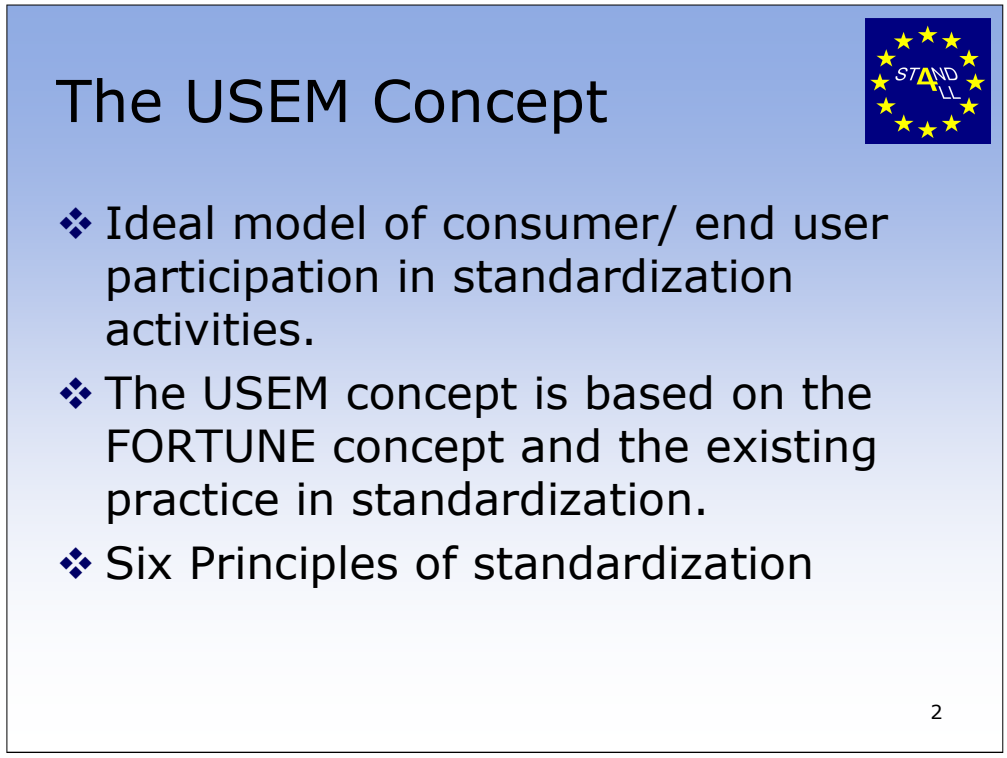
- What do you need to overcome the mentioned barriers?
  - Who needs to do what?

6

This question relates to the previous two questions. Please consider the two aspects. First of all what can the trainee do to overcome the mentioned barriers. Do not necessarily think in terms of what the trainee is going to do physically but more in the sense of communication. The second question is very much about roles. Who needs to do what?



USEM was a European funded project which ran for 32 months from April 2007 to November 2010. Its goal was to develop a training course for end-users to participate in standardization activities in the area of ICT. The acronym USEM stands for USer EMpowerment. One major outcome of the USEM project is the USEM concept, an ideal model of end-user participation in standardization. The USEM concept consists of six USEM principles.



The USEM principles are developed from the FORTUNE concept. The FORTUNE concept is a concept for the best participation of users in R&D projects. There is a strong relationship between the principles in R&D and the work in standardization. That is why the fortune concept was used to develop the USEM concept.

There is some relationship between the USEM principles and the standardization principles as outlined below:

USEM concept <-> Standardization principle

Partnership as a basis <->Standardization is open for all stakeholders in a transparent process

Users are members and/or representatives of user organizations <->Like any other participant in standardization, user participants are also expected to defend the positions of the constituency on whose behalf they participate

Financing contribution should not be a barrier for participation <-> Participation of stakeholders is not reimbursed by standardization organizations*

Accessibility of all relevant materials and premises is guaranteed <-> All participants have access to the relevant information **

Every partner guarantees respect and expertise <-> Participants have a specific field of knowledge and have the intention ot creating consensus.

Detailed plan for the project (including time of availability, of drafts, meetings and opportunities for commenting/influencing the standardization work and expectation of user participation) <->Any standard development process follows a time table with possibilities to influence, which is known when the project starts.

- In practice financing is a barrier for the participation of users / user organizations
- ** the way materials are made available can be a problem for the accessibility of the materials for specific users (eg Livelink platform)

Six USEM Principles

- Partnership as a basis.
- Users are members and/ or representatives of user organisations.
- Financing participation should not be a barrier for participation.
- Accessibility of all relevant materials and premises is guaranteed.
- Every partner guarantees confidentially, respect and expertise.
- Detailed plan for the process and user involvement.

3

Overview of the six USEM principles which are explained in detail in the following slides. The following slides present each USEM principles on two slides. Each first slide names the principle and provides a brief definition which can be filled with meaning. The second slide summarises some important aspects.

It would be desirable to match each principle to some of the remarks made by the trainees. This will show the trainees that the USEM principles are not artificial but principals which are identifiable by rational analysis.

1. Partnership

- Co-operation is based on the idea of partnership.

1. Partnership

- Partnership on equal level,
- with mutual respect,
- co-operative attitude,
- sharing a common affair,
- responsibility and influence,
- risk and benefit.

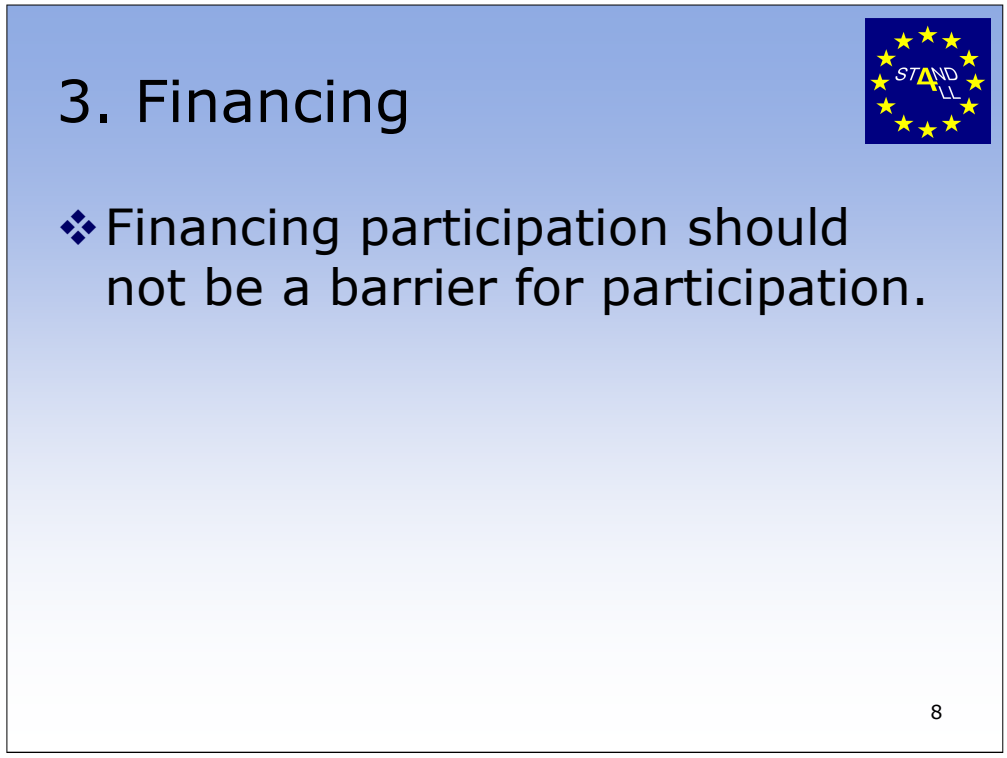
5

2. User-Organisation Based

- Users are members or representatives of an organisation of consumers or end-users.

2. User-Organisation Based

- Representing more than the individual (own) case.
- Having the support of the organisation for practical matters and for getting feedback from the other members.



Take a look at CEN/CLC Guide 2 where it is stated that: "Where the representation of consumers is hampered through lack of finance, Member bodies should use their best effort in finding solutions to overcome these difficulties."

3. Financing

- The contribution of users is not handled as a volunteering activity, but as a fully valuable contribution to the process.
- Representatives of user organisations should be offered participation at no cost.
- Schemes for financing their travel and subsistence should be established.

4. Accessibility

- All process materials, communication and premises are made accessible to the users.

4. Accessibility

- Accessibility of
  - premises,
  - documents,
  - and information.
- Checklists
- Guides
- Consumers / end-users are involved in the assessment of accessibility.

11

5. Qualified Staff

- Every partner has to provide qualified representatives to the process.

5. Qualified Staff

- Representatives provide the right attitude and skills for standardization process from their perspective.
- They accept process rules and constraints like timing, IPR, budgets, confidentiality, etc.
- People involved have different roles in the process.

13

6. Sound Plan

- The planning of the standardization process contains appropriate planning of user participation.

6. Sound Plan

- User participation is planned and described with appropriate level of detail, including
  - roles and responsibilities,
  - methods,
  - timing,
  - and applicable budgets.

STAND4ALL

Topic
'User participation in standardization'

User participation in standardization; How to use Guide 6 in the Standardization Process?

Several issues stand in the way of standards that address the needs of older persons and persons with disabilities. These issues a lack of awareness of the principles of CEN/CENELEC Guide 6, and a lack of knowledge about how Guide 6 can be used in standardization. This topic addresses these issues and makes trainees more familiar with the use of the Guide.

The topic will consist of the following parts:

1. the barriers to end-user representation in standardization, and how the USEM principles and standardization principles deal with these barriers;
2. factors to consider in the design of accessible products and services;
3. how to use the tables in clause 7 of Guide 6;
4. a group assignment on the use of the tables in clause 7 of Guide 6.

The goals of this topic:

- Trainees have basic knowledge of the principles of Guide 6 and how it is set up.
- Trainees know how to use Guide 6 in standardization (CEN, CENELEC, ETSI).

Annexes:

- STAND4ALL document: 'Implementing Guide 6 in the Standardization Process'.
- Presentation handouts
- Description of group assignment

Some examples where to find information related to this topic:

- Website USEM project for the USEM principles (www.usem-net.eu)
- Website CEN for information on principles in standardization (http://www.cen.eu/cenorm/workarea/handson/handsonguidejan091.pdf)
- CEN for Guide 6

STAND4ALL Document - User participation in standardization

Goals and Preconditions

- Duration: 2h (60 min + 60 min) for end users.
- Required materials:
  - accessible version of CEN/CENELEC Guide 6
  - instructions for group assignment
  - presentation slides (only needed during training session)
- Objectives:
  - Trainees have basic knowledge of the principles of Guide 6 and how it is set up.
  - Trainees know how to use Guide 6 in standardization (CEN, CENELEC, ETSI).
- Prerequisites:
  - Trainees are familiar with the concept of Design for All (Topic 1).
  - Trainees understand the need for and benefits of end-user participation in standardization (based on Topic 3 objectives).
  - Trainees understand the conditions for and barriers to end-user participation in standardization (based on Topic 3 objectives).

> **Note to readers**:
> This text assumes that you are new to CEN/CENELEC Guide 6 and to how you can use it in standardization. It also assumes that you are familiar with issues related to accessibility, disability and ageing. However, it does not assume that you are familiar with these issues across all (dis)abilities. End users who participate in standardization should strive to represent as many groups as possible, not just the ageing population or persons with a certain specific disability. For this reason, the text includes topics and issues that relate to different disability groups and sectors.

Lead-in: Accessibility and Design for All

A few weeks ago I was waiting for the bus to work at the bus station when I saw an elderly woman using a cell phone. This is in itself not unusual, but this woman had a heavy tremor. This tremor made it hard for her to push the buttons, but it also forced her to hold the cell phone with both hands during the phone call. The conversation was very loud, probably because her right hand partly covered the phone's microphone. So one problem, a tremor, can cause another problem, namely bad audibility. How can product design and standards help this woman? We may not be able to solve this problem here, but will find out how standardization can contribute to a solution.

One method of addressing accessibility issues is by means of **assistive technologies**, for example wheelchairs, hearing aids, or a screen reader on a PC.[1] There are also standards

[1] For a classification of assisistive technologies, see EN ISO 9999:2007: "Assistive products for persons with disability — Classification and terminology". (For a German overview of this standard, see http://de.wikipedia.org/wiki/EN_ISO_9999.)

for these types of products.[2] But assistive products don't solve all problems: a wheelchair can't get up a flight of stairs, and a screen reader can't access information that is not provided through certain specific methods (the accessibility API, which is a kind of contract between assistive technologies and the software they need to interact with).

Another method of addressing accessibility is retrofitting solutions. **Retrofitting** means modifying existing or older products or systems. The term "retrofitting" is not only used in accessibility, but also in ecology (for example retrofitting cars with filters or catalysers), flood prevention[3] and other areas. But retrofitting can be expensive. In buildings it can also reduce accessibility while the retrofitting is in progress.

However, design and standards should reduce the need for assistive technologies and retrofitting. "**Universal design**" or "Design for All" aims to reduce the need for adaptation or specialised design:

> "Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." (Ron Mace, the Center for Universal Design[4])

By applying Design for All to mainstream products we can avoid additional costs. However, there are a number of specially designed products and technologies that have been developed for a population with a specific disability and that will not become mainstream products, for example Braille output (Engelen, 2002) for text, or a seating system that prevents pressure sores. These are sometimes called "**orphan technologies**" (van Roosmalen & Ohnabe).

In 2003, Knut Nordby used a "usability pyramid" to illustrate the role of Design for All. This pyramid represents all users of ICT products and services but is also applicable outside the area of ICT. This pyramid is a kind of graph with human abilities along the vertical axis, from good at the bottom to poor at the top. There is a wide base of users who can access all products and services directly. Above this is a smaller section of users who can use products and services only with some form of adaptation. In the context of Knut Nordby's article, **adaptation** means adaptation of the user interface. However, outside of ICT this is not always possible. People sometimes need to *adapt to technology*: they write down PIN codes or passwords to relieve their memory, they get up close and use a magnifier to read small print, they cup their hands behind their ears to hear sound or speech, etcetera[5]. However, in the context of inclusive design our aim is to fit technology to people – all people – and not the other way round.

The smaller section on top of this represents users who need some form of assistive technology. In the area of ICT there are many assistive technologies: extra large visual displays for persons with low vision, refreshable Braille displays, alternative input systems such as on-screen keyboards, foot mice and speech recognition, etcetera. The small section at the top represents users who need personal assistance.

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[2] See Hobson et al, 2007.

[3] See for example: e-GovLink: "Flood Prevention Tips": http://www.egovlink.com/public_documents300/norwalk/published_documents/Public%20Works/Flood%20Prevention%20Tips.pdf.

[4] http://www.design.ncsu.edu/cud/about_ud/about_ud.htm

[5] Examples from Nordby 2004.

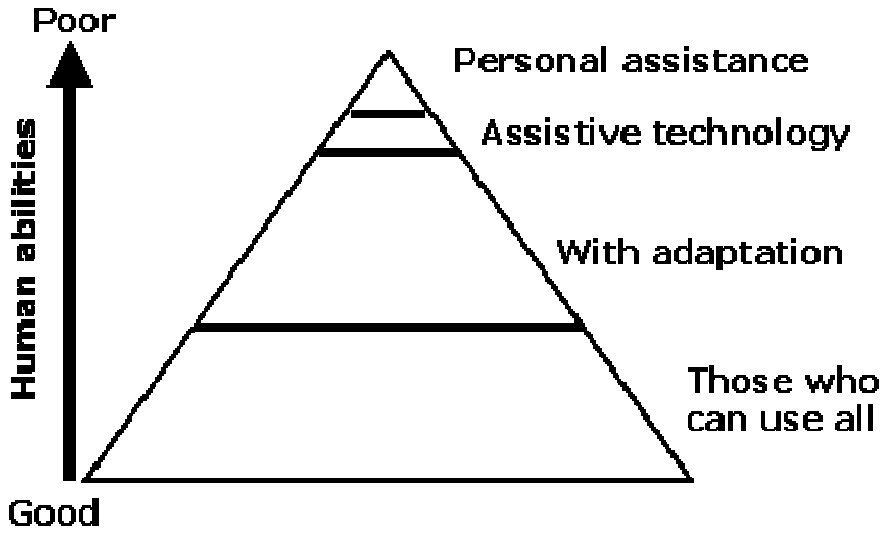

Image 1: The usability pyramid (Knut Nordby)

According to Knut Nordby, the main goal of Design for All is to push the boundary between 'those who can use all' and 'with adaptation' as far up as possible (Nordby, 2003). This can sometimes be achieved by simple means such as larger fonts and keys, simpler operations and better cognitive metaphors[6] (Nordby, 2004).

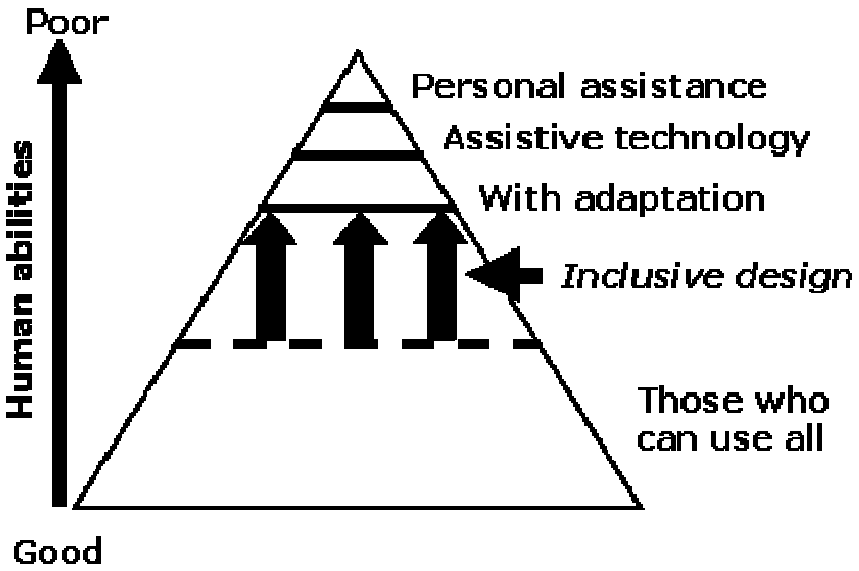

Image 2: Inclusive Design (Knut Nordby)

Knut Nordby also said that standards can help. Of course, that is only possible if standards take account of the needs of elderly persons and persons with disabilities.

Accessibility Issues in Standardization

> **Stop and think**: What standards do you know? Make a list of standards and for each standard ask yourself if it should address the needs of elderly persons and persons with disabilities.

[6] Usability First: metaphor (in Usability Glossary): http://www.usabilityfirst.com/glossary/term_195.txl.

> (For some standards, these needs are irrelevant, for example for the standards that define units such as "second" and "metre"[7].)

There are several **types of issues** that need to be considered during the standardization process of products and services for end users.

- A technical committee's **awareness** of issues related to ageing and disabilities, not only awareness of their existence but also of the benefits of addressing these issues.
- The **availability of information** on the end users of the product or service. There is more relevant information available on certain specific disabilities than on others. For example, design considerations for persons with cognitive impairments are less clear than design considerations for blind users.
- The **accessibility of the standardization process** to older persons and persons with disabilities (and their representatives), in other words, the accessibility of the meeting facilities, the ICT infrastructure used by the committee (for example, a document sharing system), the document formats and the interaction during the meeting.
- The actual **representation** of older persons and persons with disabilities on the committee, in keeping with the motto: "Nothing about us without us."

These guidelines may seem self-evident for people who work in the field of accessibility, but standards for everyday products have sometimes resorted to **exclusion clauses** that are in direct conflict with the philosophy of Design for All. For example, European Standard EN 60335-1 (on the safety of household appliances) from 1995 stated:

> As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account
> - the use of appliances by young children or infirm persons without supervision,
> - playing with the appliance by young children.[8]

The same type of clause is also used in EN 15503 (2006) on "Garden equipment - Garden blowers, vacuums and blowers/vacuums – Safety". Consumer organizations have been trying to get this type of exclusion clauses removed[9], but those in EN 60335 were still being discussed in 2008[10].

There are several documents with **guidelines** on how committees can take into account the needs of older persons and persons with disabilities, and on how to involve these groups in standardization:

- ISO Guide 71 and its European equivalent CEN/CENELEC Guide 6,

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[7] ISO 31-1 (http://en.wikipedia.org/wiki/ISO_31-1) and its successor ISO/IEC 8000 (http://en.wikipedia.org/wiki/ISO/IEC_80000).

[8] Quoted from "Legal Study - Exclusion Clauses in Standard under the EU Low Voltage Directive 73/22/EEC (Children and Disabled People Using Electrical Appliances)", commissioned by ANEC in 2005. Available at http://www.anec.org/attachments/R&T002-05.pdf. The revised version of EN 60335-1 from 2002 still contained the exclusion clause, as do (some) other standards in the same series (EN 60335-2-91:2003).

[9] See for example: Consumers International: "Asia Pacific Consumer" Vol. 37 (3/2004): http://www.consumersinternational.org/shared_asp_files/uploadedfiles/E36F0248-8225-4DFD-B248-6EB0DF3296D1_ap37.pdf.

[10] See ISO Committee on Consumer Policy (COPOLCO): "Annual Report 2008". http://www.iso.org/iso/copolco_priority_programme_annual_report.pdf.

- John Gill: "Involving people with disabilities in the standardization process"[11].

In addition, there are also guidelines on the **involvement of users or consumers** in general and on how to develop user-oriented standards:

- CEN/CENELEC Guide 2: "Consumer interests and the preparation of European Standards" (December 2001)[12],
- IFAN Guide 3: "Guidelines to assist members of standards committees in preparing user-oriented European standards" (2008)[13].

CEN/CENELEC Guide 2 indirectly supports the inclusion of older persons and persons with disabilities because it recommends that national members of CEN and CENELEC provide for consumer participation in the planning of standardization work and in policy matters relevant to consumer interest.

With regard to the European level, the guide states:

> Where a CEN or CENELEC committee is developing a European Standard of interest to consumers, Member bodies should seek means to encourage the active participation of consumers in national delegations.

The guide also recognises that the technical nature of standardization work can be a barrier for end-user participation, and recommends the following:

> Standards work is by nature technical and complex. Where possible and necessary, Member body staff should provide consumer representatives with briefing on technical issues and guidance on standards procedures.

From a more technical point of view, we also need standards for

- compatibility and interoperability (to ensure that different systems from different suppliers can work together);
- transfer of learning between user interfaces for systems from different suppliers;
- better access to functionality, for example, access to terminals;
- increased safety of systems and services.[14]

Design Fields, Design Factors and Disabilities

Approaches to achieving accessibility

ISO/TR 22411[15] describes two approaches for achieving accessibility:

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[11] Available at http://www.tiresias.org/about/publications/disabilities_standardization/index.htm.

[12] Available at http://www.cen.eu/boss/supporting/reference+documents/cclcgd002.pdf.

[13] Available at http://www.ifan.org/ifanportal/livelink/fetch/2000/2035/36282/394607/publications/IFAN_Guide3-2008.pdf.

[14] List adapted from Nordby 2004.

[15] ISO: ISO/TR 22411:2008 - Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities.

1. Providing **alternative formats**: this approach consists in providing compensation for impaired abilities by using alternative modalities. For example, providing an auditory or tactile alternative for visual information to a blind user. Providing alternative formats also has benefits for other users when one of their modalities is occupied by another task, for example providing auditory information to a user whose attention is focused on visual displays.
2. Using **ergonomic design methods** that enable a system or product to compensate for an impairment. This works well when an impairment is not serious. Examples include giving auditory information at a higher sound level for persons with a hearing impairment, and enabling text enlargement in a graphical user interface.

Another approach, not mentioned in this report, is the design of products with **standardised interfaces** that enable access with assistive technologies. This approach is important in ICT because it is a necessary condition for the use of screen readers (specialised software programs that can convert text to speech and or Braille).

The three approaches are often combined.

Design fields

Clauses 7 and 8 of Guide 6 define seven design fields that are relevant to accessible design. Clause 9 provides descriptions of body functions or impairments and mentions their implications when using products or services.

The **seven design fields** in clauses 7 and 8 are:

1. information on how a product or service should be used;
2. packaging, including labels, the materials used, the opening and the disposal of packaging;
3. the materials used in a product;
4. the installation of a product;
5. the user interface;
6. the maintenance, storage and disposal;
7. the built environment (for example, wider doors and corridors for wheelchairs, and access for working dogs).

Transport and transportation services are not mentioned in clause 7.

Each of the tables in clause 7 lists sensory, physical and cognitive abilities, and allergies (as column headers), and factors to consider in the design of products and services (as row headers) on the other hand. Each of the row and column headers contains a reference to the relevant subclause in clause 9 (for the impairments and allergies) and in clause 8 (for the factors to consider). The tables in clause 7 are not reproduced in ISO/TR 22411.

Factors to Consider in the Design of Products and Services

Clause 7 of Guide 6 contains tables of factors to consider to ensure that standards provide for accessible design. These factors are explained in some more detail in Clause 8. The following subsections provide concrete examples for some of these factors and complement the corresponding slides in the Microsoft PowerPoint presentation for this topic. However, this chapter does not attempt to provide a full treatment of these topics, since they are already covered in other documents. For example, **ISO/TR 22411** contains important additional information on these factors, except where no useful information was available when the report was written.

Alternative formats

An alternative format is a "different presentation which may make products and services accessible by the use of another mobility or sensory ability" (definition from Guide 6; "mobility" should probably be "modality"). There are two approaches:

1. Presenting information via different senses;
2. Presenting information via different aspect of the same sense.

Via different senses

This includes:

- Braille: for documents, on packaging, on buttons in lifts, …
- closed or open captions for video,
- tactile paving (see http://en.wikipedia.org/wiki/Tactile_paving),
- sound provided through a headphone jack in an ATM,
- text alternatives for images in web pages and other documents,
- audio description for video;
- a flashing light for incoming calls on a telephone for persons with (moderate) hearing loss[16];
- an alarm clock with a vibrating pillow pad for persons with hearing loss[17].

In some cases, providing an audio alternative to visual information is not sufficient for all users. For example, CAPTCHAs[18] – tests that try to exclude spam robots and other scripts from certain functions of a website – are traditionally visual tests, and therefore inaccessible to blind users and user with low vision[19]. reCAPTCHA is a CAPTCHA service that provides an audio alternative to the visual test[20]. However, this still excludes users who have both visual and auditory impairments. It is possible to exclude most spam by means of techniques that are not based on CAPTCHAs (Smith, 2007).

Via different aspect of the same sense

Presenting information via different aspects of the same sense means providing additional cues, for example providing two different visual implementations of the same content.

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[16] See examples at http://camtad.org/equipment/telephones/.

[17] See examples at http://camtad.org/equipment/alarm-clocks/.

[18] CAPTCHA stands for "Completely Automated Public Turing test to tell Computers and Humans Apart". The World Wide Web Consortium has described the accessibility issues of CAPTCHAs in a working group note (May, 2005).

[19] In response to this barrier, Marc Dohnal initiated the creation of WebVisum, an add-on for Firefox that enhances web accessibility for blind and visually impaired users and that can solve CAPTCHAs: see http://webvisum.com/.

[20] "What is reCAPTCHA?": http://recaptcha.net/learnmore.html.

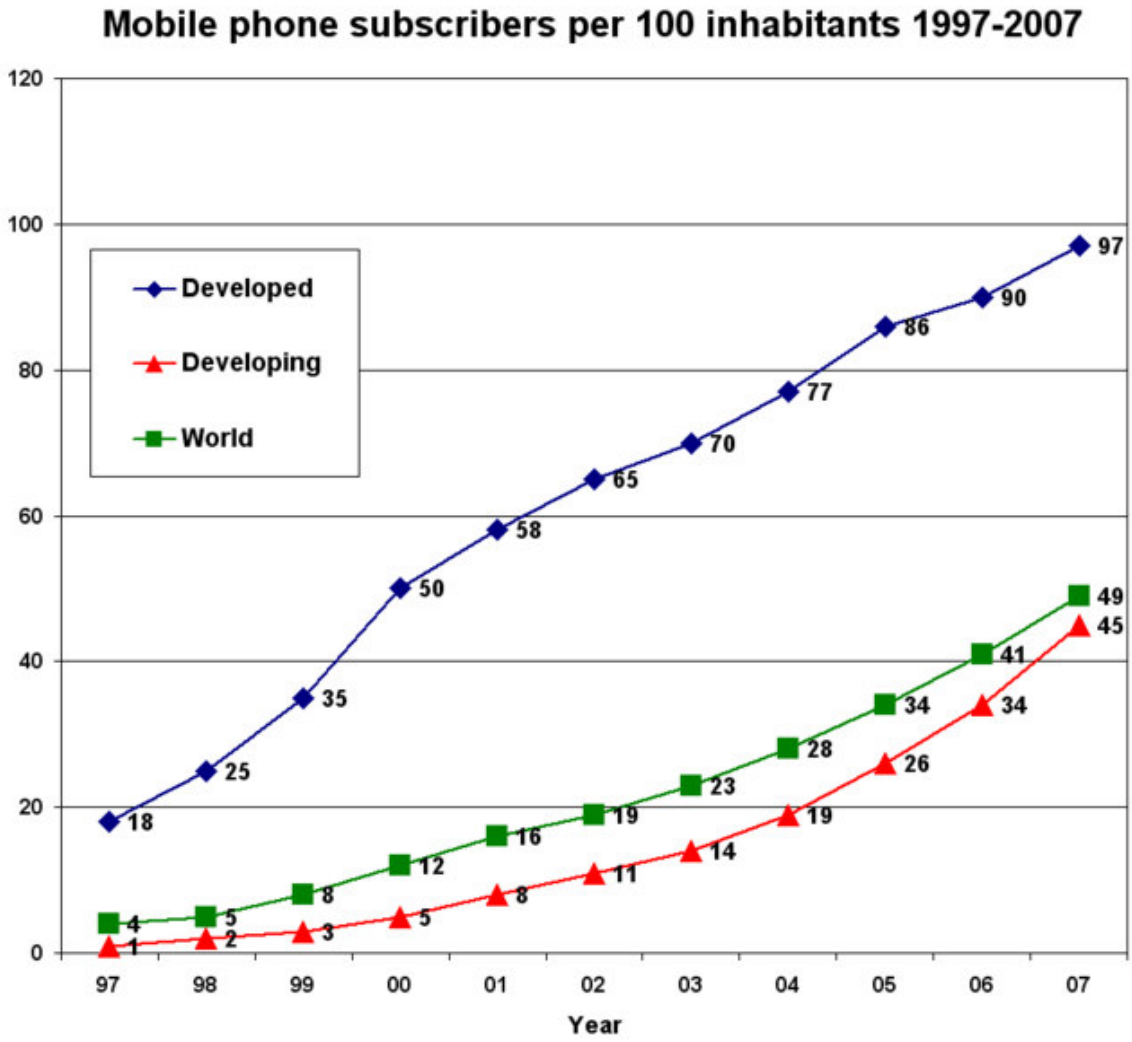

Illustration 1: Chart using different colours and line styles[21]

Location and layout

Different persons have different needs with regard to the **position of information and controls** on a product or in a building, and the point at which information is available for a service. For example, the controls of an ATM or another machine need to be placed in a way that they can be operated easily by someone standing or seated in a wheelchair. There also needs to be enough knee clearance so that a wheelchair user can get close enough to the controls. (Clearance is also discussed in subclause 8.12 on ease of handling.) A person's range of motion also decreases with age.

If controls or other objects are out of reach for certain users, one solution is making the placement of the objects **adjustable** to the users. For example, if wall cabinets or shelves in a kitchen are out of reach, they can be mounted on a lift system that lowers the cabinet or shelf when the user presses a button (see second presentation slide for "Location and layout").

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[21] Source of chart: http://en.wikipedia.org/wiki/File:Mobile_phone_subscribers_per_100_inhabitants_1997-2007_ITU.png. The image is used in the Wikipedia article "Mobile phone" and is is licensed under the Creative Commons Attribution ShareAlike 3.0 License: http://en.wikipedia.org/wiki/Creative_Commons.

The **visual field** of persons in a wheelchair is different from that of people who are standing. This can cause problems in reading signage and even in finding emergency signs. One should also take account of the visual field in order to avoid glare (see below).

Lighting levels and glare

High light levels and strong directional light can cause deep shadows or glare[22]. When glare interferes with the execution of a visual task, it is called "disability glare". Glare is a very common problem for **older persons**. They are more vulnerable to glare for four reasons:

1. they work at lower light levels because their eyes absorb more light before it reaches the retina;
2. the amount of light scatter inside their eyes is greater, and this results in a lower visual acuity;
3. they need more time to recover from exposure to glare;
4. they generally have a slower cognitive response.[23]

Disability glare is not a common problem in the office environment because light levels in offices are usually uniform. However, it is possible for some light sources, windows and shiny surfaces to cause "discomfort glare".[24] Older persons are more sensitive to glare in general, so they are also more vulnerable to discomfort glare.

Colour and contrast

Colour is an important way of marking and distinguishing information. However, some persons cannot perceive colour, for example because they are **colour blind**. There are several types of colour blindness, but the most common type of colour confusion is between red and green.[25] If important information is encoded by means of colour alone, part of the population, especially the male population, will not be able to perceive it. (The first presentation slide on "colour and contrast" displays two apples as someone with protanopia would perceive them.)

A common example of **information encoded by means of colour** is the use of web-based forms with both optional and required fields, where the instructions say that: "Fields in red are required." This presents a barrier not only for colour blind users but also for blind users. The colour-coded information needs to be complemented with a text-based cue, for example the word "required" in the form field's label, that both blind and colour-blind users can perceive.

A related issue is the use of foreground and background colours with sufficient **contrast**. Clause 8.5.2 in ISO/TR 22411 contains a table with recommended colour combinations for signs and backgrounds in self-luminous displays. The colours are identified by name (purple, blue, cyan, etcetera), but on computer screens, for example, colours can be identified by

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[22] "Glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight or artificial light such as car headlamps at night. Because of this, some cars include mirrors with automatic anti-glare functions." http://en.wikipedia.org/wiki/Glare_(vision)

[23] See Peter Boyce: "Glare and Nighttime Roadway Visibility: Human Factors"

[24] IBM: "Lighting": http://www.pc.ibm.com/ww/healthycomputing/vdt19d.html - part of a website on "Healthy Computing".

[25] This can be caused by protanopia, deuteranopia or anomalous trichromacy; other types of colour vision deficiencies are much less common. (Complete colour blindness is extremely rare.) See for example http://en.wikipedia.org/wiki/Color_blindness.

means of numeric codes, which are more precise. One way of testing whether **colour contrast on a display** is sufficient is by breaking down the colour into components for red, green and blue (RGB) and comparing the numeric codes for both colours. This is the technique used in the Web Content Accessibility Guidelines (Caldwell et al, 2008): the guidelines contain an algorithm for determining the contrast ratio between two colours[26]. Several tools use this algorithm to help web content authors determine the contrast ratio between two colours or two find colours that provide sufficient contrast with a certain given colour.[27] (The third presentation slide on "colour and contrast" contains a screenshot of Joe Dolson's Color Contrast Spectrum Tester. The tested colour is a type of red with the code #FA3200. The tool compares this colour with several other colours – the screenshot shows a comparison with several shades of blue and green – and shows if the colour combinations pass three different colour contrast algorithms. The column "Luminosity Ratio" shows the results of the algorithm in WCAG 2.0.)

Style and size of fonts and symbols

Font style is a factor that affects the legibility of text and signs. ISO/TR 22411 explains what **font design characteristics** can improve the readability for older persons and persons with low vision. When the output resolution – the number of dots or pixels used to represent characters on screen or paper – is low, sans-serif fonts can increase readability. Low output resolution is an issue for certain common types of screens, for example those in television sets. This affects the readability of captions for deaf and heard-of-hearing audiences. The Tiresias Screenfont was specifically designed for use in captions[28].

ISO/TR 22411 does not mention that certain fonts were originally designed for print while others were specifically designed for use on computer screens. The latter category includes the sans-serif fonts Verdana, Trebuchet MS and Tahoma, and the serif font Georgia. (The presentation slides compares the fonts Arial, Verdana, Trebuchet MS, Tahoma and Times New Roman. Arial and Times New Roman are frequently used in electronic documents even though they were not designed for use on screens. For example, in Arial, the uppercase "I" and the lowercase "l" look the same; in the other fonts, these two letters can be easily distinguished.) There is also research on fonts for persons with dyslexia.[29]

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[26] See the definition of "contrast ratio" at http://www.w3.org/TR/WCAG20/#contrast-ratiodef and the linked definition of "relative luminance".

[27] See for example the Contrast Analyser, a standalone tool by The Paciello Group at http://www.paciellogroup.com/resources/contrast-analyser.html, the Colour Contrast Analyser add-on for Firefox by Gez Lemon at https://addons.mozilla.org/en-US/firefox/addon/7313 and the Color Contrast Spectrum Tester, a web-based tool by Joe Dolson at http://www.joedolson.com/color-contrast-tester.php.

[28] "Tiresias Screenfont – a typeface for television subtitling": http://www.tiresias.org/fonts/screenfont/about_screen.htm. However, Joe Clark has criticised this font on several occasions: "Understanding captions & subtitles" - http://screenfont.ca/learn/, "What's wrong with Tiresias?" - http://screenfont.ca/fonts/today/Tiresias/. One of the goals of his "Open & Closed Project" is to improve the readability of captions: http://openandclosed.org/.

[29] For example "Lexia Readable" by K-Type in the UK (http://www.k-type.com/?p=520) and "dyslexie regular" by StudioStudio in the Netherlands (http://www.studiostudio.nl/).

Graphical symbols and illustrations

Graphical symbols and illustrations are useful ways for conveying meaning and identifying objects (for examples in manuals). Several international **standards** for graphical symbols are available, for example ISO 7001[30] and ISO 9186[31]. Symbols that are not properly designed can be confusing (see second presentation slide on "graphical symbols and illustrations").

Contrast is also an important factor in symbols and illustrations. For example, an investigation by Antoinette Fennell (2006) into personal preferences of visually impaired persons for colour contrast in icons on buttons revealed a preference for black icons on white buttons with a black surrounding area (Fennell, 2006).

Loudness and pitch of non-spoken information

People with hearing loss may not perceive auditory signals if the signal is not loud enough or if the pitch is too high or too low. The majority of people with hearing loss are **older people**. Their hearing usually decreases gradually with age. Sensitivity to high tones also decreases with age.

Depending on the function of the non-spoken information, there are several ways to address this issue:

- making volume adjustable over a wide range;
- using multiple frequencies, for example an alarm signal that uses a strong component at multiple frequencies.

Loudness and pitch are also factors to consider for spoken information (see subclause 8.7.4 in Guide 6 and ISO/TR 22411). Telephones are available that have volume and tone controls; some also have a flashing light for incoming calls (see "Alternative formats").

Ease of handling

The size, shape and mass of a product will affect how easy it is to handle. Ease of handling includes aspects such as the required strength, the angle of rotation of a person's joints, the frequency of actions, and the precision required for certain movements (see the table in subclause 8.12.1 in ISO/TR 22411).

Ease of handling is not only relevant to controls but also to **packaging**. A survey initiated by the Swedish Rheumatism Association showed that people with limited hand function had difficulty opening typical product packaging:

> Medicament packaging was a particular problem, often being virtually impossible for them to open. In so-called "blister" packaging, pushing a tablet through the cover foil requires finger-tip sensitivity, round plastic bottles are often so big that there is not enough strength and dexterity in the fingers to hold onto the jar with one hand and twist the cap off with the other. It is completely out of the question when you no longer have free movement in your finger joints to grip a thin plastic band and obtain enough traction to open a screw-top cap seal, or to press and turn at the same time, as is often required with safety caps. (ESN, 2005)

It is possible to develop medicine bottles that are easy to open. A six-sided bottle with a six-sided cap that has indentations for the fingers appears to be very effective (see

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[30] ISO 7001:2007, Graphical symbols — Public information symbols.

[31] ISO 9186:2001, Graphical symbols — Test methods for judged comprehensibility and for comprehension.

presentation slide): the fingers can hold the cap tightly thanks to the indentations, and it requires very little force to open the bottle.

The Swedish Rheumatism Association has also worked with the food packaging industry. The "Tetra Brik Edge" packaging that Tetra Pak launched in June 2009 is an example that is easier to use by people with hand disabilities such as arthritis (Tetra Pak, 2009).

Accessible routes

The accessibility of routes has many aspects, including changes of level, lifts, ramps, stairs, flooring, doors, route information and emergency routes.

ISO/TR 22411 specifies that a simple **vertical change** should not be higher than 6,4 mm. When a change is bevelled with a slope not steeper than 1:2, the maximum height can be slightly larger (see subclause 8.16.1).

For bigger changes of level, lifts and ramps should be provided. **Lifts** should be big enough for wheelchair users (more details in the group assignment and the role play). The slope of a **ramp** should be appropriate for users of wheelchairs, powered scooters and wheelchairs. Subclause 9.3.3.2 (Ease of moving) contains a figure describing the relationships between the slope of ramps and the ease of operation of a wheelchair. For example, if the angle of the slope is higher than 5 degrees, a wheelchair may roll back when trying to go up the slope.

Process for Using Guide 6

Clause 6 of CEN/CENELEC Guide 6 describes a process for ensuring that the needs of older persons and persons with disabilities are included in standardization work. CEN/CENELEC Guide 6 presents the process by means of five columns, each presenting one step in the process. Clause 6 of ISO/TR 22411 expands on each of these steps.

Define Standards Project

In the first phase of the process, the committee should identify:

- the purpose of the standard,
- the end-users of the product or the service being standardised, and
- the current accessibility of the product or service to a broad range of users.

Sources of information include

- suppliers,
- groups representing older persons and persons with disabilities,
- user surveys,
- consumer test panels,
- guides and policies.

There are also standards that provide methods for identifying important user characteristics, for example ISO 20282-1: "Ease of operation of everyday products — Part 1: Design requirements for context of use and user characteristics."

ISO/TR 22411 points out that the following design recommendations apply during this process:

- "Accessible products and services should find acceptance with as many persons as possible."

- “Accessible design should not have adverse effects on the functionality of the product or service or on the usability for any user.”
- “Accessible design should not impact the privacy of the users.”
  Example: “The voice output of cash dispensers is not audible to a third party.”
- “Products and services should not discriminate against, stigmatize or disadvantage users in any other way.”
  Example: “A separate entrance for wheelchair users that takes the occupant to a back corridor rather than into the main foyer.”
  Example: “Voice output or key tones that can be switched off so as not to disadvantage users who are sensitive to noise.”
- “Products and services should pose no safety risk to their users and should comply with the relevant International Standards under the technical safety laws of the respective countries.”
- “Products and services should be designed for the intended environment and context of use.”

Ensure Committee Well Equipped

The committee should make sure that it is well equipped to take account of accessibility issues during the standardization process. This implies that it should ensure the following:

- Committee members should be aware of ageing and disability issues, for example through the representation of experts and users and/or training on these issues. Older persons and persons with disabilities can bring their first-hand experience to the committee. Accessibility experts can provide a more general knowledge.
- The meeting rooms should be accessible to older persons and persons with disabilities. (See the guides for accessible meetings mentioned in the section “Accessibility” of “Barriers to End-User Participation”, above.)
- Reports and other documents used by the committee should be available in accessible formats. Note that CEN Guide 6 says: “available in alternative formats”, however, if the source format is accessible, it is easier to generate accessible alternatives.
- The committee should collect data on issues that affect older persons and persons with disabilities, for example injury data and focus group research. ISO/TR 22411 can serve as a starting point, but the committee should consult experts to make sure that these data are used appropriately in the context of the standard being developed.

Develop Content of Standard

The committee needs to keep the needs of older persons and persons with disabilities in mind during the whole process of developing the standard. One way of doing this is consulting “The Principles of Universal Design” (Mace et al, 1997). Not all guidelines in this document apply to all designs, but they are concise enough to serve as a reminder.

During the drafting process the committee should use Guide 6 and other guidance material (for example, ISO/TR 22411) to address the following issues:

- Safety concerns of older persons and persons with disabilities.
  A product or service should comply with the relevant standards and laws or regulations regarding safety. However, persons with certain specific impairments may have needs that are hard to reconcile with safety regulations. For example, packaging of medication sometimes has a screw cap that requires you to use a strong pincer grasp to screw it off. This is a safety measure to keep the medication out of reach for children, but older persons and persons with certain impairments do not always have a strong enough grasp.

- Ways of minimising hazards through new or enhanced requirements.
- Ways of maximising the accessibility of the product or service to a broad range of users. If applicable, the surroundings (for example, lighting conditions and noise level) should promote the accessibility of the product or at least not restrict its use.

In some cases, following the guidelines and recommendations of CEN/CENELEC Guide 6 and other standards does not result in a product or service that is equally usable by all persons. In these cases, it is necessary to find **alternative solutions** to prevent the exclusion of users. ISO/TR 22411 proposes the following measures (quoted from that document):

a) Provide instructions and recommendations specific to users with special requirements to help them adapt the product to their needs.

b) Ensure compatibility with assistive technology.
Example 1: Mobile telephones can be fitted with an interface (i.e. according to the ETSI standards) which enables connection to voice output or a Braille display).

c) Offer supplementary aids.
Example 2: Supplementary modules or templates.

d) If accessibility of the product or service is affected by its installation or configuration, provide information to the user or service provider to help him optimize the product or service use during this first assembly.

e) In certain cases, train users with special requirements to facilitate the use of the product or service.
Example 3: Accessible design can promote activities of specialists for adapting aids to the product, for preparing special instructions and for training users.

f) Provide appropriate information on product properties that allows users to determine whether the product

   1) is appropriate for their abilities to the full extent,

   2) can be re-equipped and adapted so that they are able to benefit from the expected use, or

   3) cannot be used by them.

Review Process

Validation and evaluation

During the previous steps of the standardization process, the committee should have collected and used existing ergonomic data and design guidelines that are relevant to the product or service being standardised. This information should be further validated with members of the intended user groups. This means that the committee (and external reviewers, if any) should verify the physical, sensory and cognitive requirements, including the understanding of how to use the product or service. One way of assessing the accessibility requirements in a standards is using a consumer test panel. There are also standards that provide processes for human-centred design and evaluation, for example ISO 13407:1999: “Human-centred design processes for interactive systems” and ISO/TR 16982:2002: “Ergonomics of human-system interaction — Usability methods supporting human-centred design”.

ISO/TR 22411 provides the following example:

> A new standard is being drafted to define graphical symbols for medicine prescription bottles. Existing data helped identify the possible colours and sizes for the symbols. As a check on the requirements identified for the graphical symbols, they are tested with a representative sample of the target user group

(50 % of which is over the age of 65) to determine whether the symbols can be visually identified and whether they are correctly understood.

Language and terminology

The committee should ensure that the language and terminology of the standard is acceptable to older persons and persons with disabilities. The language should not discriminate against these groups.

Review by stakeholders

It is good practice to circulate the draft standard to a wide range of stakeholders, including groups representing older persons and persons with disabilities. The review process should not only examine the requirements for the product or service; it should also examine the actual standard document itself from the point of view of older persons and persons with disabilities.

Publish Standard

When the finalised standard is published, CEN/CENELEC Guide 6 recommends that it should be made available in alternative formats that meet the needs of older persons and persons with disabilities. ISO/TR 22411 lists a few examples: large print, Braille and an accessible electronic format that allows users to adapt the document to their needs. In fact, ISO/IEC Guide 71 was made available in Braille and was the first ISO publication that was made available in that format[32].

Accessible Source Formats

In order to create adaptable or alternative formats, it is important to have an accessible source format. Standards bodies such as ISO and CEN use Microsoft Word as a de facto "standard" for editing their publications and provide templates for drafting standards, technical reports, workshop agreements and related publications. The templates come with manuals (ISO)[33] and print job options for Adobe Acrobat (CEN)[34].

The templates use "styles" (see the first drop-down list in the formatting toolbar of Microsoft Word versions before Office 2007) to ensure consistent formatting of standards and reports. For example, the styles for titles of clauses and subclauses correspond to "Heading 1" and "Heading 2" respectively. By using these styles, these titles or headings can be rendered appropriately in a table of contents. There are also styles for lists, notes, examples, etcetera. The reference manual also provides guidance on the use of the styles and on other aspects of editing documents, for example the use of figures and tables. For example, the manual forbids the use of a table within another table, which is good advice, but does not require editors to provide alternative text for figures, which is a significant omission. The ISO template contains macros that create a user interface that can be localised (English, French, German), however, the documentation does not point out that

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[32] ISO press release: "Guide to address the needs of the elderly and disabled now available in Braille", 29 April 2002: http://www.iso.org/iso/pressrelease.htm?refid=Ref820.
ISO/IEC Guide 71 is probably the only ISO publication in Braille. Making standards available in alternative formats is probably only done on rare occasions. For example, there is only one DIN standard available in Braille, namely DIN 5008 on "rules for text presentation" (DIN 2008, 34).

[33] ISO: "ISO templates": http://www.iso.org/iso/standards_development/it_tools/iso_templates.htm.

[34] CEN: "Downloads": http://www.cen.eu/cenorm/workarea/downloads/index.asp.

the language of the document and of each other language in the text needs to be set through the "Set Language" command under "Language" in the "Tools" menu. Correct language identification is important for text-to-speech software (used in screen readers and in software for users with dyslexia).[35]

It would be a good idea to review the templates and manuals from an accessibility point of view and to revise them where necessary.

Accessible PDF

Standards, reports and related documents are generally made available in Portable Document Format (PDF). PDF used to have a bad reputation with regard to accessibility, but Adobe started introducing improvements starting with PDF 1.4 and Adobe Acrobat 5.0 in 2001[36]. Several tutorials by Adobe and other organizations explain how to create more accessible PDF from Microsoft Word documents. They cover several versions of Microsoft Word and Adobe Acrobat. For example:

- Several documents by Adobe, downloadable from the page "The Adobe Acrobat 7.0 family and accessibility": http://www.adobe.com/uk/enterprise/accessibility/acrobat70.html.
- WebAIM: "PDF Accessibility": http://www.webaim.org/techniques/acrobat/.
- AbilityNet: "Creating accessible PDFs from Word 2007": http://www.abilitynet.org.uk/webarticle87.
- Jonathan Whiting and Aaron Andersen (WebAIM): "Creating Accessible Content in Acrobat 8": http://webaim.org/presentations/2007/CSUN/acrobat8.htm.
- Ohio State University: Web Accessibility Center: "Creating Accessible PDF from MS Word 2003": http://www.wac.ohio-state.edu/pdf/word/PDFfromWord-graphic.htm.
- Jim Byrne: "Creating Accessible PDFs with Adobe Acrobat 6 and Microsoft Word 2000": http://www.jimbyrne.co.uk/show.php?contentid=67.
- Barrierefreies Webdesign: "PDF und Barrierefreiheit" (in German): http://www.barrierefreies-webdesign.de/knowhow/pdf/voraussetzungen.html.
- INTECO: "Guía Accesibilidad en Documentos PDF" (in Spanish): http://www.inteco.es/Accesibilidad/Formacion_6/Manuales_y_Guias/guia_accesibilidad_en_pdf.

The most important points are making the source document accessible, and changing the conversion settings to enable tagged PDF and document reflow (strangely, this is not the default setting). After creating the PDF document, it is still necessary to check that the document language has been set: open the "Document Properties" dialogue in the "File" menu, go to the "Advanced" tab and check the value in the "Language" field. After setting the correct language, resave the document.

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[35] The user interface created by the macros in the template enables the editor to identify the document language as English or French, but it is not clear whether this just affects metadata or also the document processing language. See ISO, 2003, p. 5-6.

[36] See Duff Johnson & Susan Frank: 'Review — Adobe Acrobat 5.0: "Focus on the Document"'. 2 May 2001. http://www.planetpdf.com/mainpage.asp?webpageid=1416.

Adobe Acrobat is not the only software program that creates tagged PDF[37], however, some other PDF creators (commercial or free) don't support tagged PDF at all.

Alternative Versions

Alternative versions are usually created by specialised organizations. For example, the Braille version of DIN 5008 was produced by the German Central Library for the Blind (DZB) (DIN, 2009, 34). There is also a freely available plug-in for producing digital talking books in DAISY format from Microsoft Word: the "Open XML to DAISY XML Translator". However, this requires the presence of a text-to-speech engine (a "voice" in Microsoft Windows) for the document language on the editor's computer. The plug-in is available at http://sourceforge.net/projects/openxml-daisy/ and works with Microsoft Word 2007, 2003 and XP.

Using the Tables in Clause 7

Process

Clause 7 of CEN/CENELEC Guide 6 provides 7 tables that are intended as a tool to identify factors that will affect the use of a product or service by people with different levels of ability. Subclause 7.3 proposes a method for using the tables:

1. Select the tables that are relevant to the product or service that is being standardised. In other words, consider what types of clauses will need to be included into the standard.
2. Consider the factors that need to be considered. (The numbers next to the keywords refer to subclauses in clause 8.)
3. Look at the human abilities for which the factors with shaded table cells are particularly relevant. (The numbers next to the abilities refer to subclauses in clause 9.)

The Dutch standardization organization NEN uses a slightly different method. The steps below are used for reviewing an existing standard, but they can be adapted to the process of creating a new standard.

1. Select the tables that are relevant to the product or service that is being standardised.
2. Identify the human abilities that are relevant to the product or service. (For example, make three lists: relevant, maybe relevant, not relevant.)
3. For each relevant table (see step 1), identify the factors from clause 8 that need to be considered.
4. Translate the relevant factors (see step 2) into recommendations that need to be considered in the standard.
5. When reviewing an existing standard or draft, compare the recommendations from the previous step with the clauses in the standard.

Example 1: Websites

A website is a collection of related web pages, images, videos or other digital assets with a common domain name or IP address. Web pages are typically created in Hypertext Markup Language (HTML) and can be static or dynamic. Websites can be "dynamic" through server-side programming techniques (for example, PHP or JavaServer Pages), client-side programming (for example, JavaScript) or a combination of these. Web pages can also

[37] OpenOffice.org and Corel WordPerfect Office create tagged PDF without Adobe Acrobat or other plug-ins.

contain user interfaces for creating other web content, for example in wikis, blogs and photo sharing site.

Step 1: Selecting Relevant Tables

Web pages are digital artefacts that contain "information" in a very wide sense, so the following tables are relevant:

- Table 1: clauses on information.
- Table 4: clauses on installation. This table is relevant to content management systems and similar software that assembles web content and/or sends web content to the user's browser. (After initial installation, further configuration and management usually happens through a web interface.)
- Table 5: clauses on the user interface. Many web page components are user interface components. The factors in this table have a big impact on the usability of a website.
- Table 6: clauses on maintenance, storage and disposal. This table is relevant to maintenance (see the comment on table 4). Storage and disposal are aspects that are only really relevant to physical objects.

The tables relating to packaging, materials and the built environment are irrelevant here. Web software is usually downloaded from the Web; if any relevant software comes packaged (for example, a DVD in a box), then the tables on packaging and materials also become relevant.

For the sake of simplicity, we will only consider the end user's point of view and ignore tables 4 and 6, which are relevant to the work of web masters, web developers etcetera. Note that table 5 contains almost all the factors listed in table 1, except for expiration date marking (8.13), contents labelling (8.14) and accessible routes (8.16). These factors are not relevant to end users on the Web, so we will only look at table 5 in the next three steps. In a real standardization context, however, tables 4 and 6 cannot be ignored.

Step 2: Identifying Human Abilities

In this step, we look at the columns in table 5 and identify human abilities that are relevant to the use of web pages.

Using web pages requires the use of sensory abilities: seeing, hearing and touch. It does not require taste, smell or balance. Touch is necessary for the use of a Braille display, but web content in and of itself does not have characteristics that can be touched, so we will only consider seeing and hearing.

Using web pages requires the use of physical abilities, but these abilities are needed to work with computer hardware in general and are not specific to web content. However, we can't simply dismiss physical abilities as irrelevant to web content: for example, dexterity is relevant to keyboard shortcuts defined by a web developer, manipulation is relevant to drag-and-drop interactions, endurance (an ability related to strength) is relevant to repetitive actions in a user interface. On the other hand, web content typically does not have a voice interface (in spite of several efforts, this is a very marginal phenomenon, except if the user has speech recognition software with which he or she can control a browser) or require movement of the body.

Using web pages requires the use of cognitive abilities: abilities related to intellect and memory, as well as abilities related to language and literacy. These factors may be harder to address then those related to sensory abilities, but they impact a larger proportion of the population.

Using web pages is not relevant to allergies: allergy-related aspects of a user's computer hardware are completely out of the web developer's control.

In summary, the following abilities or columns are relevant:

- seeing,
- hearing,
- dexterity,
- manipulation,
- strength,
- intellect/memory,
- language/literacy.

Step 3: Identifying Factors That Need to be Considered

In this step, we look at the columns in table 5 that we selected in the previous step and identify factors (i.e. rows) that need to be considered. For each of the selected abilities, we check which factors are relevant. CEN Guide 6 uses grey shading to identify factors that are especially significant but points out that the other factors can also be relevant and need to be considered.

For the sake of brevity, we will discuss only one ability: seeing. This aspect does not only cover the "obvious" visual impairments such as blindness and colour blindness: subclause 9.2.1 lists several aspects of visual functions that relate to ageing:

- loss of visual acuity (the image appears indistinct),
- loss of near and/or distance vision (inability to accommodate changes of focus),
- reduced field of vision (inability to see things to the side, top or bottom of where looking),
- perception of colour, including age-related yellow vision (inability to distinguish colours),
- depth perception (inability to judge distances),
- speed of adaptation to changing light levels (temporary inability to see whilst eye adjusts to different lighting levels, for example on entering a building), and
- sensitivity to light; generally, older persons need more light to read then they did at 20 years of age.

According to table 5, all rows are relevant with the exception of loudness/pitch, surface-temperature, non-allergic/toxic, and acoustics. This leaves us with thirteen factors that need to be considered for the accessibility of web pages to persons with visual impairments.

Step 4: Translation into Recommendations

Each relevant factor identified in the previous step corresponds to a table cell, for example, the table cell that links "seeing" with "alternative format". In this step, we translate each table cell into one or more recommendations that need to be covered by a standard on website accessibility. When translating these cells into recommendations, one needs to be aware of the different types of content and interface components used in web pages.

For the sake of brevity, we will only consider the factors "alternative format" and "colour/contrast" in the column "seeing". We also start from the observation that text (real characters, not images of text) is a very flexible type of information: it can be turned into Braille and synthetic speech, it can be resized and it can be displayed with different

foreground and background colours for users who need these adaptations. Some other types of content don't have this flexibility: images, photos, charts, video, and sometimes also text in applets (for example, Java applets). This leads to recommendations such as the following:

- Images and other non-text content need a text alternative that conveys the same information.
- Video needs a transcript or audio description.
- Video-only content needs a transcript or an audio track that provides equivalent information for the video-only content.

(More detailed recommendations are available in the Web Content Accessibility Guidelines 2.0[38].)

Some users cannot perceive the difference between certain colour combinations, and this leads to recommendations such as the following:

- Colour is not used as the only visual means of conveying information. (This does not mean that colour cannot be used but that it should be redundant with other visual cues.)
- There is sufficient contrast between text and its background. Note that saying "sufficient" is not enough, but the definition of a colour contrast algorithm and contrast thresholds is beyond the scope of this exercise.

(More detailed recommendations, including a colour contrast algorithm, are available in the Web Content Accessibility Guidelines 2.0[39].)

This exercise looked at each table cell in isolation and this may lead to duplication because of overlap between recommendations for different types of abilities. These overlapping recommendations can be combined at a later stage. It is also possible to consider each factor or row as a whole and define different recommendations as needed.

Example 2: Photocopier

A photocopier is a machine that makes paper copies of documents and other visual information. It has a glass plate on which you place the document to be copied, a document feeder, a user interface (a screen and buttons, sometimes a touch screen display) for setting copying options, toner cartridges, trays and/or drawers for paper input, and an output device that may collate copies into specific order, and staple or fold copies. Some photocopiers can be connected to a computer so they can be used as a printer.[40]

Group Assignment

> Divide yourselves into groups of 3 or 4. If possible, make sure that more than one disability is represented in each group. Your task consists in using Guide 6 to specify accessibility requirements for **photo copiers**.
> Start by selecting the tables in **clause 7** that are relevant to photo copiers.

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[38] See Guidelines 1.1 and 1.2: http://www.w3.org/TR/WCAG20/#text-equiv.

[39] See Guideline 1.4: http://www.w3.org/TR/WCAG20/#visual-audio-contrast.

[40] See also: Ann Deiterich: "Parts of a Photocopier": http://www.ehow.com/about_5316555_parts-photocopier.html. For terminology, see West Mercia Supplies: "Glossary of Common Photocopier Terms": http://www.westmerciasupplies.co.uk/ref/copierglossary.pdf.

Next, make a list of **impairments and allergies** that are relevant to passenger lifts. (You may do this by putting each impairment or allergy into one of three categories: "relevant", "maybe relevant" and "not relevant".)
Then, study each of the selected tables and check what **factors** you will need to consider in the standard. (Refer to the lists of end-users and relevant factors.)
If you need additional information on the factors to consider, go to the relevant sections in **clause 8**. Determine whether each of these factors can be addressed by providing an alternative, by a different design, by means of assistive technology or something else. While doing this, take note of anything that might be missing in Guide 6.
At the end of the exercise, one person will **report** to the complete group about the following aspects:
(1) The list of relevant impairments and allergies.
(3) The factors that you selected.
And maybe additionally:
(4) Requirements based on the relevant impairments and factors. Make sure that – at a minimum – both sensory and physical impairments are considered.
(5) Any aspects that CEN/CENELEC Guide 6 does not cover.

Step 1: Selecting Relevant Tables

A photocopier is a physical object with a user interface, so the following tables are relevant:

- Table 1: clauses on information.
- Table 2: clauses on packaging (for persons who package the machine in a factory and for persons who unpack it before installation).
- Table 3: clauses on materials.
- Table 4: clauses on installation (for persons who install a photocopier).
- Table 5: clauses on the user interface.
- Table 6: clauses on maintenance, storage and disposal (for staff in charge of these tasks).

In summary, all tables except table 7 are relevant.

Step 2: Identifying Human Abilities

Each of the broad categories of human abilities – sensory, physical, cognitive, allergy – is relevant to the use of photocopiers. In the category of sensory abilities, the senses of seeing, hearing and touch are relevant, while taste/smell and balance have very little relevance. In the category of physical abilities, dexterity, manipulation, movement and strength (including endurance) are relevant, while voice is not. In the cognitive category, both intellectual/memory abilities and language/literacy abilities are relevant. Finally, contact allergies and respiratory issues are also relevant. (Photocopiers and laser printers emit ozone[41].)

[41] Health and Safety Department – University of Edinburgh: "Photocopiers and Laser Printers Health Hazards": http://www.safety.ed.ac.uk/resources/General/printers.shtm. Workers Health Centre (Australia): Fact Sheets: "Photocopiers": http://www.workershealth.com.au/facts011.html.

For the sake of brevity, we will focus on factors related to the user interface (table 5) for persons with physical impairments. This means that we need to consider the needs of

- persons who have difficulties using their hands or arms (dexterity),
- persons who have difficulties moving and manipulating objects (for example reaching and pushing),
- persons who have difficulties maintaining or changing the position of the body,
- persons with limited strength and/or endurance.

Step 3: Identifying Factors That Need to be Considered

In this step, we look at the columns in table 5 that we selected in the previous step and identify factors (i.e. rows) that need to be considered. For each of the selected abilities, we check which factors are relevant. CEN Guide 6 uses grey shading to identify factors that are especially significant but points out that the other factors can also be relevant and need to be considered.

The grey table cells in Table 5 lead us to consider the following factors for persons with physical disabilities:

- alternative format,
- location/layout,
- ease of handling,
- surface finish,
- fail-safe.

Each of these factors needs to be considered from the point of view of the groups of users listed at the end of step 2.

Step 4: Translation into Recommendations

Each relevant factor identified in the previous step corresponds to a table cell, for example, the table cell that links “strength” with “surface finish”. In this step, we translate each table cell into one or more recommendations that need to be covered by a standard on photocopiers. When translating these cells into recommendations, one needs to be aware of the components that make up a photocopier (see the introduction to this example).

This leads to recommendations such as those in the following non-exhaustive list:

- Users, including wheelchair users, can reach each part of the machine that needs to be accessed when using or maintaining the machine. (This is a partly a matter of the placement of the machine, partly a matter of the location of controls, trays, etcetera. A real recommendation would include sizes of wheelchairs or refer to relevant standards.)
- Controls and operating mechanisms are operable with one hand and without force for gripping or twisting. The force needed to activate the controls is not greater than 22.2 N.[42]

[42] This recommendation is based on a guideline for automated teller machines (ATMs) in the United States. See Nicholl, A. R. J. “Accessibility and Usability of Telematic Equipment: a brief comparative analysis of ergonomic recommendations.” Revista Assentamentos Humanos, Marília, v4, n. 1, p89-100, 2002. http://www.unimar.br/feat/assent_humano4/telequipment.htm.

- Seats are available for persons with mobility impairments.
- Touch screens are debounced to eliminate any activation due to tremor[43].

[43] See recommendation for e-voting systems: Tiresias: "About e-voting systems and recommendations for accessibility": http://www.tiresias.org/research/guidelines/e_voting.htm.

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Annex 1: Origin and Goals of Guide 6

Since 2002 the European standardization organization CEN and CENELEC have a guide for standards developers to address the needs of older persons and persons with disabilities, namely CEN/CENELEC Guide 6. What is the origin of this Guide?

ISO and COPOLCO

In 1998 the Japanese Standards Association proposed to the ISO Committee on Consumer Policy (COPOLCO) that there was a need for guidelines that address the needs of older people and people with disabilities in standardization. This led to the preparation of a policy statement by ISO and IEC in 2000[44]. This document stated that the need to include the requirements of these user groups could be achieved by following the basic principles of:

- Universal or Accessible Design;
- consumer representation of older persons and people with disabilities; and
- relevant information exchange.

The policy statement also recommended using ISO/IEC Guide 71, a document with guidelines for standardisers.

[44] ISO & IEC: "ISO/IEC Policy Statement: Addressing the needs of older persons and people with disabilities in standardization work". Available at http://www.iso.org/iso/iso_iec_gen3_2000-en.pdf.

The European Level

ISO/IEC Guide 71:2001: “Guidelines for standardization to address the needs of older persons and people with disabilities” was published in 2001. In 2002, CEN and CENELEC adopted this Guide as CEN/CENELEC Guide 6. This adoption was a result of Mandate M/283, which the European Commission and the European Free Trade Association (EFTA) gave to the three official European standardization bodies CEN, CENELEC and ETSI. ETSI did not adopt CEN/CENELEC Guide 6 but continued using ISO/IEC Guide 71 as a reference. Both documents are technically identical.

In 2004 CEN also adopted a "**Mechanism on the use of the CEN/CENELEC Guide 6**"[45] (CENELEC did not adopt this mechanism.) This mechanism has several consequences:http://en.wikipedia.org/wiki/CEN/CENELEC_Guide_6 - cite_note-Guide6Mechanism-11

6. CEN technical bodies (such as technical committees, working groups and workshops) should state in their standards or specifications that the **relevant aspect or aspects** regarding the needs of older persons and persons with disabilities have been addressed. Of course, this requirement only applies to standards or documents where such a statement is appropriate.
7. CEN technical bodies are **responsible** for addressing the needs of older persons and persons with disabilities in the standards or documents that they produce or revise. This is because they have the best competence to decide if and how their standards address these needs. They may call upon experts in the specific field of competence. A CEN technical body may make an optional document (for example in the form of a checklist or a matrix) that shows how and which needs have been addressed. This document does not form part of the standard. Not every standard is affected by CEN/CENELEC Guide 6.
8. When a CEN technical body develops a **new standard**, the needs of older persons and persons with disabilities can be addressed during the standardization process. For **standards that already exist**, a CEN technical body can address these needs during a review of the standard. CEN standards are reviewed at least every five years.
9. Where appropriate, a CEN technical body should include a statement in the **foreword** of a standard where accessibility aspects have been addressed. This statement could read: “During the development/revision of this document the Technical Committee / Task Force has referred to the recommendations made within CEN/CENELEC Guide 6 to address the specific needs of older persons and persons with disabilities.” (This may not seem useful in itself, but it makes readers of the standard aware of accessibility issues and the existence of CEN/CENELEC Guide 6.)
10. The Mechanism points out that CEN technical bodies should use CEN/CENELEC Guide 6 as the **primary reference document** for addressing the needs of older persons and persons with disabilities, but they can also use additional information sources and supportive material. One type of additional material is the sector guides mentioned below.

In early 2005, CEN sent CEN/CENELEC Guide 6 and the Mechanism on the use of the Guide to the secretaries and convenors of CEN technical committees and working groups. The cover letter accompanying these documents asked the committees to take the needs of older persons and persons with disabilities into account in their standardization work. It

[45] http://www.cen.eu/Boss/supporting/guidance+documents/gd+-+mechanism+on+the+use+of+guide+6/index.asp

also asked them to send any comments or feedback on the Guide to a contact person at ISO and a contact person at the CEN Management Centre.[46]

Adoption and Implementation of Guide 6

However, the adoption of CEN/CENELEC Guide 6 still faced difficulties. In 2006, only 3 out of the 275 active CEN Technical Committees reported that they used Guide 6 in their standardization work[47].

One of the **barriers to wider adoption** of CEN/CENELEC Guide 6 is the low representation of older persons and persons with disabilities in standardization work. There are several reasons for this, one of which is the lack of familiarity with standardization processes. The European project USEM (see below) is one of the initiatives that try to address this issue.

Another issue is the fact that Guide 6 provides only general guidance (because providing guidance for every type of product or services would make the document unmanageable). It therefore also states: "Consideration should be given to the development of additional guides for specific product or service sectors". Several **sector guides** have been developed, for example:

- CEN Workshop Agreement 14661: "Guidelines to Standardisers of **ICT products and services** in the CEN ICT domain" (February 2003),[48]
- CEN Workshop Agreement 45546-1: "Guidelines to standardisers of **Collective Transport Systems** - Needs of older people and persons with disabilities - Part 1: Basic Guidelines" (September 2004)[49],
- The **Build-for-All Reference Manual**, by the Build-for-All project (2006)[50],
- CEN Workshop Agreement 15778: 2008: "**Document Processing** for Accessibility"[51].

In 2008 ISO also published a supporting document with additional data and guidelines: **ISO/TR 22411**:2008: "Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities".

The relationships between these different types of documents can be visualised as a pyramid with three layers: the top layer contains CEN/CENELEC Guide 6 or ISO/IEC Guide

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[46] The cover letter is available at http://www.cen.eu/Boss/supporting/guidance+documents/gd+-+mechanism+on+the+use+of+guide+6/coverlettermechanism.pdf.

[47] Results of CEN 2006 Questionnaire on the use of Guide 6, CEN BT N7671. Quoted in ANEC's "Updated ANEC Policy Statement on Design for All", September 2007: http://www.anec.eu/attachments/ANEC-DFA-2007-G-043rev.pdf.

[48] Available at ftp://cenftp1.cenorm.be/PUBLIC/CWAs/e-Europe/DFA/cwa14661-00-2003-Feb.pdf. See also http://www.tiresias.org/research/guidelines/cenisss/index.htm (third draft).

[49] Produced by CEN/CENELEC Workshop 16 "Accessibility in Collective Transport Systems (ACTS)": http://www.cen.eu/CENORM/sectors/technicalcommitteesworkshops/workshops/cws16.asp. Only available through CEN members.

[50] Available at http://www.build-for-all.net/document.php?id=138.

[51] Available at http://www.cen.eu/cenorm/businessdomains/businessdomains/isss/activity/cwa15778accessiblesmall.pdf.

71 at the top, the middle layer consists of ISO/TR 22411 and the sector guides, and the middle layer consists of individual standards that use the preceding documents[52]:

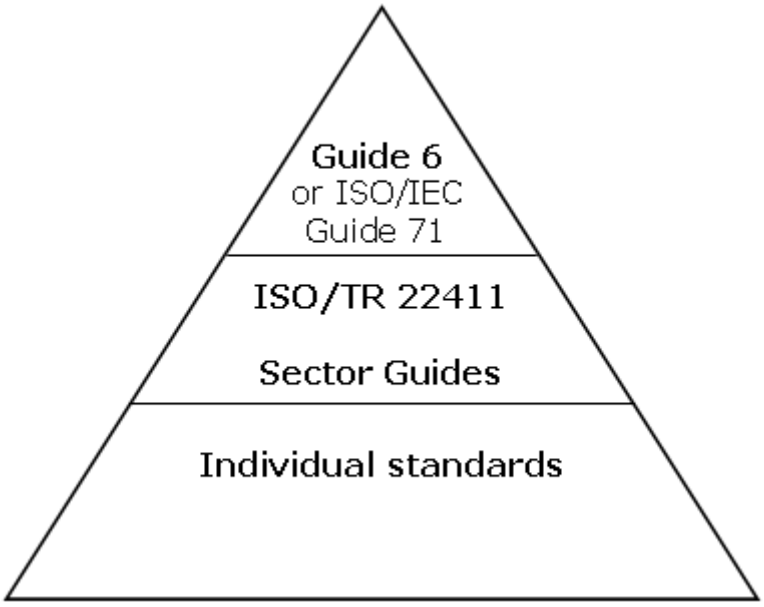


Image 3: Three tiers of standards for accessibility

Accessibility in other standardization organizations

This training deals with accessibility in European standardization organizations (in other words, only those recognised by the European Union). Other standardization organizations may have other guidelines and processes to promote the inclusion of the needs of elderly persons and persons with disabilities.

For example, the **World Wide Web Consortium** (W3C) creates specifications for web-based technologies such as HTML, XML and CSS. One of the "departments" in W3C is the Web Accessibility Initiative (WAI), which is well-known for its Web Content Accessibility Guidelines. WAI does not only create accessibility-related specifications, it also has a designated working group for reviewing accessibility aspects in specifications developed by working groups outside WAI[53].

[52] This figure is a combination of Figure 1 in ISO/TR 22411 (where the three tiers are ISO/IEC Guide 71, ISO/TR 22411, and the individual standards) and figure 3.4 in van Roosmalen & Ohnabe, 2007 (where the three tiers are "specific standards", "group standards (sector guides)" and "basic standard (Guide 71)").

[53] The Protocols and Formats Working Group (PF WG) tries to review every new W3C specification that bears directly on the user experience: http://www.w3.org/WAI/PF/.

Implementing Guide 6 in the standardization Process

The goals of this topic are:

Trainees have basic knowledge of the principles of Guide 6 and how it is set up.

Trainees know how to use Guide 6 in standardization (CEN, CENELEC, ETSI).

The topic consist of the following parts:

- First part: Discussion on the barriers to end-user representation in standardization
- Second part: Discussion on factors to consider in the design of accessible products and services.
- Third part: Review of the structure of Guide 6 and provides examples of factors to consider during the standardization process.
- Fourth part: How to use the tables in clause 7 of Guide 6. This part explains how the tables can be used, in order to prepare the trainees for the group assignment.
- Fifth part: A group assignment on the use of the tables in clause 7 of Guide 6.

This topic is should be threaten as interactive as possible. The trainees need to have Guide 6 in front of them during this Topic, both to follow the presentation as to carry out the assignment. This topic needs 60 minutes.

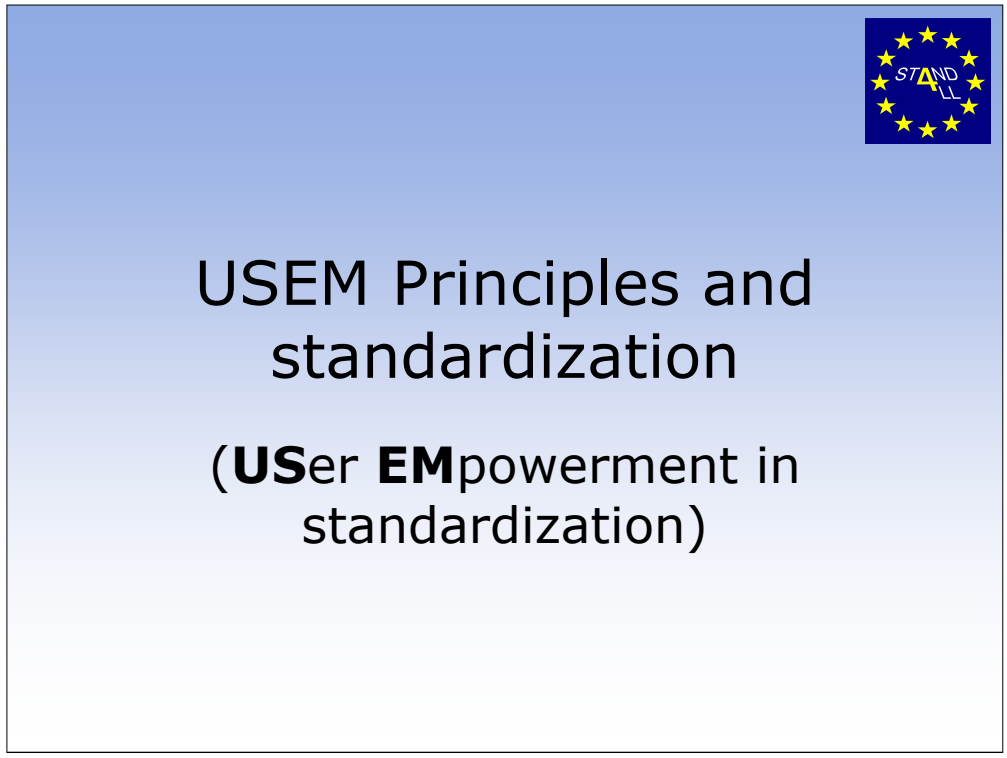
Objectives

- You know the barriers to user participation
  &
  how they can be addressed.

- You know how to use CEN/CENELEC Guide 6 in standardization.

2

Several issues stand in the way of standards that address the needs of older persons and persons with disabilities. These issues a lack of awareness of the principles of CEN/CENELEC Guide 6, and a lack of knowledge about how Guide 6 can be used in standardization. This topic addresses these issues and makes trainees more familiar with the use of the Guide.



In order to explain what the barriers for user participation are and how they can be addressed, the USEM concept is important. The USEM concept is therefore introuced and explained first.

The USEM concept was developed almost a decade ago to involve lay people in research and development activities. USEM stands for User Empowerment in standardization

The USEM project is one of the initiatives that aim to increase the participation of end-users in standardization. The USEM project formulated six principles that should govern the involvement of end-users in standardization activities.

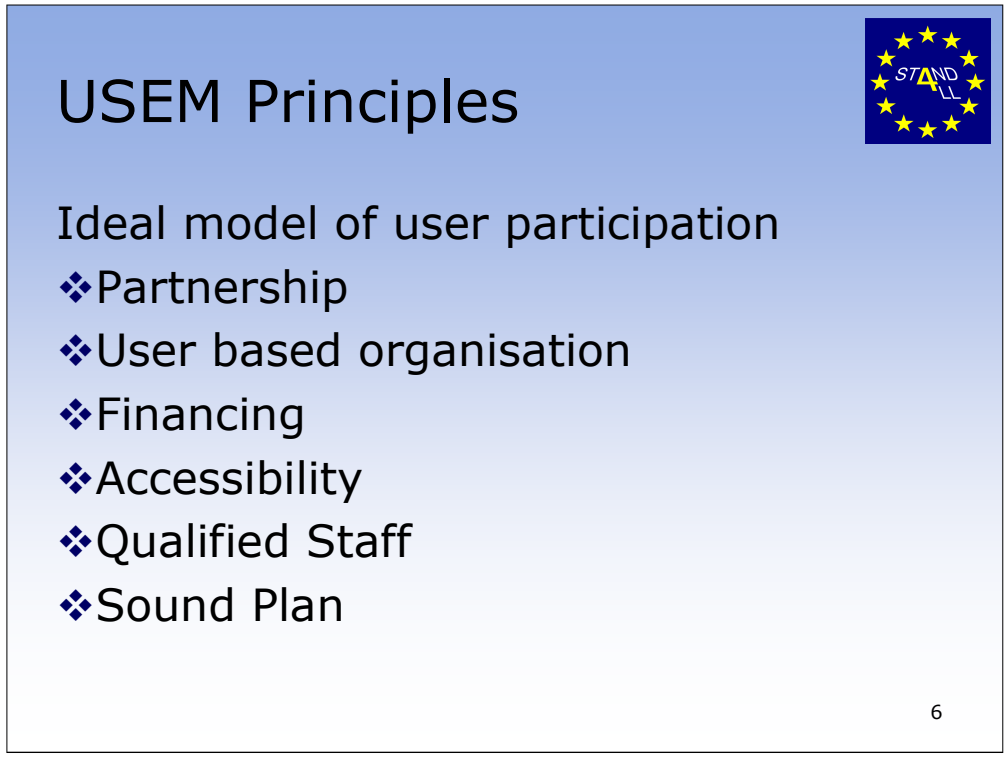
In standardization, issues of participation of lay older people and people with disabilities are not (highly) addressed. Even though representation of older persons and persons with disabilities in standardization work is still too low, it is possible to demonstrate that the USEM principles map to principles used by standardization organizations.

USEM Principles

- The USEM concept is part of the core curriculum for the training of end users. It is based on six principles which govern the involvement of end users in standardization activities

5

Even though representation of older persons and persons with disabilities in standardization work is still very low, it is possible to demonstrate that the USEM principles map to principles used by standardization organizations.



The different principles will be explained in more detail.

If you want to find more information on the USEM concept, have a look at www.usem-net.eu.

Principle 1-Partnership

- USEM: Partnership as a basis
- ESO: standardization is open for all stakeholders in a transparent process.

- **Attitude**, not just "procedures"!

7

The co-operation will be based upon the spirit of partnership and will have a positive approach. Partnership means the state of being of a person or organization that shares or takes part with others in a project or business with shared risks and profits. Partnership can be viewed as a key notion of the USEM concept.

Principle 1-Partnership

- Guide 2: beyond "openness":
  - "At national level there should be provision for consumer participation in the initiation and planning…"
  - "At national level consumer interests should be invited to participate…"
- => Refer to Guide 2 to put planning for user participation in context.(Consumer Interests and the preparation of European standards)

8

CEN/CENELEC Guide 2 indirectly supports the inclusion of older persons and persons with disabilities because it recommends that national members of CEN and CENELEC provide for consumer participation in the planning of standardization work and in policy matters relevant to consumer interest.

With regard to the European level, the guide states:

Where a CEN or CENELEC committee is developing a European Standard of interest to consumers, Member bodies should seek means to encourage the active participation of consumers in national delegations.

The guide also recognises that the technical nature of standardization work can be a barrier for end-user participation, and recommends the following:

Standards work is by nature technical and complex. Where possible and necessary, Member body staff should provide consumer representatives with briefing on technical issues and guidance on standards procedures.

Principle 2- User Based Organisation

- USEM: Users are members and/or representatives of user organizations.
- ESO: Like any other participant in standardization, user participants are expected to defend the positions of the constituency on whose behalf they participate.
- Users can fall back on their organisation (e.g. working group)

9

The corresponding principle in standardization states that like any other participant in standardization, user participants are also expected to defend the positions of the constituency on whose behalf they participate.

(See for example recommendation 3 in CEN/CENELEC Guide 2 “Consumer interests and the preparation of standards”: “Where a CEN or CENELEC committee is developing a European Standard of interest to consumers, Member bodies should seek means to encourage the active participation of consumers in national delegations.”)

Principle 3-Financing

- USEM: Financing contribution should not be a barrier for participation.
- ESO: Participation is not reimbursed.
- Guide 2: "Where the representation of consumers is hampered through the lack of finance, Member bodies should use their best efforts in finding solutions to overcome these difficulties."

10

All partners in the project receive appropriate payments for their contribution.

The contribution of users is not handled as a volunteering activity, but as a fully valuable contribution to the project.

In standardization, participants pay for participation. For consumers/end-users this is difficult to arrange. This must be taken into account.

Recommendation 6 of CEN/CENELEC Guide 6 states "Where the representation of consumers is hampered through the lack of finance, Member bodies should use their best efforts in finding solutions to overcome these difficulties."

Principle 4- Accessibility

- USEM: Accessibility of all relevant materials and premises is guaranteed.
- ESO: All participants have access to the relevant information.

11

All project materials, communications and premises should be made accessible to the users.

Alternative formats for print material, appropriate communication media, accessible meeting sites, rooms and hotel accommodation, personal assistance.

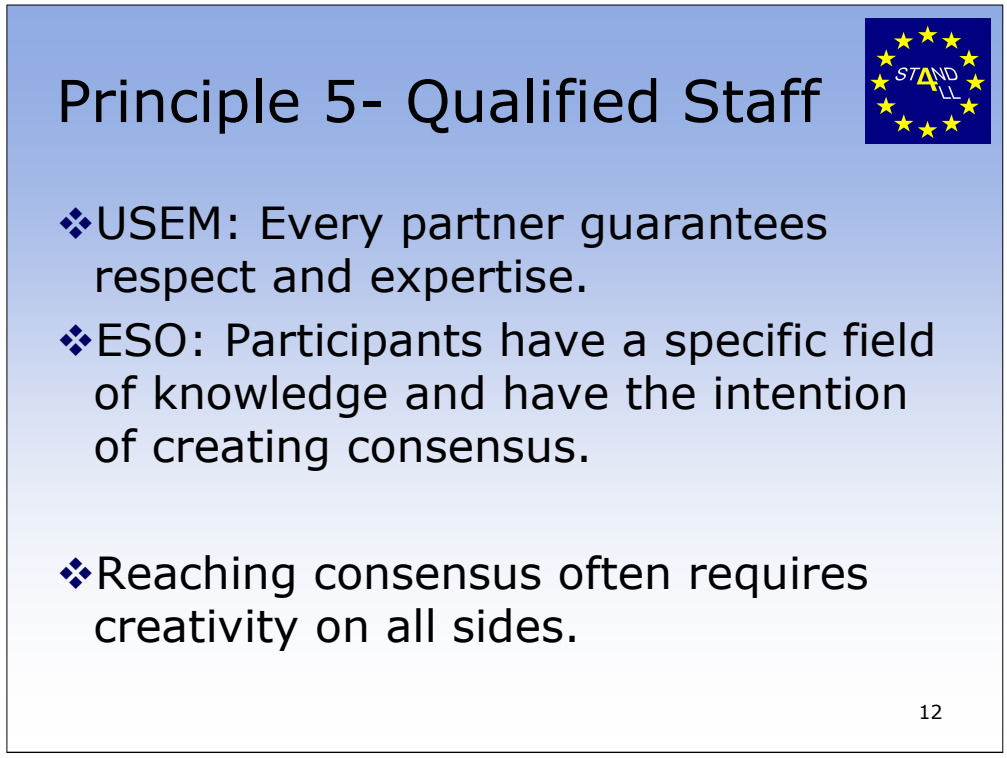
Issue beyond individual TCs:

- Templates, reference manuals and documents need accessibility review
- Platform for sharing documents: ditto
- Accessible premises:

  Retrofit or

  Requirement for new building

  - Accessible meetings:
    also requires education for ESO/NSB staff



Every partner has to provide qualified staff members to the project.

Staff members provide the right attitude, respect, expertise and skills for the project. They accept project rules and constraints like timing, budgets, confidentiality, etc.

Comment:

For successful participation it is important that everyone understands the processes of standards making, to acknowledge the expertise of other stakeholders and to interact in a respectful meaningful way. It was important for the user experts, that it is not expected that they become the “better engineers” but to contribute from their user experience. However, this is also an issue to understand for the technical experts. The must not claim to be the “better elderly or disabled user”.

Principle 6- Sound Plan

- USEM: Detailed plan for the project (including timing of drafts, meetings and opportunities for commenting/influencing the standards work and expectation of user participation).
- ESO: Any standard development process follows a timetable with possibilities to influence, which is known when the project starts.

13

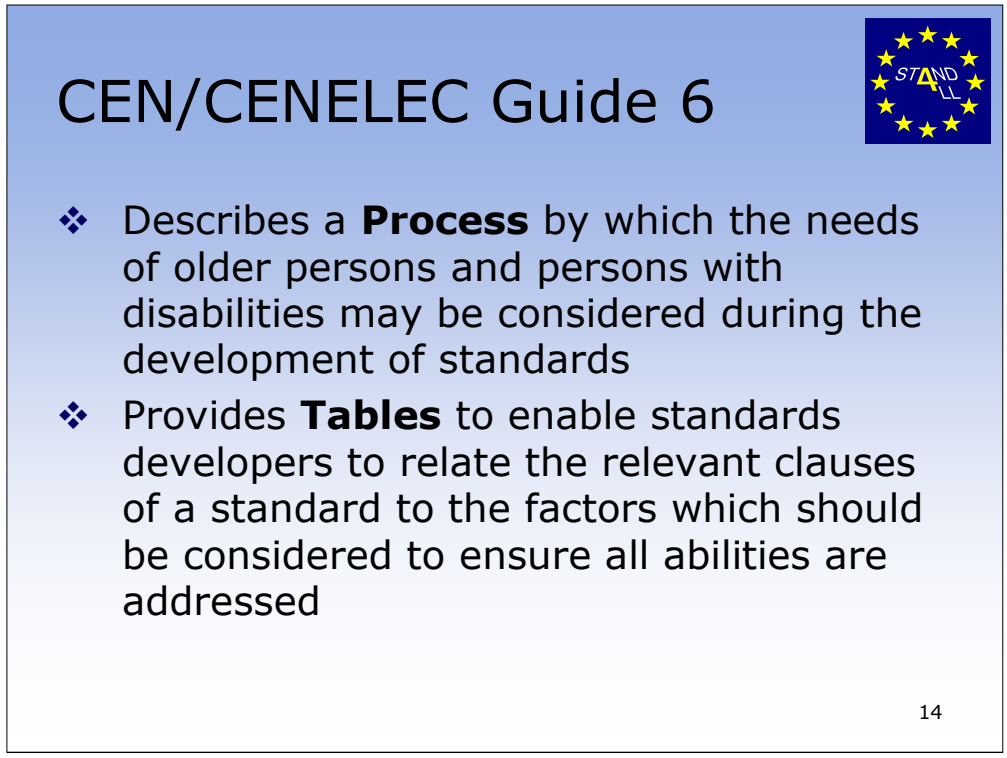
Detailed plan for the process and user involvement process.

The plan contains details regarding the availability of drafts, meetings and opportunities for commenting / influencing the standardization work and expectation of user participation. It contains also appropriate work packages and tasks of user participation. User participation is planned and described with the same detail as all other items of the project plan, including responsibilities, methods, timing, and budgets.

In practise it needs serious consideration to organise the process in a way that users can really participate.

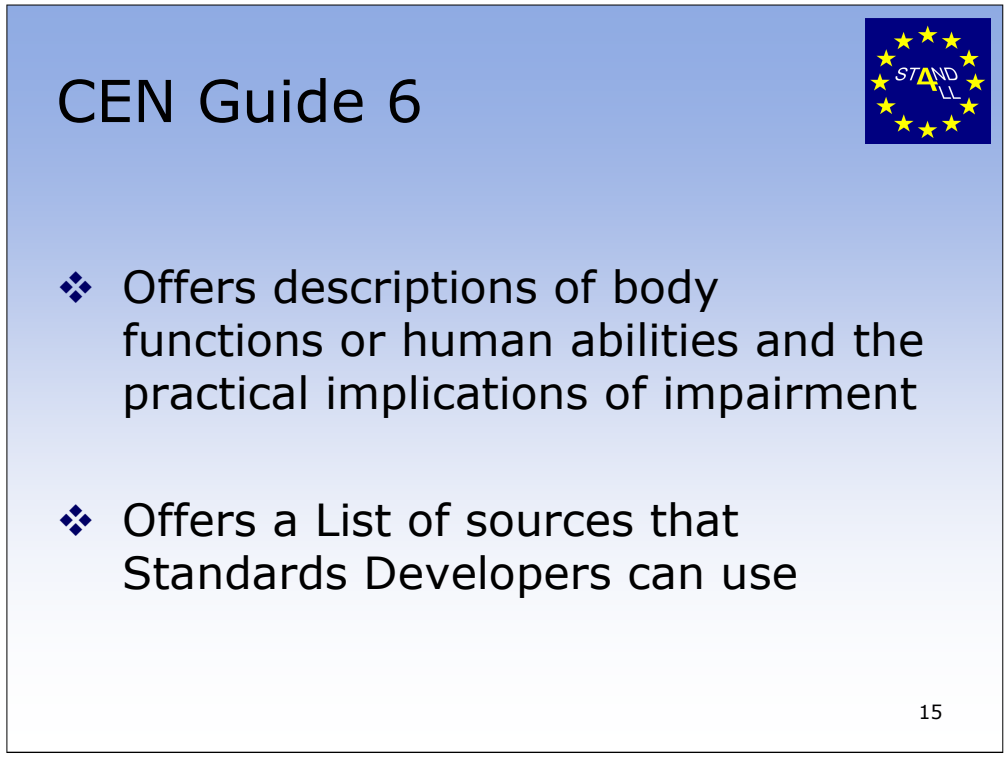
Business plan provides an overview of interested stakeholders and the actual work plan.

= Good opportunity to plan user involvement.



CEN/CENELEC Guide 6: Guidelines for standards developers to address the needs of older persons and persons with disabilities is a document for participants in standardization activities at CEN and CENELEC that contains guidance for the creation and the revision of standards to ensure greater accessibility of products and services.

The document is a "Guide", in other words, not a European Standard. The guide is identical to ISO/IEC Guide 71 was adopted by both the CEN Technical Board and the CENELEC Technical Board, and published in January 2002. The adoption of CEN/CENELEC Guide 6 resulted from a European mandate to the European standardization organisations, and the European Commission is funding projects to promote the use of the Guide.



CEN/CENELEC Guide 6 is a document for participants in CEN technical bodies: Technical Committees or TCs, Working Groups or WGs, Task Forces, Workshops etcetera. These technical bodies are responsible for addressing the needs of persons with disabilities and older people in the standards, specifications, reports or other documents that they produce.

CEN/CENELEC Guide 6 has three goals:

- to inform how human abilities (and disabilities) affect the usability of products, services and the built environment,
- to describe how requirements in standards relate to accessibility and usability of products and services,
- to raise awareness about the benefits of accessible design.

Structure of Guide 6

(…)

Clause 5. Using Guide 6

Clause 6. Developing standards – Issues to consider during the standards development process

Clause 7. Tables of factors to consider …

Clause 8. Factors to consider

Clause 9. Describes human abilities and the consequences of impairment

16

The Guide consists of a few introductory sections followed by 10 other chapters which are called "clauses".

The most important chapters are presented here:

•Clause 6 briefly describes a process that allows technical committees to consider the needs of older persons and persons with disabilities. It divides the standardization process into five steps; for each step, the Guide lists one or more issues that need to be addressed.

•Clause 7 and 8 provide tables that relate several types of clauses in a standard (for example, on packaging, the user interface and the built environment) to factors that need to be considered when addressing disabilities.

•Clause 9 provides descriptions of body functions or disabilities and their implications when using products and services.

The last chapter is a bibliography that provides a list of resources for more specific guidance.

Clause 6

Developing Standards – Issues to consider during the standards development

- Define standards project
- Ensure committee is well equipped
- Develop content of the Standard (CEN Guide 6)
- Review Process
- Publish Standard

17

Clause 7

Tables of factors to consider during the standards development process

- Each **Table** identifies **typical clauses** or **sections** of a **Standard**
- Within each Table, the **first column identifies**, through **key words** , the **factors** which should be considered
- The **key words** are number as they are **described** in **Clause 8** of the Guide

18

Clause 7 of Guide 6 contains tables of factors to consider to ensure that standards provide for accessible design, these factors are explained in some more detail in Clause 8.

Clauses 7 and 8 of Guide 6 define seven design fields that are relevant to accessible design.

Clause 7 and 8

Table1-Clauses on Information
Table 2-Clauses on packaging
Table 3-Clauses on materials
Table 4-Clauses on installation
Table 5-Clauses on the user interface
Table 6-Clauses on maintenance, storage and disposal
Table 7-Clauses relating to the built environment

19

The **seven design fields** in clauses 7 and 8 are:

information on how a product or service should be used;

•packaging, including labels, the materials used, the opening and the disposal of packaging;

•the materials used in a product;

•the installation of a product;

•the user interface;

•the maintenance, storage and disposal;

•the built environment (for example, wider doors and corridors for wheelchairs, and access for working dogs).

Transport and transportation services are not mentioned in clause 7.

Each of the tables in clause 7 lists sensory, physical and cognitive abilities, and allergies (as column headers), and factors to consider in the design of products and services (as row headers) on the other hand. Each of the row and column headers contains a reference to the relevant subclause in clause 9 (for the impairments and allergies) and in clause 8 (for the factors to consider). The tables in clause 7 are not reproduced in ISO/TR 22411.

Clause 8

Factors to consider, e.g.

- Alternative format
- Location and layout of information and controls and positioning of handles
- Lighting levels and glare
- Colour and contrast
- Size and style of font and symbols in information
- Clear language in written or spoken information
- Graphical symbols and illustrations
- Loudness and pitch of non-spoken communication
- Slow pace of information presentation
- Distinctive form of product, control or packaging

20

Clause 8 lists the factors to consider and so in this slide and the next slide, we provide an overview of this list.

After that, concrete examples for some of these factors are given.

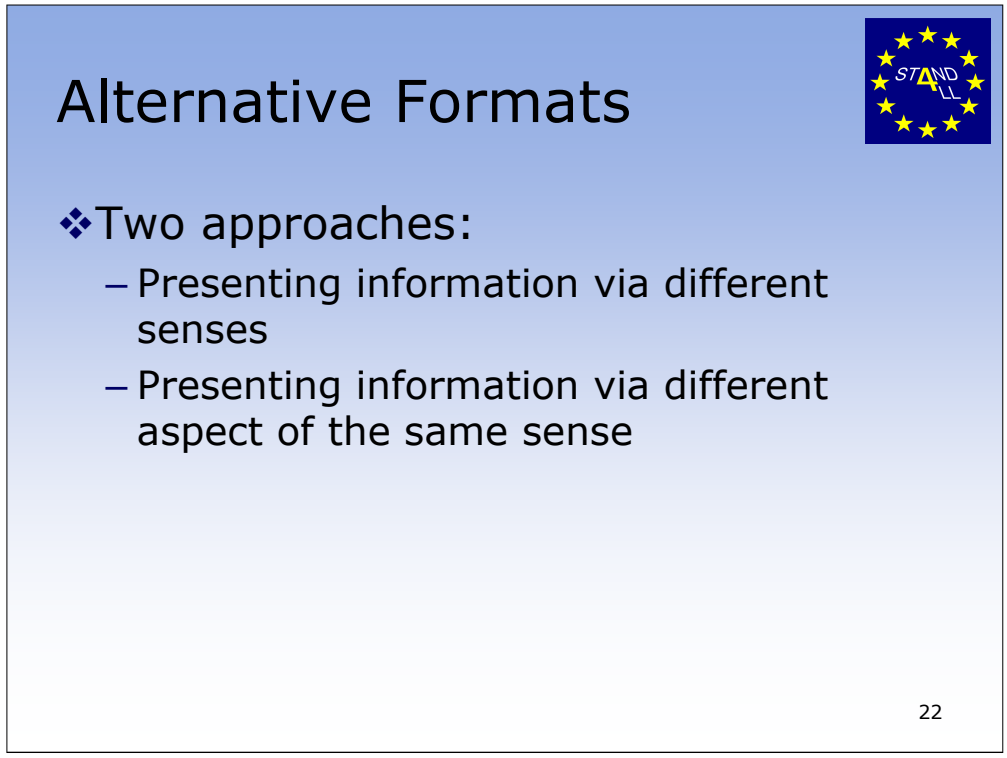
Clause 8

Factors to consider cont'd

- Ease of handling
- Expiration date marking
- Contents labelling and warning of allergens
- Surface temperature
- Accessible routes
- Logical process
- Surface finish
- Non allergenic/toxic materials
- Acoustics fail safe
- Ventilation
- Fire safety materials

21

The list continues.

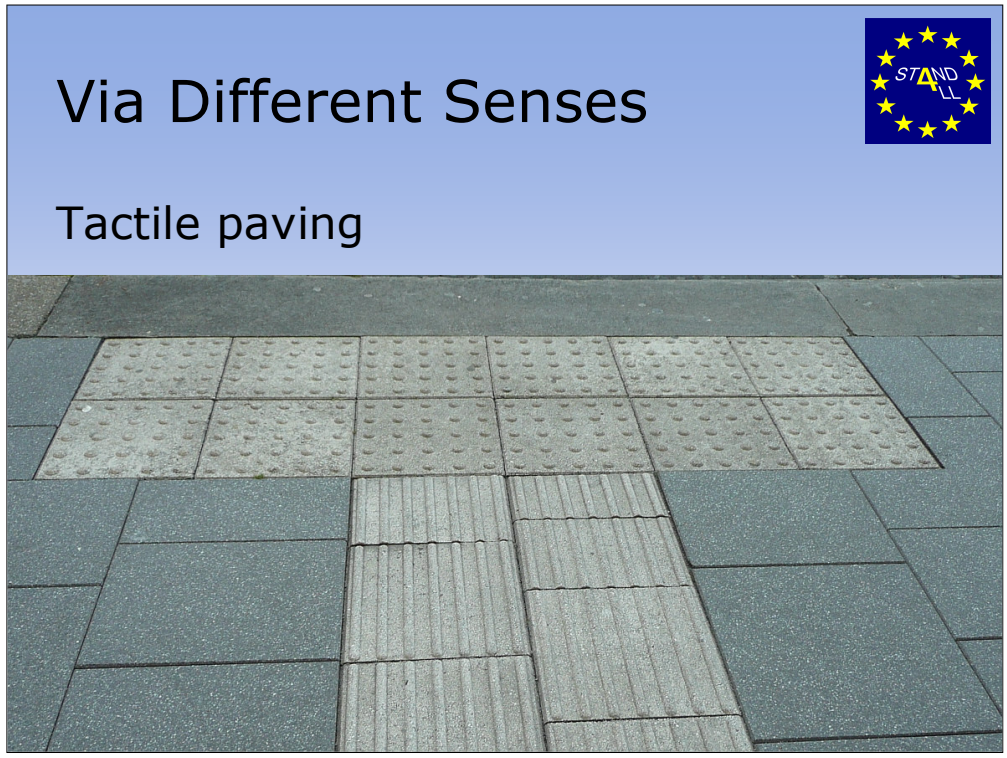


Alternative formats

An alternative format is a “different presentation which may make products and services accessible by the use of another mobility or sensory ability” (definition from Guide 6; “mobility” should probably be “modality”). There are two approaches:

Presenting information via different senses;

Presenting information via different aspect of the same sense.



Now, we will present some examples of “Alternatvive formats Via Different Senses

Example 1: Tactile paving

Tactile paving (also called *truncated domes*, *detectable warnings*, *Tactile Ground Surface Indicators*, *detectable warning surfaces*) is a system of textured ground surface indicators found on many footpaths, stairs and train station platforms to assist blind and vision impaired pedestrians.

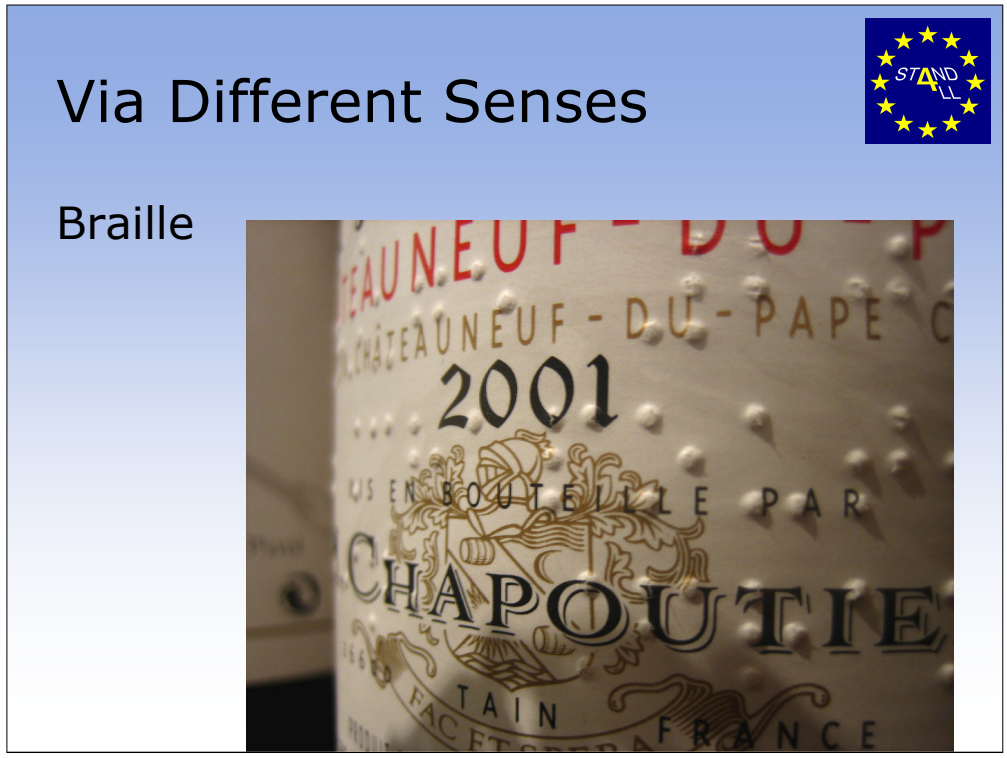
Tactile warnings provide a distinctive surface pattern of "truncated domes" or cones (which are small domes or cones that have had their tops cut off, or truncated) or "truncated bars" detectable by long cane or underfoot which are used to alert people with vision impairments of their approach to streets and hazardous drop-offs. People who are blind or visually impaired are alerted of impending danger from vehicle impact or a grade change. There is a disagreement in the design community and the community of users if the interior use of these bars represents a tripping hazard.

Example 2: Closed or open captions for video:

The term "closed" in closed captioning indicates that not all viewers see the captions—only those who choose to decode or activate them. This distinguishes from "open captions" (sometimes called "burned-in" or "hardcoded" captions), which are visible to all viewers

Most of the world does not distinguish captions from subtitles.

However, "subtitles" assume the viewer can hear but cannot understand the language or accent, or the speech is not entirely clear, so they only transcribe dialogue and some on-screen text. "Captions" aim to describe to the deaf and hard of hearing all significant audio content—spoken dialogue and non-speech information such as the identity of speakers and, occasionally, their manner of speaking—along with music or sound effects using words or symbols.



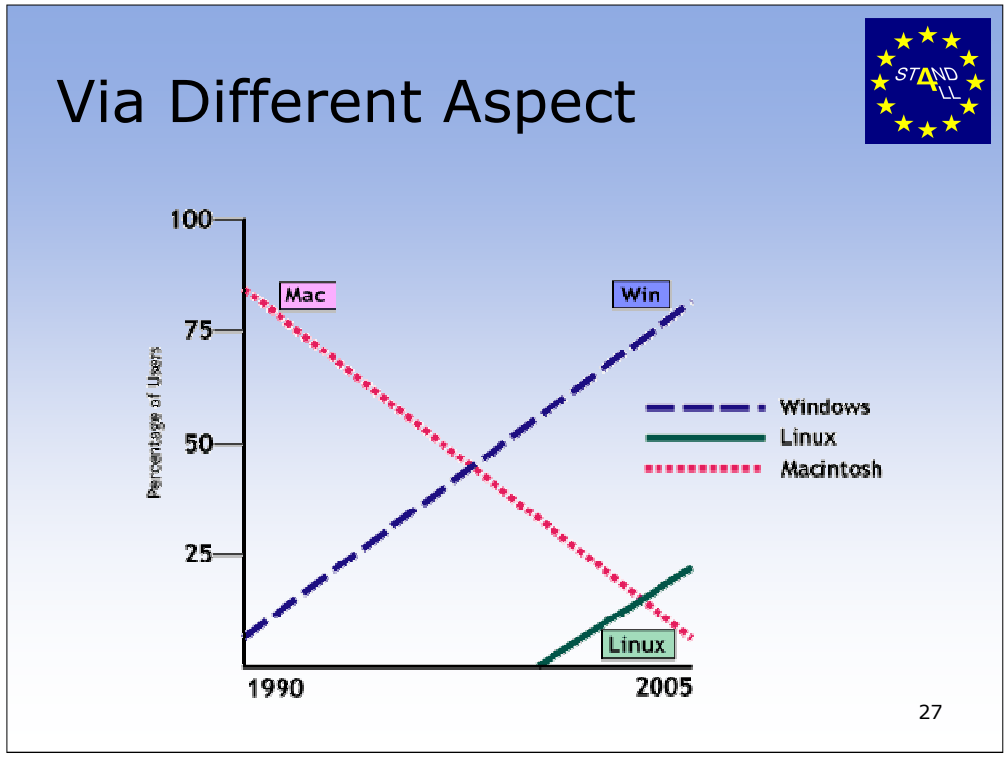
Example 3: Braille

The Braille system is a method that is widely used by blind people to read and write. It is named after Louis Braille, the French man who invented it. Today, the system is used by blind people to read and write. The Braille system uses an alphabet of letters, or characters. Each character is made of a series of dots that rise out of the paper in a special pattern. Blind people read braille by using their fingers to feel the characters.

Example 4: Headphone jack in ATM

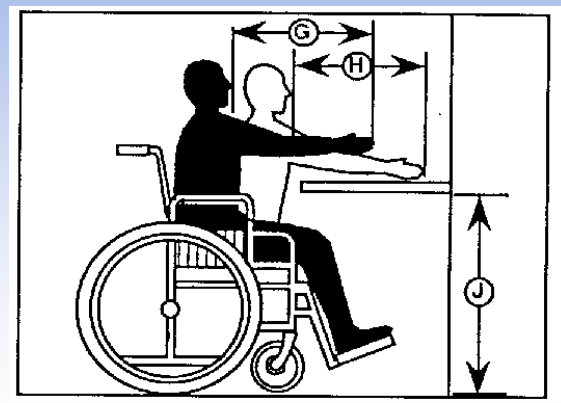
A Headphone jack in ATM is simply called a 'Talking ATM'

Talking ATMS are automatic teller machines that provide the ability to conduct transactions using both visual and auditory components. Essentially, a talking ATM will provide a means of persons with visual impairments to utilize the ATM by making use of audible instructions. While many ATMs today include an audio component that makes use of a speaker system, the talking ATM employs the feature of a headphone jack or telephone handset that allows the user to conduct the transaction with a degree of security



Presenting information via different aspects of the same sense means providing additional cues, for example providing two different visual implementations of the same content.

Location and Layout



28

Different persons have different needs with regard to the position of information and controls on a product or in a building, and the point at which information is available for a service. For example, the controls of an ATM or another machine need to be placed in a way that they can be operated easily by someone standing or seated in a wheelchair.

Lighting Levels and Glare

29

Glare is difficulty seeing in the presence of bright light such as direct or reflected sunlight or artificial light such as car headlamps at night.

Glare can be generally divided into two types, discomfort glare and disability glare. Discomfort glare results in an instinctive desire to look away from a bright light source or difficulty in seeing a task. Disability glare renders the task impossible to view, such as when driving westward at sunset. Disability glare is often caused by the inter-reflection of light within the eyeball, reducing the contrast between task and glare source to the point where the task cannot be distinguished. When glare is so intense that vision is completely impaired, it is sometimes called **dazzle**. Glare is a very common problem for older persons.

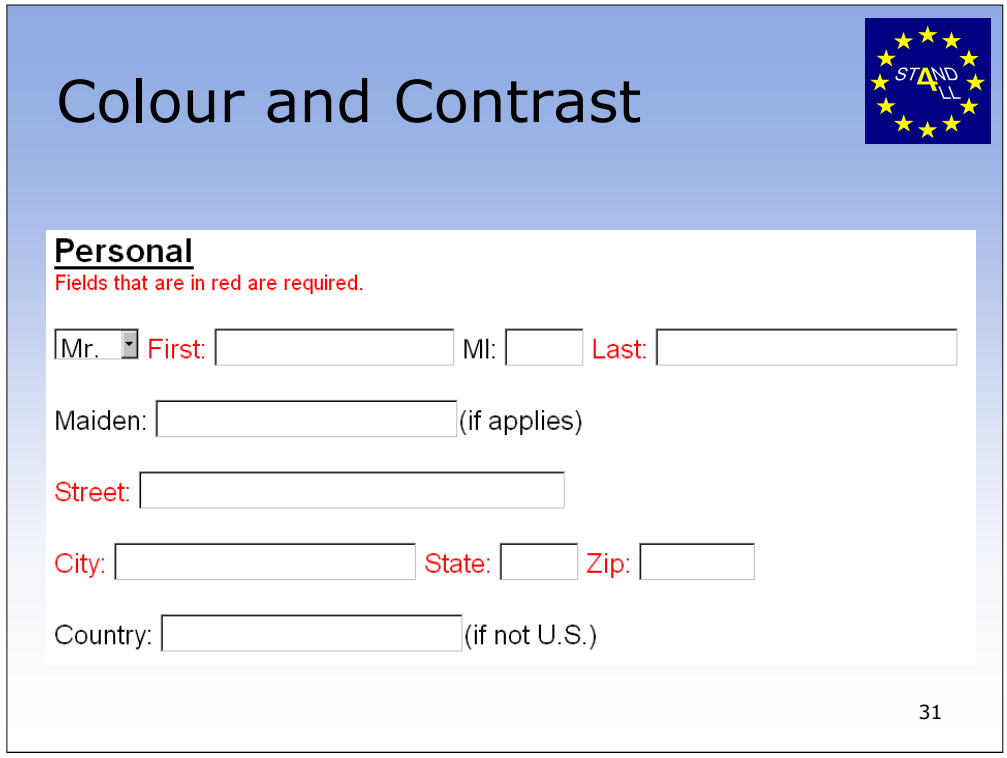
Colour and Contrast

The green apple has been poisoned!

30

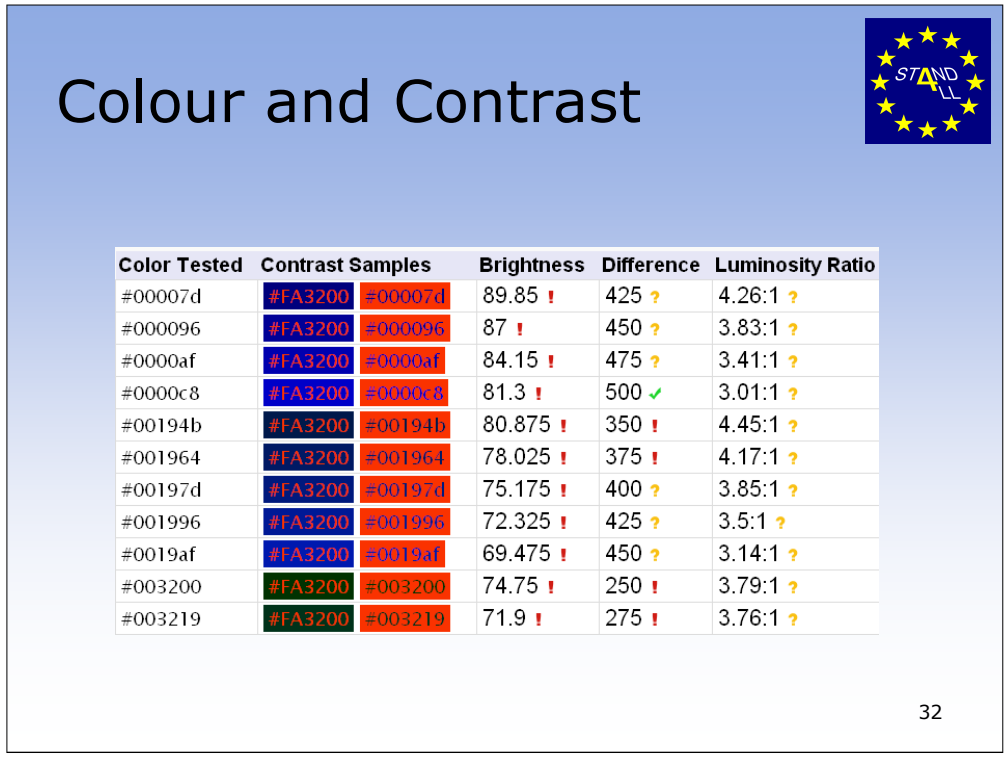
Colour is an important way of marking and distinguishing information.

However, some persons cannot perceive colour, for example because they are colour blind. There are several types of colour blindness, but the most common type of colour confusion is between red and green.



There is a perception that web and multimedia accessibility means black and white text, and that colour is something to be avoided.

There are many groups of people who may experience colour-related access barriers when trying to access multimedia content. People with a colour deficit (colour blindness) may be unable to distinguish between specific colour pairs, while people with no functional vision, and who are listening to content, will also be unable to detect information presented using colour alone.



Colour combinations with insufficient contrast may result in material that is difficult to read for many people. The same problems may be experienced by anyone accessing the resource using a device that has limited (or no) capability to display colours.

Also, certain text and background colour combinations can induce temporary conditions in people who otherwise have no significant visual impairment - for example, blue/red combinations can induce a temporary condition known as chromostereopsis. Even differences between colour displays of flat screen and cathode ray tube (CRT) monitors may cause confusion.

Style & size of fonts & symbols

Fonts for screen or print

Arial	Verdana	Trebuchet MS	Tahoma	Times New Roman
Il1i¦¡ OOQ aeso S568	Il1i!i¦ OOQ aeso S568	Il1i!¡¦ OOQ aeso S568	Il1i!i¦ OOQ aeso S568	Il1i!¡¦ OOQ aeso S568
Il1i!¡¦ OOQ aeso S568	Il1i!i¦ OOQ aeso S568	Il1i!¡¦ OOQ aeso S568	Il1i!i¦ OOQ aeso S568	Il1i!¡¦ OOQ aeso S568

33

Font style is a factor that affects the legibility of text and signs. Different classes of typefaces (fonts) have different innate levels of readability.

At ISO level, a document was developed that explains what font design characteristics can improve the readability for older persons and persons with low vision.

On top of that, it should be clear not to use more than 3 different typefaces throughout a single web page design/ document.

Graphical Symbols and Illustrations

E.g. ISO 7001

34

Graphical symbols and illustrations are useful ways for conveying meaning and identifying objects.

Graphic symbols are often functionalist and anonymous, as these pictographs illustrate. These are international standards for graphical symbols (more via ISO 7001).

Symbols that are not properly designed can be confusing.

We'll show that in next slides.

Graphical Symbols and Illustrations

Some symbols are not so obvious...

35

Examples of bad designed symbols.

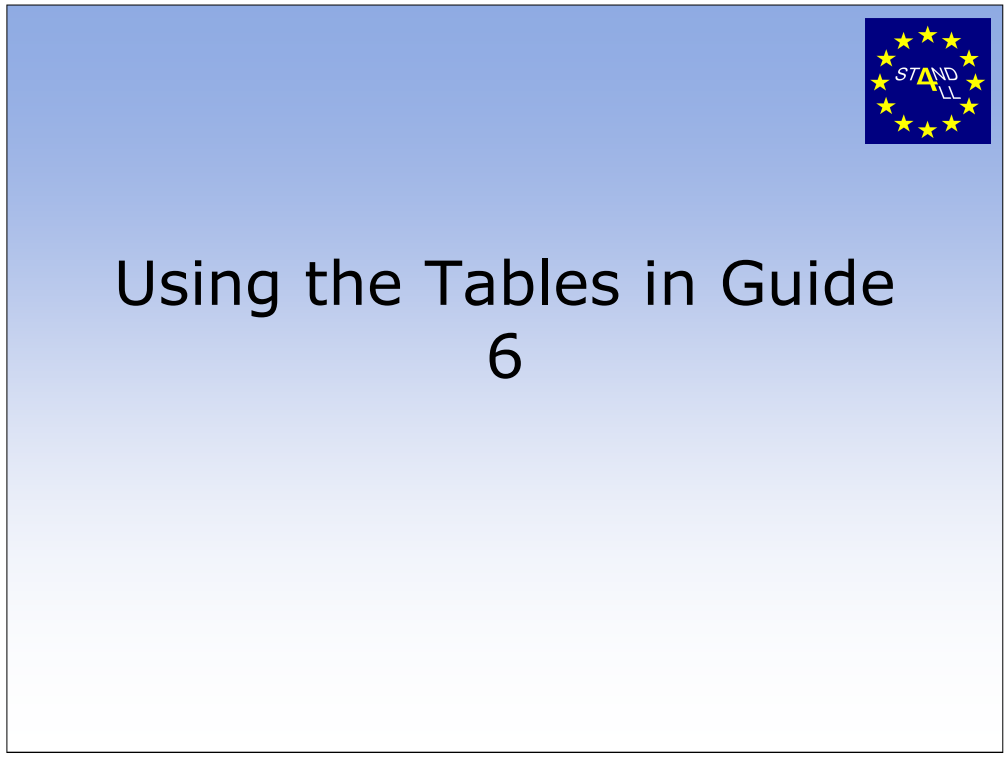
Ease of Handling

36

The size, shape and mass of a product will affect how easy it is to handle. Ease of handling includes aspects such as the required strength, the angle of rotation of a person's joints, the frequency of actions, and the precision required for certain movements.

Clause 9 provides descriptions of body functions or impairments and mentions their implications when using products or services.

Clause 9 also provides some description of the causes and consequences of impairment. It also includes a section on allergies which can impose limitations on an individual's activities and which are in some cases potentially life-threatening. It is desirable that all standards writers read all of clause 9, to increase awareness of the issues.



The topic should now be threaten as interactive session, as we are going to use the Tables in CEN CENELEC Guide 6.

Clause 7: Tables

1. Select the tables that are relevant to the product or service to be standardised
2. Identify the human abilities that are relevant to the product or service
3. Within each relevant table: identify factors that need to be considered (rows)
4. Translate the relevant factors into recommendations/requirements
5. Compare the recommendations/ requirements with the clauses in the standard or draft

39

Clause 7 of CEN/CENELEC Guide 6 provides 7 tables that are intended as a tool to identify factors that will affect the use of a product or service by people with different levels of ability.

We will now follow the steps presented in the slide:

- Decide upon the factors that need to be considered. (The numbers next to the keywords refer to subclauses in clause 8.
- Select the tables that are relevant to the product or service that is being standardised. In other words, consider what types of clauses will need to be included into the standard.
- Look at the human abilities for which the factors with shaded table cells are particularly relevant. (The numbers next to the abilities refer to subclauses in clause 9.)

Clause 7: Additional Detail

Subclauses in Clause 8 | Subclauses in Clause 9

Factors to consider in standards clauses on information (labelling, instructions and warnings)	9.2 Sensory					
	Seeing 9.2.1	Hearing 9.2.2	Touch 9.2.3	Taste/ smell 9.2.4	Balance 9.2.5	Dexterity 9.3.1
8.2 Alternative format						
8.3 Location/layout						
8.4 Lighting/glare						
8.5 Colour/contrast						
8.6 Size/style of font						
8.7 Clear language						
8.8 Symbols/drawings						

Example:

Factors that need to be considered: Information (this includes 'labelling', 'instructions', 'warnings').

The following subclauses are relevant from clause 8:

•Alternative format

•Location, layout

•Lighting, glare

•Colour, contrast

•Size, style, font

•Clear language

•Symbols, drawings

The following subclauses are relevant from clause 9:

•Seeing

•Hearing

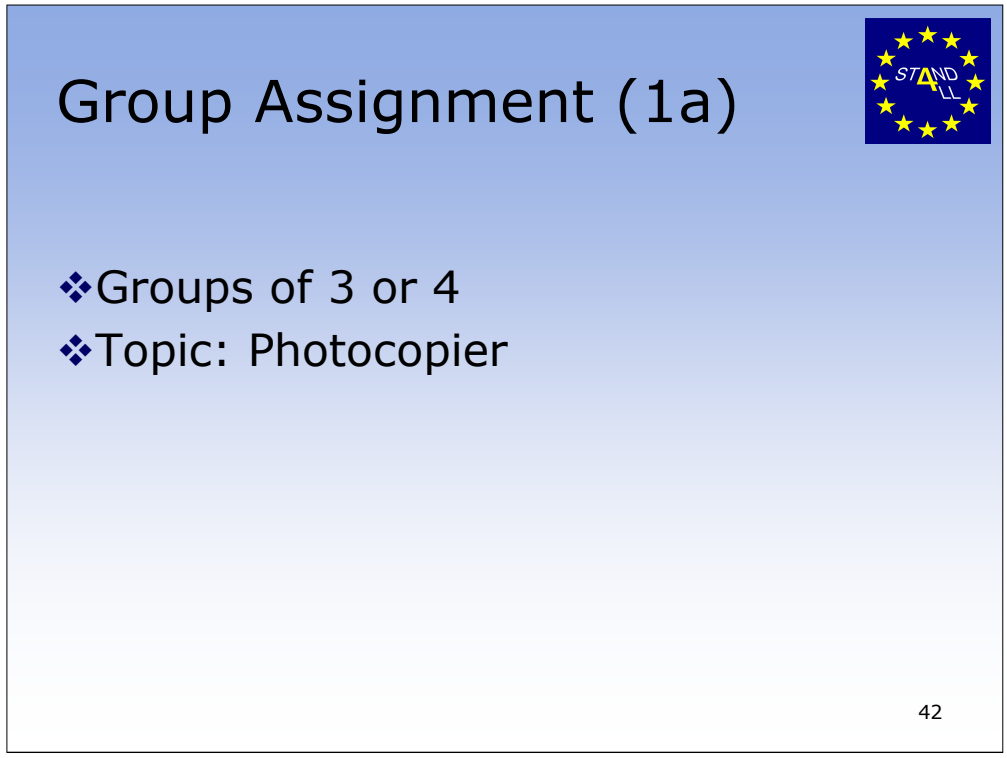
•Touch

•Taste, smell

•Balance

•Dexterity

In this part of the topic, we'll assess your capability to conduct an exercise via the Group Assignment.



We'll divide the group of trainees into smaller groups of 3 or 4 persons.

Having quick, easy and understandable access to a photo copier is very beneficial, therefore the exercise is to:

Develop a standard for a photocopier.

Group Assignment (1a)

Keys steps of installing and using a photocopier

- Unpack
- Instructions (Customer Services)
- Install (physical location)
- Install (electrical)
- Install (software)
- Insert Toner/Paper
- Operation
- Maintenance
- Disposal

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Modern photo copiers, although made by many different manufacturers, have the same basic install and using functions.

The machine takes an original, makes a copy and prints the copy onto the printing medium – usually paper.

Different steps should be followed in order to successfully install and use a photocopier.

Group Assignment (1a)

- Use Guide 6 to specify accessibility requirements:
  - Define Scope of the Standard
  - For the purpose of this exercise the scope is the "Operation of the Photocopier"
  - Exclude everything else
  - Select relevant tables in Clause 7 based on the Scope of the Standard

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Define Scope of the Standard: For example: "This standard is applicable to plain paper copying machines equipped with automatic document feeder or handling capability".

Bear in mind that the standard should specify the terminology, requirements, basic performance criteria and test methods

Group Assignment (1a)

- Use Guide 6 to specify accessibility requirements:
  - Select relevant tables in Clause 7 based on the Scope of the Standard
  - Tables 1,2,3,4,5

45

A photocopier is a physical object with a user interface, so the following tables are relevant:

Table 1: clauses on information.

Table 2: clauses on packaging (for persons who package the machine in a factory and for persons who unpack it before installation).

Table 3: clauses on materials.

Table 4: clauses on installation (for persons who install a photocopier).

Table 5: clauses on the user interface.

Table 6: clauses on maintenance, storage and disposal (for staff in charge of these tasks).

Group Assignment (1b)

- Stay in the same groups
- Use Table 5 – User Interface
- Task: Photocopy 10 sheets of paper
- What are the key steps in carrying out this task
- Review Table 5 and identify the keys factors that impact on usability of this task

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For the sake of brevity, we will focus on factors related to the user interface (table 5) for persons with physical impairments. This means that we need to consider the needs of

persons who have difficulties using their hands or arms (dexterity),

persons who have difficulties moving and manipulating objects (for example reaching and pushing),

persons who have difficulties maintaining or changing the position of the body,

persons with limited strength and/or endurance.

Group Assignment (1b)

Input: Review Table 5 and identify the **keys factors** that impact on usability of this task (8.2 – 8.21)

Output: Group Assignment Summary

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In this step, we look at the columns in table 5 that we selected in the previous step and identify factors (i.e. rows) that need to be considered. For each of the selected abilities, we check which factors are relevant. CEN Guide 6 uses grey shading to identify factors that are especially significant but points out that the other factors can also be relevant and need to be considered.

The grey table cells in Table 5 lead us to consider the following factors for persons with physical disabilities:

alternative format,

location/layout,

ease of handling,

surface finish,

fail-safe.

Each of these factors needs to be considered from the point of view of the groups of users listed at the end of step 2.

Output:

The groups have used Guide 6 to see how requirements of older persons and persons with disabilities can be included in the development of a standard for a photocopier. In this last section, the groups will report what their recommendations are.

This leads to recommendations such as those in the following non-exhaustive list:

•Users, including wheelchair users, can reach each part of the machine that needs to be accessed when using or maintaining the machine. (This is a partly a matter of the placement of the machine, partly a matter of the location of controls, trays, etcetera. A real recommendation would include sizes of wheelchairs or refer to relevant standards.)

•Controls and operating mechanisms are operable with one hand and without force for gripping or twisting. The force needed to activate the controls is not too great

•Seats are available for persons with mobility impairments.

Additional Information and Guidance

Related Standards / Guides

- ISO/TR 22411:2008
  - "Ergonomics data and guidelines for the application of ISO/IEC Guide 71 ..."
- Sector guides:
  - CWA 14661: "Guidelines to Standardisers of ICT products and services in the CEN ICT domain"
  - CWA 15778:2008: "Document Processing for Accessibility"

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ISO/TR 22411:2008

"Ergonomics data and guidelines for the application of ISO/IEC Guide 71 ..."

This document presents ergonomics data and guidelines for applying ISO/IEC Guide 71 in addressing the needs of older persons and persons with disabilities in standards development. It provides ergonomics data and knowledge about human abilities — sensory, physical and cognitive — and allergies, as well as guidance on the accessible design of products, services and environments.

CEN document on 'Design for All and Assistive Technologies in ICT' is CWA 14661: 2003. It contains guidelines to standardisers of ICT products and services

in the CEN ICT domain (aimed to be a kind of ICT-sector guide, complementing CEN/CENELEC Guide 6)

CWA 15778 provides a first elaboration on how the accessibility of publishing content can be enhanced by altering existing publishing workflows and introducing accessibility considerations where appropriate. For reaching this goal, in each step where accessibility is introduced, relevant formats and conversions are detailed out, as well new workflow items described.

Related Standards / Guides

- Sector guides:
  - CWA 45546-1: "Guidelines to standardisers of Collective Transport Systems - Needs of older people and persons with disabilities - Part 1: Basic Guidelines"
  - The Build-for-All Reference Manual (2006)

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CWA 45546-1 provides guidance to writers of relevant standards relating to collective transport on how to take account of the needs of all passengers with reduced mobility, especially older persons and persons with disabilities. This document pursues the furtherance of globally accessible collective transport, e.g. transport that can be used by everyone. Specifically, this document aims to:

-Provide information and raise awareness on how passenger transport systems should be designed and the circumstances that should be taken into account so each of their elements is fully accessible.

-- Draw attention to the importance of taking account of the needs of people with disabilities when developing standards.

-- Raise awareness of the social importance of accessible collective transport (transport services for all).

-- To demonstrate that the benefits of accessible transport improve the quality of service (comfort, safety, convenience, etc.) for all users.

The Build-for-All project launched the "Build for All Reference Manual" which aims to advise the public sector how to ensure that all its buildings will be accessible and usable by all EU citizens. The Manual is supported by the European Commission. It consists of a Handbook and a Toolkit. More information via: http://www.build-for-all.net/en

Photo & Image Credits

- YouTube Captions demo: www.youtube.com/watch?v=QRS8MkLhQmM
- Chateu Neuf du Pape 2007 à la Braille: www.flickr.com/photos/adactio/89778576/
- Chart Mac – Win – Linux: webstandards.psu.edu/book/export/html/23
- "The green apple has been poisoned": www.naturewallpapers4u.com/2008/11/apple-desktop-wallpaper-wide-screen.html adapted with Vischeck.

Photo & Image Credits

- Wheelchair: http://msucares.com/pubs/publications/p1825.htm
- Avoiding screen glare: http://forum.santabanta.com/showthread.htm?t=132048
- ISO 7001: Public Information Symbols: see www.tiresias.org/research/guidelines/pictograms.htm
- Symbols: preferred contrast (Fennell 2006): www.tiresias.org/research/reports/colour_contrast_preference.html
- "Don't slip on giant keys": www.flickr.com/photos/my__spot/3901834337/
- "Gruesome" by Drew McLellan (Creative Commons): www.flickr.com/photos/drewm/280526485/
- Ease of handling: http://www.esn-network.com/281.html

Group Assignment

Implementing Guide 6 in the Standardization Process

Divide yourselves into groups of 3 or 4. If possible, make sure that more than one disability is represented in each group. Your task consists in using Guide 6 to specify accessibility requirements for photo copiers.

1.a. Start by selecting the tables in **clause 7** that are relevant to a photo copier.

The next questions are focussed on table 5 of Guide 6: 'factors to consider in clauses on the user interface'.

1.b. Shortly discuss the **impairments and allergies** that are relevant to photo copiers. (You may do this by putting each impairment or allergy into one of three categories: "relevant", "maybe relevant" and "not relevant".)

Then, study table 5 and check what **factors** you will need to consider in the standard. (Refer to the lists of end-users and relevant factors.)

If you need additional information on the factors to consider, go to the relevant sections in **clause 8**. Determine whether each of these factors can be addressed by providing an alternative, by a different design, by means of assistive technology or something else. While doing this, take note of anything that might be missing in Guide 6.

At the end of the exercise, one person will **report** to the complete group about the following aspects:

1. The list of relevant impairments and allergies.
2. The factors that you selected.

And maybe additionally:

3. Requirements based on the relevant impairments and factors. Make sure that – at a minimum – both sensory and physical impairments are considered.
4. Any aspects that CEN/CENELEC Guide 6 does not cover.

STAND4ALL

Topic Summary day 1 and Exercises (exemplary skills)

Summary and exercises

The goals of this topic are:

- Getting acquainted with the practical work to be done in standardization
- Knowing what skills you need and the activities you can perform to participate
- Exercising activities and skills used in standardization.

This session is meant to link between the information given on the first day to using that information in practice. How can this information be used? How can you be part of standardization and make sure that consumer interests are being included? The activities to do this and the skills needed, will be discussed.

The information on how consumer/end-user can participate in standardization and the information on guide 6 will be put together.

- How to participate in standardization? What role can be taken?
- How to bring arguments forward in standardizations?
- How to bring forward consumer issues in general?
- How to participate effectively in discussions?

It is not meant to give the correct answers to the above mentioned questions, but more to think about it and to have a discussion on it. What can be different techniques, what can be the pro's and con's? The trainers role is to guide the process and to link theory with practice and visa versa.

This topic will consist of the following parts:

- Summary of the first day will be given and discussed shortly.
- A short presentation on skills needed in standardization is given
- We will do some exercises together with which we will exercise the skills needed

For the first part of the topic a presentation is prepared with in short information on the topics of the day before. There are also questions added, one for each topic, to ask the trainees. The questions make the trainees think on what they heard the day before (There are no right or wrong answers to the questions). In the notes fields there are some supporting questions given and possible topics of the answers to be prepared of.

For the second part of the topic a short presentation is prepared. After this short presentation there will be some exercises. There are four exercises prepared. Depending on the speed of the group, three or all four can be done.

1 “presenting yourself” approximately 20 minutes total
Explain the exercise (slide in the presentation)
Work individual
4 minutes of preparation
Then two trainees will present.
Small discussion afterwards

2 “developing a strategy” approximately 25 minutes total
Explain the exercise (slide in the presentation)
Work in groups of 4/5
10 minutes of preparation
Then the two groups will present their results
Comparison and discussion afterwards

3 “formulate questions to the ‘back-office’” approximately 20 minutes in total
Explain the exercise (slide in presentation)
Work in couples
5 minutes of preparation
Then the couples will present their results
Small discussion

4 “formulate arguments that are been heard” approximately 25 minutes in total
Explain the exercise (slide in presentation)
Work in groups of 4/5
10 minutes of preparation
Then the two groups will present their results
Comparison and discussion afterwards

For the discussion it can be very helpful to use a flipover to gather all the answers on an exercise, read them for the group and discuss on these issues.

This topic prepares the trainees directly for the role play (the next topic). The time needed for this topic is: 2,5 hour.

Annexes:

- Presentation
- Exercises
- Experience of a user

Résumé day 1

Hi, at the beginning of this second day we will start with a short summary of yesterday. What have you heard and learnt?

Objectives STAND4ALL

- An EU funded project, wherein both consumers (or end users) and representatives in standardization are trained to take into account the needs of older people and people with disabilities in standardization.

2

Background STAND4ALL

In theory, European standardization institutions: all stakeholders involved in the process

In Practice, European standardization institutions: NOT all stakeholders involved in the process

3

Program day 1

- Welcome and Introduction
- Background and Motivation
- Information on standardization
- User Aspects in standardization
- User participation in standardization

4

Yesterday we had several topics on the program. These are: …

I will discuss every topic shortly.

Background and Motivation

Topic 1

Goal of this topic

- To understand what the drivers are for involving disabled and older people in standards development and how this is reflected in solutions

Summary

- Social & political driven
- UN declaration
- EU implementation => Public procurement emphasis => mandate 376
- Implementing Guide 6

7

In the first topic you have been told that there are social and political drives for inclusion; paying more attention to the end-user. The UN declaration with its eight guiding principles is an important legal statement for countries to follow.

Another development in which you can see the growing focus on accessibility and inclusion issues is the emphasis that is layed on public procurement. In Mandate 376 it can be seen that governments are being forced to buy products and services which are suited for all consumers, also people with disabilities. To have more user focus in standardization, Guide 6 is developed. This Guide 'Guidelines for standards developers to address the needs of older persons and persons with disabilities' is not used that much yet, but is a good product to use to make sure that all consumers and people with disabilities are being involved.

QUESTION

- Did you get the extra drive for being involved??

8

This question is asked to the trainees. A few trainees will be asked to answer the question.

Extra questions: did you hear new reasons yesterday that underline the work to be done?

What is for you the main reason to get to more inclusion?

If there was a discussion in topic 1 on day 1, it is important to go back to that discussion if that is possible and relevant here.

Information on standardization

Topic 2

The second topic of yesterday was about standardization. The basics of standardization is explained.

Session objectives

- To present an overview of the importance and benefits of standardization
- To provide an understanding of the key stakeholders involved in standardization

10

This Topic provided a general background to the world of standards, why they are important, who uses them, how they are developed. And you have heard that a lot is standardised and that the influence of european standardization is becoming bigger.

Summary

- What is…
  - Type of Standards
  - Level of Standards
  - Need and benefits of Standards
  - How are Standards developed
  - Bodies/institutions/committees and working groups
- Why End-user involvement

11

You have heard about the different types of standardization, there are stadnards for services and products for example. Standards that make requirements or standards that are guidance.

You have heard about the level of standardization; there are standards on national level, european level and international level.

You have heard about the need and benefits of standards; for example for safety and preventing trade barriers. And in the end it is also benificial to consumers who can use different kinds of products in combination if needed and as easy as possible.

QUESTION

- Do you find it complex, do you have better idea's for achieving results (standards)?

12

This is a question to the trainees. The standardization process is quite difficult to understand in the beginning. Do they think that as well? Do you think you can play a role in standardization? What is the hardest thing?

Possible topics can be:

-The acronyms/numbers/titles/different organizations

-The different levels

-The proces of coming to a standard with different parties involved, with different goals and powers

User Aspects / Priorities in standardization

Topic 3

Goal of this topic

- To understand the needs and benefits for consumer/end-user participation and the conditions and struggles to do so.

Summary

- Awareness of standards: what they do
- How end-users interact with stakeholders
- Barriers
  What needed to overcome:
- USEM - principles

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In the topic the awareness for standards is raised and what the specific importance is for consumers to be involved in the development process of standards. How can users be involved? What are the possibilities? And what are difficulties? Money can be the biggest barrier for getting involved, user organizations are not likely to have a lot of money to go to meetings. Expertise can alse be a big barrier. When people are not experienced in working in international environments and european standardization, it can be quite difficult to get involved.

QUESTION

- Do you understand now what the precise difference is in having end-users enrolled in standards work in stead of just a not handicapped representative??

16

This question is asked to the trainees. In the topic one of the principles says that the user participation should be done by people who are representatives of user organizations. Do you agree that that is important? What is the advantage of being a representative of an organisation?

Experienced users can give the target group a face; that is important.

But it is also important to have enough backing from an organization to be taken seriously. The overview is important.

Implementing Guide 6 in the standardization Process

Topic 4

Objectives

- You know the barriers to user participation
  &
  how they can be addressed.

- You know how to use CEN/CENELEC Guide 6 in standardization.

18

Summary

- Guide 6
- Analyzing where problems can arise
- Finding solutions
- DfA examples showing the problems and the solutions
- Technical use of Guide 6

19

In this topic we had a good look at Guide 6 and how Guide 6 can be used in developing standards. It has tables which help to select the important topics for a specific subject. It is a document that helps focussing. It also give some ideas for solutions. Design for All can be very helpfull in this regard.

QUESTION

- Do you feel that you can participate (being an end-user) in a TC developing an elevator standard?
  - Yes?
  - Not (yet not?) and why not?

20

This is the question to ask to the trainees. Do they have the idea that Guide 6 can help when a new standard is being produced or a standard is being revised? What is the usefullness of Guide 6 to you? Do you need more to participate in standardization?

Topics that might come up:

-Guide 6 is quite difficult to understand; It takes time to know how it is set up and you need to get experience to work with it. It does not give all the answers, it is really a Guide to help the professional.

-Guide 6 is not easy to read for people with sight disabilities; This is absolutely true. There is now a more accessible version of Guide 6, but still not very usefull.

Conclusion

- Day 1 has been more or less the THEORY
  (do you think you passed?)

- Day 2 will be PRACTISING:
  - Exercises
  - Role plays
  - Further implementation

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Exercises

Practicing and creating skills

Goal of this topic

Getting acquainted with the practical work to be done in standardization committees and how you can use your skills to improve user perspective in standardization.

2

This topic is practical and is about how to act in standardization. We have heard yesterday how procedures are, how standards are being developed, but how does the actual discussing take place? What are important factors to keep in mind when developing a standard? It is about the skills you use in standardization.

Program exercising

09.30	Why exercising and why the four selected
09.45	1 "presenting yourself" 2 "developing a strategy"
10.30	short break
10.45	3 "formulate questions to the 'back-office'. " 4 "formulate arguments that are been heard"
11.30	End exercises and Start of the role play

3

Information for trainers: The exercises are logically allocated following the proces of developing a standard. First you have an opening meeting where you introduce yourself. Second you decide on how you will act during the whole developing process, what the strategy will be. Before giving your opinion on parts of the standards, you will need information from others. How will you gather this information? And than you will actually discuss with the other parties on parts of the standard, trying to find consensus. How do you bring your statement forward?

Skills

- Most important is: being motivated to improve user perspective
- This can be done in several ways

4

Not only working in the actual standardization is our goal, if people spread the word, this will eventually happen.

Skills - *formulated by users themselves* (1)

- To be able to articulate the user perspective
- To be able to speak, read and write English easily
- To be able to internalise the jargon of the particular industry
- To be able to negotiate and to mediate

5

There are some skills you need when working in standardization. Not everyone has a thorough comment of all skills, and that is not necessary, but it gives an idea.

Skills - *formulated by users themselves* (2)

- To be able to maintain in negotiations own viewpoints
- To be acquainted with the variety of disability requirements concerning the product or service one is active in
- To respect the common structure of procedures/ resolutions

6

Experiences of Tom Young

- In 1997 Tom joined the FORTUNE Training -> aim to participate in R&D projects
- Tom has participated in two NEN 'mirror committees' - > national level
- It appears that also other participants need some background information

7

See article *Experiences of an user*

NEN Mirror Committee on Medical beds (folllowing the work of CEN/TC 293 and ISO/TC 173, developing international standards on the safety of medical beds) and in NEN-Committee Accessibility for all.

NEN organises yearly a meeting for new partcipants to explain the structure and process of standardization.

Tom’s tips (1)

- You have to understand and speak English
- You should have experiences with meetings
- You should have some knowledge of the standardization organizations, the processes and the terms.
- You should have a professional attitude

8

Tom’s tips (2)

- You should be able to organize communication with you backing user group
- You should be able to translate the advise of the backing to concrete points relevant for the process.
- You should prepare yourself very good for meetings

9

Other tips of Tom

- Don’t get insecure when you don’t understand everything. It’s not always possible as an non-technical participant to understand everything.
- Trust your experience based knowledge. This knowledge is of great value for the process.
- The processes are sometimes very long and you are a pioneer. Always try to think on the added value for you and other users at the end! That keeps you enthusiastic

10

Exercises

1. Short presentation
2. Making a strategic plan on how to act in standardization
3. Good formulation of questions to the backing organisations/network
4. How to formulate arguments, how to make sure your motivation is on the table?

11

1. Short presentation

The first impression people get from you is essential!

- Present yourself shortly (2 – 3 minutes) in a new working group or technical committee meeting about the electronic travel card (~15 persons around the table).
- Two volunteers will be asked to present
- "prep-time" 4 minutes, individual

12

There is a new committee installed to talk about a travel card and you, as a user representative, are one of the people at the table. Everyone has the possibility to introduce themselve shortly.

When presenting of the trainees, the trainer can write the items of the introduction on a large paper.

Than this will be discussed; what are the differences between the two? What are the items of the presentations and what should be included?

Items of the presentation can be:

-Organization you work for

-All the people on behalf you are speaking (large number of people)

-Experience you have with the topic or

-Self-experience because you are disabled

-Goal; what you would like to achieve

2. Strategic plan

How are you going to act in a Working group or a TC, what plan do you have to get the most out of your work

- Discuss/prepare in two groups: case is the elevator control panel. What are the criteria and steps to be taken
- Present your plans
- Argue your approach with the other group

- "prep-time" 6 minutes

13

It is not about what specific demands you will have on the panel (large buttons for example), but on how you will take your position, how to gather information and give information to the group.

Answers:

-At first make sure you are being taken seriously

-For example organize a field trip for the others to feel how it is to have a disability

-Find figures to support your position

-Etcetera…

3. Formulating questions

You have limited knowledge and you need your own Disability Organisation and other Home country organisations to get answers/information!

- Discuss in couples how to get end-user Elevator facts collected for you
- Two couples will be asked to present and comment on each others group question.
- "prep-time" 5 minutes

14

Possible answers:

-Make specific questions which are easy to answer

-Maybe organize a peer-group to help gather information

-Ask for examples

4. Formulate motives/ arguments to be heard

Arguing and being convincing helps a lot in getting your statement to be heard!

- Create an motivation for having standards of elevator-doors in hotels
- Two volunteers will be asked to present
- "prep-time" 5 minutes

15

Answers; larger lifts are good because:

-It is a good business case: more people will come to the hotel because of convenience

-It is convenient for personnel as well

-More people need it

-Possible extra regulations in the future; be prepared now. Otherwise more costs

-Not more costs to realize better lifts

-etcetera…

Exercises

Exercise 1

Goal: Tell in 3-5 minutes why user-perspective is important in standardization

Introduction: You can participate in different ways, and not only the actual participation in standardization is important. It is also important to spread the message that a user centred perspective is needed.

Setting: People will work on their own for 5 minutes, they will prepare their own 2/3 minutes story. After this we will discuss a few presentations. What are the most important topics to tell?
White board or flip over available for collecting the most important points in the short presentation.

Case:
1) You are Candidate for a job in Standardization work; you are elected as candidate because you work for a consumer organisation and in your curriculum is stated that you have followed courses on standardization. Prepare a short speech explaining how you see your involvement in the project.
2) You are for the first time present in a standards working group on a public traffic issue (electronic travel card). You are asked to give a short presentation about yourself and what you expect that your role in this working group will be.

Exercise 2

Goal: Making a strategic plan on how to act in standardization

Introduction: For good participation it is important to have a plan on how to act in the TC.

Setting: A case will be presented to the whole group. In groups a work-plan will be formulated on how to act in the TC in the case. After a few minutes the plans will be discussed together.

> Case: lifts
>
> There will be a revision of the lift-standard. There is a meeting planned for all interested parties to discuss what the issues are

that will need a closer look. Let's say that the first focus will especially be the usage of the lift-panel.

Exercise 3
Goal: Good formulation of questions to the backing organisations/network

Introduction: If you are active in standardization you need information of all users, you need information from your backing organisations. How is this arranged in your country? What is the best way to ask questions?

Setting: the group will be divided in couples. The couples will prepare questions to ask backing organisations. We have 5 minutes for this. We will discuss the results in the group and decide on most important criteria for questions.

Points of discussion will be:

- Was it easy to formulate a question? How did you come to the question, why did you asked this question?
- Is the question easy to answer?

- If you ask for all information on a topic, you have a large chance to get nothing. Make sure the question is precise enough and that the topic is interesting.

- Sometimes one can get the impression that standardization is not a point of high interest in the user organisations. Is it possible to create instruments within the user organisation to keep standardization topics in permanent attention, i. e. standardization as a permanent reporting point in Annual general meetings.

Exercise 4
Goal: How to formulate arguments, how to make sure your arguments are on the table?

Introduction: It is not easy to decide on when you will tell your view on the topic that is being discussed and in what way. Do you say it right ahead, or do you wait for the right strategic moment? Do you make a paper with information backing your argument or do you present it with visual material?

Setting: we will tell a small case and tell the group what argument you want to bring forward. The trainees will get a few minutes to decide on how to bring the argument forward. After that we will ask a few trainees to try their strategy in a ‘TC’.

Case: doors of lifts
The discussion is at the moment focussed on the doors of the lift. There has been talked about the safety (fire safety for example), about the weight of the doors that the lift can handle. You want to tell your TC members that the doors should be wide enough for an electric wheelchair to get in and to have the doors open for a longer period of time to make sure that people that have trouble with walking can enter the lift as well.

Experience of a user

Tom Young is an active member of the Dutch user organization CG-Raad. In 1997 he joined the FORTUNE training, a training to learn how to participate actively in Research and Development Projects. Tom is now also an active member of the Dutch FORTUNE group.

How did Tom get involved?
NEN started a standardization process and would like to take into account the interest of end-users in the new standard. Therefore NEN contacted CG-raad. CG-raad contacted the FORTUNE group and invited members to apply. Tom decided to apply in this call.

Tom's preparation
Tom didn't had any standardization knowledge. So he needed some preparation before joining the standardization meetings. First of all he joined the NEN meeting for new participants. In this meeting new members were informed about basic information on standardization. Secondly he discussed the topic developed a strategy together with the other FORTUNE members.

Tom's work
Tom participated in two different kind of standardization processes of the NEN. One standardization process is lasting for four years now and is still an ongoing process. The participants meet 2 or 3 times a year. His role in the process is to take into account the collective interest of his user group and not his own interest. During the meetings Tom tries to watch over the interests of his user group and tries to convince other participants of the importance of several aspects of user interests.
His contact with other end-users, is therefore very close and in his opinion that was very important. So he decided to make use of a web log on the website of the CG-Raad to communicate with his backing. All relevant topics and discussion point were discussed on this web log. With the results of the discussion he joined the standardization meetings.

Tom's experiences
In general Tom concludes that all participants are willing to listen to Tom suggestion. They are all positive on his participation. Some difficulties he experiences were. Sometimes a quick decision is needed. In such a short period it is not always possible to collect the opinions of

his backing. Another difficulty is that end-users don't receive a payment. Therefore it's sometimes difficult to give the work in standardization enough attention and priority. Finally Tom experienced some barriers in language. The technical experts use a lot of technical words. Sometimes this is difficult to understand.

Tom's tips

Based on his experience Tom would like to give new participants some useful tips.

- Skills and knowledge you need or need to develop:
  1. You have to understand and speak English
  2. You should have experiences with meetings
  3. You should have some knowledge of the standardization institutes, the processes and the terms.
  4. You should have a professional attitude
  5. You should be able to organize communication with you backing user group
  6. You should be able to translate the advise of the backing to concrete points relevant for the process.
  7. You should prepare yourself very good for meetings

- Tips:
  8. Don't get insecure when you don't understand everything. It's not always possible as an non-technical participant to understand everything.
  9. Trust your experience based knowledge. This knowledge is of great value for the process.

The processes are sometimes very long and you are a pioneer.
Always try to think on the added value for you and other users at the end! That keeps you enthusiastic

STAND4ALL

Topic Interactive session

‘Roleplay’or ‘Simulation of a TC meeting’

For this topic there are two variants. Both are described here.
The first is the ‘Roleplay’ the second is the ‘Simulation of a TC Meeting’.

The documents for the **Roleplay** are:

- Short description of a roleplay
- Presentation
- Roleplay description in detail

The documents for the **Simulation of a TC Meeting** are:

- Short description of Simulation of a TC Meeting
- Presentation
- Description of the standardization meeting
- Extract from Directive 2009/48/EC ‘Safety of Toys’, ANNEX V ‘Warnings’
- EN 71.1:2005+A9:2009 Safety of Toys – Part 1: Mechanical and physical properties (Clause 6 & 7)
- FACTSHEET Annex V Warnings

Roleplay

The goal of this session is: understanding the real situation in a CEN/TC meeting or WG-meeting with user representatives there.

The aim of the role play is to discuss the needs of revision of EN 81-70 *"Accessibility to lifts for persons including disabilities"* after 5 years of publication and point out the positions of the different parties concerned in view of a necessary revision.
Trainees will be asked to "impersonate" the different stakeholders representatives at the final meeting of CEN TC 10 before the launch of the public enquiry about revision.

With the roleplay the trainees will use the information gained during the training in a real-life setting. By playing a role in a standardization committee the interesting parts of participation.

The time for this topic is divided in time for:

- Preparation on the roleplay
- The roleplay itself
- Retrospective view on the roleplay

Goal: understanding the real situation in a CEN/TC meeting and discovering the skills and strategies which are needed; discovering also alies and supporting groups among the participating representatives
Trainees are asked to make use of their 'negotiating skills" and standardization knowledge acquired during the training.

Annexes:

- Presentation with the main key issues
- Role play description in detail

ANEC
The European consumer voice in standardisation and conformity assessment

ROLE-PLAY

Monika Anna Klenovec, Access Consultant

Goal of this topic

Understanding the real situation in a CEN/TC meeting and discovering the skills and strategies which are needed; discovering also aliens and supporting groups among the participating representatives

Different approach for consumer participation in …

- **New Work Items and standard development**

or

- **Revision of published standards**

Practical experiences of consumer participation after publication of EN 81-70

Role play

Negotiation exercise – Case Study

Revision of EN 81-70 …
Accessibility to lifts for persons including persons with disability

Photos are telling more than 1000 words!

Negotiation exercise – Case Study

EN 81-70 Accessibility to lifts for persons including persons with disability

Table 1 — Minimum car dimensions for cars with a single entrance or two opposite entrances

Type of lift	Minimum car dimensions [a]	Accessibility level	Remarks
1	450 kg Car width : 1 000 mm Car depth : 1 250 mm	This car accommodates one wheelchair user.	Type 1 ensures accessibility to persons using a manual wheelchair described in EN 12183 or electrically powered wheelchair of class A described in EN 12184.
2	630 kg Car width : 1 100 mm Car depth : 1 400 mm	This car accommodates one wheelchair user and an accompanying person.	Type 2 ensures accessibility to persons using a manual wheelchair described in EN 12183 or an electrically powered wheelchair of class A or B described in EN 12184. Class B wheelchairs are intended for some indoor environments and capable of navigating some outdoor obstacles.
3	1 275 kg Car width : 2 000 mm Car depth : 1 400 mm	This car accommodates one wheelchair user and several other users. It also allows a wheelchair to be rotated in the car.	Type 3 ensures accessibility to persons using a manual wheelchair described in EN 12183 or an electrically powered wheelchair of class A, B or C described in EN 12184. Class C wheelchairs are not necessarily intended for indoor use but are capable of travelling over longer distances and navigating outdoor obstacles. Type 3 provides sufficient turning space for persons using wheelchairs of class A or B and walking aids (walking frames, rollators etc.).

[a] Car width is the horizontal distance between the inner surface of the structural walls, measured parallel to the front entrance. Car depth is the horizontal distance between the inner surface of the structural walls, measured perpendicular to the width.

Role Play

Revision of EN 81-70 Accessible *Lifts*

Facts:

- **lift typ 1 lift (1000 mm x 1250 mm) too small for powered wheel-chairs - contradicts scope and Annex A and many national standards**
- **small door width: 800 mm instead of 900 mm**
- **no place for an accompanying person – independent use (with assistance)?**
- **control devices: 900 mm – 1100/1200 mm; preferred: 850 mm - 1000 mm**

Role Play

Revision of EN 81-70 Accessible *Lifts*

Legal requirements … ?

- **NEW: UN Convention of Human Rights for Persons with Disabilities**
- **EU Directives: Lift Directive**
- **ECA – European Concept of Accessibility**
- **Mandate 283 etc.?**
- **CEN/CENELEC Guide 6**
- **Standards: ISO, EN, national standards**
  lift car: min. size 1100 mm x 1400 mm!!!

Role Play – in 2 groups

Participating persons in each group

- ✓ **Convenor of TC 10 Lifts (A) –** Trainer from Standard Bodies
  Representative from lift manufacturer – global player
- ✓ **(Secretariat of TC 10) (B)**
- ✓ **(1) R&D Test Institute representative**
- ✓ **(2) Lift manufacturer representative – global player C**
- ✓ **(3) Lift manufacturer representative – global player D**
- ✓ **(4/5) Representative from lift manufacturer – small company E from Italy/company F from Spain**
- ✓ **(6) Lift manufacturers Association representative**
- ✓ **(7) Wheelchair Producer**
- ✓ **(8/9) Consumer representatives**
- ✓ **(10) Elderly consumer representatives**

Role-Play Tipps

- Project plan and time table – short time and long time strategy
- How you start the project?
- What information you need before you attend the meeting?
- Identify skills and strategies you need – consider ANEC's presentation
- At which time you present your subject during the TC meeting?
- Attend the TC or WGs meeting? Different approach?
- Is lobbying an issue in this case? Who may be interested in the subject?

Role-Play Tipps

How to start? …

- read carefully the general informations about the subject – see handout
- study your personal role description
- meet with your companion who plays the same role in the other group and discuss your strategy

Role-Play Tipps

- are there other persons / representatives who would support your strategies? – contact them
- think about the advantages or common goals for all different representatives concerning your strategy

- return in 20 minutes for the start of the role play!

Good luck for your role play!

Thank you for your attention!

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Role play

Revision of EN 81-70: Safety rules for the construction and installation of lifts – Particular applications for passenger and good passengers lifts – **Accessibility to lifts for persons including persons with disability**

DISCLAIMER: although based on a real situation, the participants and the positions expressed in this case study are purely fictional and do not reflect by any means any official position.

Background

prEN 81-70 «
Part 70: Accessibility to lifts for persons including persons " is already published.

- The aim of the role play is to discuss the needs of revision of EN 81-70 after 5 years of publication and point out the positions of the different parties concerned in view of a necessary revision
- Trainees will be asked to "impersonate" the different stakeholders representatives at the final meeting of CEN TC 10 before the launch of the public enquiry about revision
- Trainees are asked to make use of their 'negotiating skills" and standardisation knowledge acquired during the training

Political background situation

Member States are bound by national building codes obligations with regards to accessibility of the built environment. The ratified UN Convention of Human Rights for persons with Disabilities becomes more and more important and legally binding also for the Member States in Europe.

However, lifts fall under harmonised legislation. The EU lift directive is relevant for the Member States and the harmonised lift standard EN 81-70 is part of national standardisation.

UK, Germany and France have recently announced plans aimed at combating the current economic and financial crises with massive investment in public works, including public housing and public places such as theatres, offices and railway station.

For accessible buildings no European or International Standard is available. Only in ISO/TR 9527 the main building requirements for accessibility can be found. The European Concept of Accessibility (ECA) has included an ANNEX where the main accessibility requirements of the national standards of the Member States are summarized. Therein the minimum lift car size of an accessible lift is mentioned with 1100 mm x 1400 mm which is in many countries state of the art and also in ISO/TR 9527.

Three topics of the agenda during the CEN/TC 10 meeting
(can also be reduced to 2 topics)

In agenda item 7 the main topics of future revision of EN 81-70 during a fictional standardisation meeting of CEN/TC 10 are summarized with additional explanation. Several comments and proposals have been sent to CEN/TC 10 according this revision enquiry:

7 Proposals to revise EN 81-70

7.1 Size of different lift cars (see table 1):

— car type 1: 1000 mm x 1250 mm (too small for electrical wheelchairs and large manual wheelchairs, no accompanying person is possible, too small for persons with walking aids, who cannot turn around);
Proposal from ANEC representative to delete car type 1 from the standard or at least to give clear instructions that this lift can not be used by the majority of persons with powered wheelchairs; should only be applied for adaptation of existing buildings with minor importance and less users if no larger lift car is possible.

— car type 2: 1100 mm x 1400 mm (minimum size for person in wheelchair with an assistance – for manual and electrical wheelchairs); this lift car type is supported by all users as the minimum car size.

— car type 3: 1400 mm x 2000 mm (for persons in wheelchairs – manual and electrical – also with an assistance, for persons with walking aids).
Proposal from the wheelchair manufacturers who promote this car size due to increasing number of persons with powered wheelchairs and with walking aids of elderly persons. It should be explained very clearly that only this car type 3 is sufficient for **all users** – with powered wheelchairs and with walking aids.

7.2 Height of control devices (see table 2):

Height of control devices is now 900 mm until 1100 mm. These two measures should be reduced too preferred 850 mm to 1000 mm – especially for persons in powered wheelchairs with reduced arm function. A proposal

has been sent to CEN/TC 10 by consumer representatives and is supported by EDF (European Disability Forum). Global lift companies are not in favour due to higher buildings where more place is needed for more control buttons.

Wheelchair manufacturers strongly support this proposal. Their main user groups with powered wheelchair need the lower range for their reduced hand mobility.

7.3 Size and design of control buttons

In the general part of the standard the size of control buttons is 490 mm^2 (about 25 mm diameter). Only in the informative Annex G "Other Devices" extra large control devices are mentioned for horizontal panels. The wheelchair manufacturer's organisation and EDF promote to use only horizontal panels for all control buttons in accessible lifts to meet the needs of persons with mobility impairments especially with powered wheelchairs. They have sent a proposal to CEN/TC 10 which has to be discussed in this meeting. This proposal is also supported by EBU (European Blind Union) where they mentioned also the importance of larger control devices projecting from the surrounding panel.
Lift companies (especially the smaller companies) are strongly against this proposal due to the higher costs. The global players of the lift manufacturers are also not in favour but it can be a matter of negotiation when only the horizontal panels will be produced. On the other hand there may be a problem in higher buildings where is too less place for horizontal arrangement of extra large control buttons.

Different roles in the role play

The interests represented in the case study are (minimum **5 roles** /maximum 10 roles)

- **CEN/TC Convenor A** (Stand4All trainers from national standards bodies)
- CEN/TC Secretary B (facultative) - " -

1. **National certification institutes (representing also national legislation and EU Directives) for lifts**
2. **Lifts manufactures: global players** (company C)
3. **Lift manufactures: global player** (company D)
4. **Lifts manufactures: smaller companies** (e.g. company E from Italy)
5. Lifts manufactures: smaller companies (e.g. company F from Spain) (facultative)

6. Lifts manufactures Association (facultative)
7. Wheelchair manufacturers (facultative)
8. **Consumers representatives: users representing different impairments e.g. representing ANEC or other NGO organisations (1 or 2)**
9. Consumer representatives: users representing ANEC with special focus on persons with impaired vision (facultative)
10. Elderly consumer representatives (facultative)

The meeting is conducted by the **CEN/TC convenor (role A)** and supported by the CEN/TC secretary (role B - facultative). These roles should be played by trainers of STAND4All who are familiar with standardisation meetings and proceedings. If no person as CEN/TC secretary is available the convenor has to check also the target dates and all other details during the revision stage of the standard.

The CEN/TC convenor should always have in mind his/her neutral position. His/her main goal is to find a solution by consensus in all contradicting issues and proposals although he is a representative of a global player of the lift manufactures industry.

The CEN/TC secretary is an officer of a national standards organisation and responsible for the target dates of revisions of the standards and all organisatorial details.

Task 1

Adopting the role assigned to you, work with your group (either with the same representative of the parallel role-play and/or with other players who may support your proposal – consider descriptions of different Agenda topics) to identify the key issues and arguments for your position in the negotiation exercise.

Work out a strategy for achieving your goal.

Task 2

Conduct the role play exercise, playing your role to try to win your case.

1. National Certification Institutes (O)

Member States are bound by national building codes obligations with regards to accessibility of the built environment. However, lifts fall under harmonised legislation, the EU lift directive. National certification institutes represent also their national view within the TC meetings and are prepared to check all relevant testing details within the lift standard in connection with the EU lift directive.

National Certification Institutes will support user's view in deleting lift type 1 which is too small for all users from the table

They understood the problem of persons especially in powered wheelchairs who cannot use lift type 1 which is too small.

Both refurbishing and new constructions are concerned. In developed countries lifts are included in all new residential houses with several floors. It is more or less standard to use lift type 2 due to many national building regulations where this is an obliged requirement since years.

Position and main arguments:

National certification bodies are more or less aware about deleting lift type 1 from the table of EN 81-70 during the revision and they know that this small lift type is not any more state of the art.

CEN/CLC Guide 6 is generally known but not in details.

They understand the needs for bigger space within the lift for persons using a wheelchair or walking aids. Even for persons using walking aids it is recommended already within table 1 that only lift car type 3 meets their requirement to turn around within the lift before exit the car.

Especially in public buildings, railway stations etc. they propose to use only lift type 3 (1400 mm x 2000 mm) to meet all requirements for an inclusive society according the design for all approach.

They promote a clearer explanation within the table about the usage of the different lift types.

They support also in the other points the proposals of the consumer groups, EDF and EBU generally but are looking for consensus with the lift companies.

2. / 3. LIFTS MANUFACTURERS - GLOBAL INDUSTRIES (O)

UK, Germany and France have recently announced plans aimed at combating the current economic and financial crises with massive investment in public works, including public housing and public places such as theatres, offices and railway station.

The global players of the lift industry expect that lift type 2 and 3 will be the most wanted car types for this investment strategy. Lift manufactures of global industries see a big chance to improve their business. Especially the new initiative of some Member States is an interesting chance to improve their business.

They want to promote lifts not only in public buildings but also lift type 2 in residential houses to improve life quality during the demographic change. They see a lot of market chances developing now.

Position and main arguments:

Company 1 and 2: The global players of the lift industry expect that lift type 2 and 3 will be the most wanted car size for this investment strategy started by UK, Germany and France. They understood the problem of persons especially in powered wheelchairs who cannot use lift type 1 which is too small.

Concerning the height and size of control devices different positions exist:

Company 1: they support the present requirement due to many already produced control panels. They not agree to the proposed changes.

Company 2: they are not acting and arguing against the proposed changes for control devices. They are producing on demand and therefore have no problems with existing control panels. To produce horizontal panels instead of vertical ones - if less control buttons are needed - is no problem for them.

They are aware about the problems with many control buttons in higher buildings. In this case telephone panels can also be used.

4. / 5. LIFTS MANUFACTURERS - SMALL INDUSTRIES (O / F)

In some countries (Italy and Spain) the most common lift put in place should not be too burdensome and expensive, especially for SMEs. Therefore during the last years the lift car type 1 was widely used.

Lift manufacturers of smaller companies have more interest to keep the situation pretty much as it is because they do not wish to see any change in the rules that will make their business more difficult.

Position and main arguments:

Especially the smaller lift companies situated in Italy and Spain have proven to be very powerful in their blocking of the standard and will continue to do so. The national legislation in these countries is more focused on the small lift type 1 as the minimum size.

Italian and Spanish lift manufacturers are highly interested in continuing producing and selling the small lift type 1 (1000 mm x 1250 mm) which is their main business field.

They fear if type 1 is not longer part of EN 81-70 they will loose a lot of market chances and business. Due to the economic crises they fear that the market will collapse in Italy and Spain where in the southern parts of their countries the residential houses will not longer promote to build lifts in their premises. Keeping lift type 1 within the standard they see more chances to sell their lift cars also in small residential houses and to improve life quality for an ageing society.

Small lift company Y from Italy: very strong and powerful representative arguing against excluding of lift type 1 from this standard. Italian legislation is also in line with this minimum lift requirement and therefore nothing should be changed. They vote strongly against the additional horizontal panel and the larger control buttons due to higher costs.

Small lift company Z from Spain: the company representative is also arguing against any change within the standard due to decreasing of business chances but supports the proposal for the larger control buttons for blind users. In Spain there is a big lobby for blind persons very active and influences the public authorities and legislation. The accessibility building standard in Spain has already included lift type 2 as a minimum requirement.

6. LIFTS INDUSTRY ASSOCIATION (F)

The lifts industry association, expressed support towards the recent initiatives of some Member States, aimed at combating the current economic and financial crises with massive investment in public works, including public housing and public places such as theatres and railways stations.

The main interest for the lift industry association is to support their members and to improve their market chances; of course they are financed by all members but have more focus on the global acting companies.

Position and main arguments:

They have a similar position than the representatives of the global acting lift industries. The association has also in mind the big overseas markets as China where the lift business is increasing. They are usually also focused on EN standards.

Support for lift type 2 and 3 but considering also some market chances for lift type 1 in the developing countries due to the lower costs.

The demographic change is also an issue in their strategy to improve life quality for an ageing society.

The description of the different lift cars in table 1 should be improved to make it very clear for which user groups the indicated lift is best suitable. This description is now incomplete (as in lift type 1) and/or misleading.

Architects and planners should have clear guidance in this matter to choose the right lift car size for their projects.

7. WHEELCHAIRS MANUFACTURERS (F)

The majority of wheelchairs manufactures are small medium enterprises, who produce assistive aids for a local market.

Position and main arguments:

They generally have a very hard line in favour of increasing accessibility requirements in standards. The wheelchairs manufactures welcomed the revision of EN 81-70 as it could eliminate one of the main obstacles (too small lifts) to secure an important market share for their latest products, the “bulky” electric powered wheelchairs.

They will support to delete lift type 1 from the table and ask for more clear explanation how the different lifts can be used. They promote lift type 3 for their latest products and for walking aids.

Especially for powered wheelchairs larger lift cars with at least 900 mm door width are necessary.

The height of the control devices should be reduced to 850 mm – 1000 mm as proposed by EDF and consumer groups. Wheelchair manufacturers are focused to meet all needs of wheelchair users to the greatest extend possible.

Size and design of control buttons: horizontal control panels are preferred by the wheelchair manufacturers due to the ergonomic needs of persons using powered wheelchairs with reduced hand function.

8. / 9. CONSUMER REPRESENTATIVES (O / F)

If only one consumer representative takes part in the role-play he/she should consider all arguments mentioned here and for the elderly consumer representative (see role 10 next page) including all comments concerning all different types of disabilities and special needs of elderly persons.

If two persons are available for the consumer representatives there may be one to play the role of a blind person or with vision impairment and arguing all needs for this user groups. The other one should take the arguments for mobility impaired users on board.

Consumer organisations think that lift type 1 in table 1 of EN 81-70 is not in line with CEN/CLC Guide 6, European concept of accessibility (see Annex) and with most of the national standards of the member states for an accessible built environment where the minimum size for a lift car is 1100 mm x 1400 mm.

Position and main arguments:

Raise awareness for binding UN Convention and different EU Directives and legislation where the design for all approach is included.

Agenda Item 7.1 Car size:

The small lift type 1 with the car size 1000 mm x 1250 mm can not be used from all persons in a powered wheelchair. Many of them need assistance by an accompanying person which is also not possible as the photos before demonstrated. Independent living which is also required within this standard is restricted or not even possible.

Persons with walking aids cannot move around in this small lift car – they would even prefer lift car type 3 where they can turn around when they exit the car. Add the importance of preventative measures during the demographic change. Most people want to live also in old age in their homes. Lifts are the most important aids to overcome steps.

All these points contradict also the scope of EN 81-70 and the requirements within. In Annex B, which is normative, all categories of disabilities concerned are taken into account but not fully applied within the standard.

New point to be raised:

A new point should also be raised under agenda item 7.1 which is not on the list until now. The door size of the lift car has now the minimum measure of 800 mm. This measure should be enlarged to 900 mm (which is already recommended in the standard but not obligatory) as stated in most national standards and legislation. 800 mm door width is not longer state of the art.

Agenda item 7.2 Height of control devices:

Additional the height of the control devices within the car should be restricted from the range of 900 mm to 1100 mm / 1200 mm to a lower range. A range between 850 mm to 1000 mm or maximum 1100 mm supports most people with mobility impairments – especially people sitting in a powered wheelchair with additional hand functions.

People using a powered wheelchair and often having reduced hand function would support to enlarge the size of the control buttons due to their own needs.

Agenda item 7.3 Size and design of control buttons:

This size should be enlarged for blind users. Vision impaired and blind people need larger control buttons with projecting design from the surrounded panel area. Only in ANNEX G "Other Devices" extra large (XL) control devices – 50 mm x 50 mm - are required for the horizontal control panel but this is only an informative part of the standard. The concerned blind people want to have in all accessible lifts larger control buttons which should be projecting from the surrounding panel. It is not necessary to enlarge it to 50 mm but about 25 mm diameter as required in the main part of the standard is too small. Several tests results show that 40 mm diameter (or square) would be a recommended measure of control buttons.

Compare with CEN/CLC Guide 6 table 7 for buildings and check if some other requirements are missing within the standard EN 81-70.

10. ELDERLY CONSUMER REPRESENTATIVES (F)

If one elderly consumer representative takes part in the role-play he/she should take all arguments concerning persons with walking aids, crutches etc. on board.

Stress the importance of preventative measures during the demographic change. Most people want to live also in old age in their homes. Lifts are the most important aids to overcome steps.

Especially the increasing needs of an ageing society should be brought in the discussion. If lifts are executed this investment should be sustainable and considering all future needs of the population.

It makes no sense to build in lift car type 1 when in few years later much more persons with wheelchairs and persons with walking aids are on the way. Especially the last user group cannot leave the lift car backwards – they need to turn around in the lift car and promote therefore strongly lift car type 3.

Special focus should be given to the contrasting design of control buttons to support elderly persons with vision impairment.

For persons with hearing impairment an induction loop system is necessary to hear the indication of floor announcement.

If no extra role for elderly consumer representative is available these arguments should be taken on board also by the consumer representative.

Interactive Standardization Meeting/ Planning for Accessibility

The aim of this meeting is to discuss the needs of revision of EN 71-1 *"Safety of toys - Part 1: Mechanical and Physical Properties"* after 5 years of publication and point out the positions of the different parties concerned in view of a necessary revision.

Trainees will be asked to "consider" the needs of all users at the meeting of CEN TC 52 before the launch of the public enquiry about revision.

Within the meeting the trainees will use the information gained during the training in a real-life meeting setting.

The time for this topic is divided in time for:

- Preparation and familiarisation with documents
- The Meeting itself
- Evaluation of the Meeting in relation to addressing the needs of all users

Goal: understanding the real situation in a CEN/TC meeting and discovering the skills and strategies which are needed; understanding how all opinions are valid and should be considered
Trainees are asked to make use of their 'negotiating skills" and standardization knowledge acquired during the training

Annexes:

- Presentation with the main key issues
- Description of the standardization meeting
- Extract from Directive 2009/48/EC 'Safety of Toys', ANNEX V 'Warnings'
- EN 71.1:2005+A9:2009 Safety of Toys – Part 1: Mechanical and physical properties (Clause 6 & 7)
- FACTSHEET Annex V Warnings

Simulation of a standardization Meeting (a TC Meeting)

In order to provide accessible products (and services), it is necessary to take account requirements of the elderly and disabled into account in standards development. The different kinds of inconveniences that are experienced in daily lives are key in this topic, wherein we an actual standards development setting simulate.

In the first part we'll take a closer look at the different kind of inconveniences by the use of a toy.

In the second part of the topic ("Technical Meetings") we'll take into account this inconveniences by reviewing an existing standard, in a real-life setting of a TC Meeting.

Goal of this topic

- Understanding the real situation in a CEN/TC meeting;
- Discovering the skills and strategies which are needed;
- Using Guide 6 in developing and revising standards

We choose a product, for example a remote-controller. We take a look at an existing standard and we ask the trainees to comment on it, with the help/use of Guide 6. We also make clear which factors should be considered (only 1 or 2). The trainees introduce themselves - so, they don't play a role but "play themselves". Therefore, the different backgrounds of stakeholders will be introduced and dealt with. Of course, the two groups of 10 are mixed with 'users' and ' committee members'. The exercise makes it possible to introduce the matter of 'compromising'.

This exercise is practical and more linked to Guide 6 than the role play is.

Product specific requirements

Directive 2009/48/EC Safety of Toys

- Directive 2009/48/EC Safety of Toys Annex V Warnings
- EN 71.1:2005+A9:2009 Safety of Toys – Part 1: Mechanical and physical properties (Clause 6 & 7)
- FACTSHEET Annex V Warnings

The aim of the meeting is to discuss the needs of revision of EN 71-1 after 5 years of publication and point out the positions of the different parties concerned in view of a necessary revision

Trainees will be asked to consider the opinions of stakeholders /representatives at the meeting of CEN TC 52 'Toys'. This is a big European Committee, with a lot of active participation from throughout Europe.

Trainees are asked to make use of their 'negotiating skills" and standardization knowledge in relation to CEN Guide 6 acquired during the training. Further relevant material is provided in the manuals and should be used.

Accessibility Requirements

- Policy
- Directives
- Legislation
- Mandates
- Standards
- Guidance Documents

Toy safety is the practice of ensuring that toys, especially those made for children, are safe, usually through the application of set safety standards. In many countries, commercial toys must be able to pass safety tests in order to be sold.

In Europe, the following applies:

European standards, namely the EN 71- serie (about 11 parts)

EN 62115:2005 Safety of electric toys
Different Council Directives, for example: Council Directive (2009/48/EC)on the Safety of Toys

The relevant accessibility requirements need to be adopted in the following publications: Policy, Directives , Legislation , Mandates, Standards

Guidance Documents

Technical Meeting

- Have a Simulated Technical Committee Meeting
- 2 groups (Mix of Users/Experts)
- Breakout Rooms (2 Rooms)
- 2-4 Facilitators/Trainers per group
- 1 Chairperson per Group

Participants will have the opportunity to hear arguments from all committee members including technical considerations, economic & moral considerations, and viability of including particular requirements in a Standard. Committee members will have the opportunity to hear arguments from the users side.

Participants will have the opportunity to become familiar with existing legislation, European Directives and development of standards.

This setting of standards development is a real-life experience for users.

Technical Meeting

Step 1

A. Critique the Product (Remote Controlled Car)

B. Develop a list of problems/issues

In the room, a toy is available (in this case we use a Remote Controlled Car). This toy needs to be investigated and evaluated by trainees on accessible impacts.

There can be various problems, for example:

-The user can't customize the settings

-The toy is not suitable both for right- and left-handed use

-The toy is applicable to adaptive technologies that people may use

-The toy is unnecessary complex

-The toy does not provide warnings

Technical Meeting

Step 2: Packaging/Information

- Consult CEN Guide 6 Tables 1 and 2
- Review the listed factors in Tables 1 and 2
- Identify what factors are critical to make the information and packaging of the product accessible

- For packaging to be accessible it must be designed to be easy for the consumer to open, have legible labelling and not compromise safety or quality.

For a consumer to get full satisfaction from the product the packaging needs to be functional and useable—this includes the ability to open and close.

Key questions to be considered in the review process

• Has the consumer's ability to access the product within the packaging been adequately considered in the design process? For example, does it look like that a consumer specialist has analyzed the actions required to interact with the product.

• Have you considered whether the level of information on the packaging ensures the consumer is aware of its contents and how to open the package?

• Can changes be made to improve the ability of the consumer to use the product without compromising the safety, security or quality?

• Could an alternative design be used efficiently to minimize the requirement for tools such as a knife or scissors?

Feedback from Group (s)

Technical Meeting

Step 3: Proofing Technical Standard

- EN71-1: Safety of Toys – Part 1 Mechanical and Physical Properties
- Product Example

The trainer will divide the trainees into two groups. Per group and we point people being the chair/secretariat (thus, the topic will be facilitated as in real-life). We take a look at the toy-standard, taking into account the discussion we had in the first part.

Guide 6: Clause 7

- Table 1 - Clauses on Information
  - Table 2 - Clauses on packaging
  - Table 3 - Clauses on materials
  - Table 4 - Clauses on installation
  - Table 5 - Clauses on the user interface
  - Table 6 - Clauses on maintenance, storage and disposal
  - Table 7 - Clauses relating to the built environment

In Guide 6 , several Tables are important when considering accessibility requirements.

In this session we'll prioritise the Tables, together with trainees. The trainees need to have the Guide 6 in front of them.

Technical Meeting

Step 3: Proofing Technical Standard

Focus of the Meeting:

- Clause 7 of EN 71-1
- Clause 7.1: Warnings and instructions for use- General

See for further explanation document 'Extract from EN 71 Safety of Toys Part 1 Clause 6 & Clause 7'

Technical Meeting

Step 3: Proofing Technical Standard

- Referring to CEN Guide 6 Table 1 identify accessibility gaps in EN 71 – 1 clause 7.1

Guide 6, Table 1 “Clause on Information” provides detailed guidances how to include clear information for consumers in a standard.

See EN 71-1, Clause 7.1 **Warnings and instructions for use**

Technical Meeting

Step 4: Proofing Technical Standard

Focus of the Meeting:

- Now with Guide 6 , Table 1 revise the content of Clause 7.1 of EN 71-1

Trainees need to report what is stated in the standard with regard to the provision of appropriate information by the manufacturer. Trainees also need to report how this can be improved by the use of Guide 6, Table 1.

Technical Meeting

Step 4: Proofing Technical Standard

Focus of the Meeting:

- Prepare proposed text for the revision of Clause 7.1

Trainees report their improved texts.

Here we add examples wherein the needs of partially sighted and blind people are being heard:

• Information provided by manufacturer should only be in relative font sizes

•Packaging should contain braille text. The braille dot height does not need to be as high as 0.45mm for readability. On cartons the target height should be 0.2mm, with no more than five per cent of measurements below 0.12mm and no more than one per cent under 0.1mm.

FEEDBACK FROM GROUPS

- What did you learn – Users & Committee members ?

A crucial component of this feedback from trainees about their progress is to make clear how they can enable their effective development as accessibility experts in standardization.

Standardization Meeting/ Planning for Accessibility

Revision of EN 71-1: Safety of Toys - Part 1: Mechanical and physical properties

Background
prEN 71-1 «
Safety of Toys - Part 1: Mechanical and physical properties
is already published.

- The aim of the meeting is to discuss the needs of revision of EN 71-1 after 5 years of publication and point out the positions of the different parties concerned in view of a necessary revision
- Trainees will be asked to consider the opinions of stakeholders /representatives at the meeting of CEN TC 52
- Trainees are asked to make use of their 'negotiating skills" and standardization knowledge in relation to CEN Guide 6 acquired during the training

Two topics on the agenda during the CEN/TC 52 meeting

- Item 4: Future revision of EN 71-1 Clause 6 Packaging

  Consideration of CEN Guide 6 Table 2 & Table

- Item 4 : Future revision of EN 71-1 Clause 7: Warning and instructions for use

  Consideration of CEN Guide 6 Table 1 and Table 5

The meeting is conducted by the CEN/TC convenor (role A) and supported by the CEN/TC secretary (role B - facultative). These roles should be played by trainers of STAND4All who are familiar with standardization meetings and proceedings if none of the Committee members have experience in this area

The CEN/TC convenor should always have in mind his/her neutral position. His/her main goal is to find a solution by consensus in all contradicting issues and proposals

The CEN/TC secretary is an officer of a national standards organisation and responsible for the target dates of revisions of the standards and all organisational details.

Task 1

Review the relevant parts of EN 71 Part 1 Clause 6 Packaging

Task 2

Review the relevant parts of EN71 Part 1 Clause 7 Information and instructions for use

CONSUMER REPRESENTATIVES

Consumer representatives should consider all opinions in relation all different types of disabilities and special needs of elderly persons. The needs of blind persons / vision impairment /mobility impaired users , older persons should be considered.

Position and main arguments:

Participants will have the opportunity to hear arguments from all committee members including technical considerations, economic & moral considerations, and viability of including particular requirements in a Standard.

Participants will have the opportunity to become familiar with existing legislation, European Directives and development of standards.

Documents used during the Meeting

1. Directive 2009/48/EC Safety of Toys
2. Directive 2009/48/EC Safety of Toys Annex V Warnings
3. EN 71.1:2005+A9:2009 Safety of Toys – Part 1: Mechanical and physical properties
4. FACTSHEET Annex V Warnings
5. CEN Guide 6
6. Product: Remote Controlled Car (used to assist the Technical Committee with its work)

DIRECTIVES

DIRECTIVE 2009/48/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2009 on the safety of toys

Extract of ANNEX V

ANNEX V **WARNINGS** (as referred to in Article 11)

PART A

GENERAL WARNINGS

The user limitations referred to in Article 11(1) shall include at least the minimum or maximum age of the user and, where appropriate, the abilities of the user, the maximum or minimum weight of the user and the need to ensure that the toy is used only under adult supervision.

PART B

SPECIFIC WARNINGS AND INDICATIONS OF PRECAUTIONS TO BE TAKEN WHEN USING CERTAIN CATEGORIES OF TOYS

1. Toys not intended for use by children under 36 months

Toys which might be dangerous for children under 36 months of age shall bear a warning such as 'Not suitable for children under 36 months' or 'Not suitable for children under three years' or a warning in the form of the following graphic:

These warnings shall be accompanied by a brief indication, which may appear in the instructions for use, of the specific hazard calling for this precaution.

This point shall not apply to toys which, on account of their function, dimensions, characteristics or properties, or on other cogent grounds, are manifestly unsuitable for children under 36 months.

2. Activity toys

Activity toys shall bear the following warning:

'Only for domestic use'.

Activity toys attached to a crossbeam as well as other activity toys, where appropriate, shall be accompanied by instructions drawing attention to the need to carry out checks and maintenance of the main parts (suspensions, fixings, anchorages, etc.) at intervals, and pointing out that, if these checks are not carried out, the toy may cause a fall or overturn.

Instructions must also be given as to the correct assembly of the toy, indicating those parts which can present a danger if incorrectly assembled.

Specific information regarding a suitable surface on which to place the toy shall be given.

3. Functional toys

Functional toys shall bear the following warning:

‘To be used under the direct supervision of an adult’.
In addition, these toys shall be accompanied by directions giving working instructions as well as the precautions to be taken by the user, with the warning that failure to take these precautions will expose the user to the hazards – to be specified – normally associated with the appliance or product of which the toy is a scale model or imitation. It shall also be indicated that the toy must be kept out of the reach of children under a certain age, which shall be specified by the manufacturer.

4. Chemical toys
Without prejudice to the application of the provisions laid down in applicable Community legislation on the classification, packaging and labelling of certain substances or mixtures, the instructions for use of toys containing inherently dangerous substances or mixtures shall bear a warning of the dangerous nature of these substances or mixtures and an indication of the precautions to be taken by the user in order to avoid hazards associated with them, which shall be specified concisely according to the type of toy. The first aid to be given in the event of serious accidents resulting from the use of this type of toy shall also be mentioned. It shall also be stated that the toy must be kept out of reach of children under a certain age, which shall be specified by the manufacturer.
In addition to the instructions provided for in the first subparagraph, chemical toys shall bear the following warning on their packaging:
‘Not suitable for children under (*) years. For use under adult supervision’.
In particular, the following are regarded as chemical toys: chemistry sets, plastic embedding sets, miniature workshops for ceramics, enamelling or photography and similar toys which lead to a chemical reaction or similar substance alteration during use.

5. Skates, roller skates, online skates, skateboards, scooters and toy bicycles for children
Where these toys are offered for sale as toys, they shall bear the following warning:
‘Protective equipment should be worn. Not to be used in traffic’.
Moreover, the instructions for use shall contain a reminder that the toy must be used with caution, since it requires great skill, so as to avoid falls or collisions causing injury to the user or third parties. Some indication shall also be given as to recommended protective equipment (helmets, gloves, knee-pads, elbow-pads, etc.).

6. Aquatic toys
Aquatic toys shall bear the following warning:
‘Only to be used in water in which the child is within its depth and under adult supervision’.

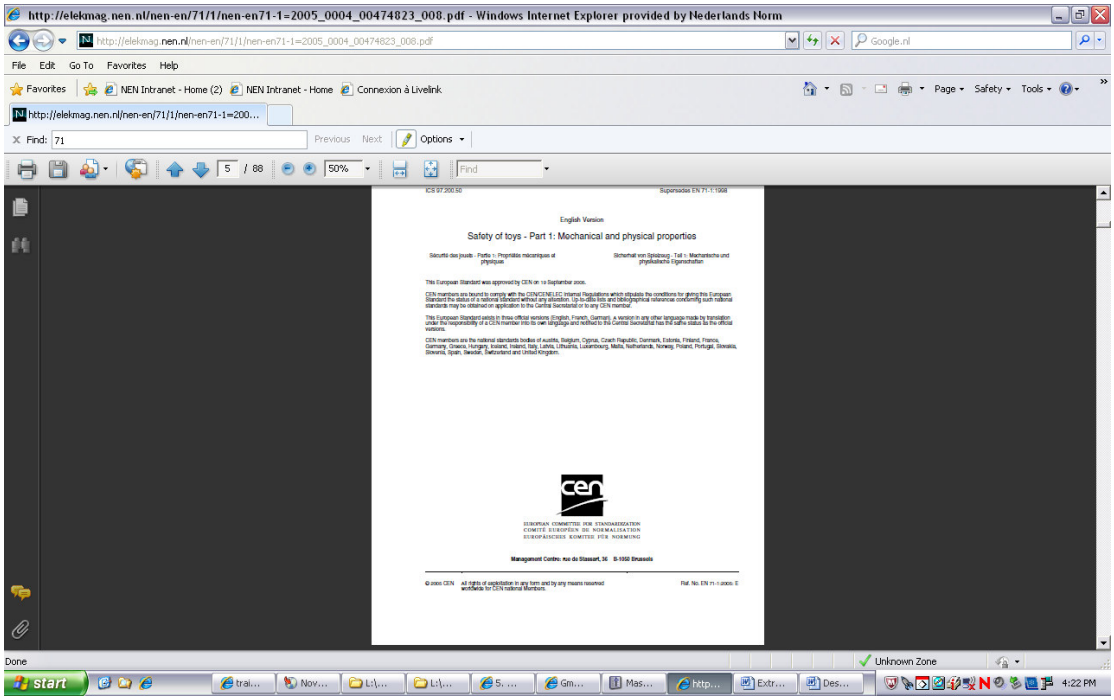
7. Toys in food
Toys contained in food or co-mingled with food shall bear the following warning:
‘Toy inside. Adult supervision recommended’.

8. Imitations of protective masks and helmets
Imitations of protective masks and helmets shall bear the following warning:
‘This toy does not provide protection’.

9. Toys intended to be strung across a cradle, cot or perambulator by means of strings, cords, elastics or straps
Toys intended to be strung across a cradle, cot or perambulator by means of strings, cords, elastics or straps shall carry the following warning on the packaging, which shall also be permanently marked on the toy:
‘To prevent possible injury by entanglement, remove this toy when the child starts trying to get up on its hands and knees in a crawling position’. EN L 170/36 Official Journal of the European Union 30.6.2009
(*) Age to be specified by the manufacturer.

10. Packaging for fragrances in olfactory board games, cosmetic kits and gustative games
Packaging for fragrances in olfactory board games, cosmetic kits and gustative games that contain the fragrances set out in points 41 to 55 of the list set out in the first paragraph of point 11 of Part III of Annex II and of the fragrances set out in points 1 to 11 of the list set out in third paragraph of that point shall contain the following warning:
‘Contains fragrances that may cause allergies’.

Extract from EN 71 Safety of Toys Part 1 Clause 6 & Clause 7



NEN-EN 71-1 - Safety of toys - Part 1: Mechanical and physical properties

6 Packaging

The requirement in 6 a) does not apply to:

- shrunk-on film *packaging*, which is normally destroyed when the *packaging* is opened by the user;

- bags made of perforated sheets which conform to the requirements in 4.3 b).

The *packaging* of toys shall conform to the following requirements:

a) Bags made of flexible plastics with an opening perimeter greater than 380 mm used for external or internal *packaging*, shall have an average sheet thickness of 0,038 mm or more when tested according to 8.25.1 (plastic sheeting, thickness).

b) Bags made of flexible plastics with an opening perimeter greater than 380 mm shall not have a drawstring or *cord* as a means of closing.

7 Warnings and instructions for use (see A.33)

7.1 General

NOTE Users of this European Standard are reminded of the legal requirements in each country.

For the European Union, note that

- toys must be accompanied by appropriate clearly legible warnings in order to reduce inherent risks in their use as described in the essential safety requirements in European Council Directive 88/378/EEC of 3 May 1988 concerning the safety of toys (published in the Official Journal of the EC No. L 187 of 16 July 1988).

- the manufacturer or his authorised representative or the importer into the community shall in a visible, easily legible and indelible form affix his name and/or trade name and/or mark and address on the toy or on its *packaging* together with the CE-marking as declaration of presumption of conformity with the essential safety requirements of the above directive.

The legal requirements for the CE-marking are given in European Council Directive 93/68/EEC of 22 July 1993.

For details, refer to the directives or corresponding national legislation.

-In the following clauses, the location of the warnings is indicated (on the toy itself, on the *packaging*, in the instructions for use, on an accompanying leaflet).

Small toys that are sold without *packaging* shall have appropriate warnings affixed to them. In all cases the warning shall be clearly legible at the point of sale.

When a requirement states that a toy shall carry a warning this means that the warning shall appear on the toy itself.

7.2 Toys not intended for children under 36 months (see A.34)

-The provisions in 7.2 do not apply to toys which, on account of their function, dimensions, characteristics,properties or other cogent grounds, are clearly unsuitable for children under 36 months. Toys which are not intended for but might be dangerous for children under 36 months shall be accompanied by a warning, for example:

"Warning! Not suitable for children under 36 months" or "Warning! Not suitable for children under three years

together with a brief indication of the specific hazard calling for this restriction.

When more than one hazard is present, at least one of the principal hazards shall be indicated.

Examples of specific hazards are:

“Warning! Not suitable for children under 36 months. Choking hazard”

“Warning! Not suitable for children under 36 months. Suffocation hazard”

“Warning! Not suitable for children under 36 months. Strangulation hazard”

The manufacturer should provide appropriate information about the hazard(s) through the examples mentioned above or through other sentences that achieve the same result.

The age warning shall be clearly legible at the point of sale of the product and shall appear either on the toy itself or on its *packaging*.

The indication of the specific hazard may appear in a leaflet or in the instructions for use.

The phrase: "Warning! Not suitable for children under 36 months" or "Warning! Not suitable for children under three years" may be substituted by the symbol as specified in Figure 14.

Figure 14 – Age-warning symbol

The details of the design shall be as follows:

- the circle and the stroke shall be red;
- the background shall be white;
- the age range and the outline of the face shall be black;
- the symbol shall have a diameter of at least 10 mm and the proportions between its different elements shall be such as those prescribed in Figure 14;
- the age range for which the toy is not suitable shall be expressed in years, i.e. 0-3.

The symbol shall be used to indicate only “0 to 3” years and not for any other age-grade warning to avoid misinterpretation of the symbol.

7.3 Latex balloons (see 4.12 and A.16)
The *packaging* of latex balloons shall carry the following warning:

"Warning! Children under eight years can choke or suffocate on uninflated or broken balloons. Adult supervision required. Keep uninflated balloons from children. Discard broken balloons at once."

The *packaging* of natural rubber latex balloons shall indicate "Made of natural rubber latex".

- f there is no *packaging*, the information shall be on the balloons and/or on a leaflet accompanying the balloons.

7.4 Aquatic toys (see 4.18 and A.23)
Aquatic toys and their *packaging* shall carry the following warning:

"Warning! Only to be used in water in which the child is within its depth and under
supervision."

- The warning on the toy shall be visible, indelible and in a colour which contrasts with the body of the toy.
The height of letters shall be 3 mm or more and the marking on inflatable toys shall be 100 mm or less from one of the air inflation inlets.

No advertising copy or graphics shall state or imply that the child will be safe with such a toy if left unsupervised.

7.5 Functional toys (see A.35)
Functional toys or their *packaging* shall carry the following warning:

"Warning! To be used under the direct supervision of an adult."

In addition, these toys shall be accompanied by directions giving working instructions and precautions to be taken by the user, with the warning that failure to take these precautions would expose the user to the hazards - to be specified - normally associated with the appliance or product of which the toy is a scale model or an imitation. It shall also be indicated that the toy shall be kept out of the reach of very young children.

7.6 Hazardous sharp functional edges and points (see 4.7 and 4.8)
For toys that incorporate hazardous sharp *functional edges* (see 8.11, sharpness of edges) or hazardous sharp *functional points* (see 8.12, sharpness of points), attention shall be drawn to the potential hazards of such points and *edges* on the *packaging* and in the instructions for use accompanying the toy, -if appropriate.

7.7 Projectiles (see 4.17.3 c) and 4.17.4 c))

7.7.1 -Toys with projectiles which are able to discharge an object other than that provided with the toy
Toys with *projectiles* which are able to discharge an object other than that provided with the toy shall be accompanied by instructions for use which draw attention to the hazards of using missiles other than those supplied or recommended by the manufacturer.

7.7.2 Toys capable of discharging a projectile with a kinetic energy greater than 0,08 J
Toys capable of discharging a *projectile* with a kinetic energy greater than 0,08 J shall carry the following warning on the toy and/or its *packaging* and in the instructions for use:

"Warning! Do not aim at eyes or face."

7.8 Imitation protective masks and helmets (see 4.14.2 and A.19)
Toys that are imitations of protective masks and helmets (for example motorcycle helmets, industrial safety helmets and fireman's helmets) and their *packaging -deleted text*. shall carry the following warning:

"Warning! This is a toy. Does not provide protection."

7.9 Toy kites (see 4.13)
Toy kites and other flying toys with *cords* exceeding 2 m linking the toy to the child shall carry the following warning:

"Warning! Do not use near overhead power lines or during thunderstorms."

7.10 Roller skates, inline skates and toy skateboards (see 4.15.1.2)
- Roller skates, inline skates and skateboards for children, offered for sale as toys, and their *packaging* shall carry the following warning:

"Warning! Protective equipment should be worn. 20 kg max."

Moreover, the instructions for use or the *packaging* or the toy shall contain a reminder that the toy shall be used with caution since it requires great skill, so as to avoid falls or collisions causing injury to the user and third parties. Some indication shall also be given as to recommended protective equipment (helmets, hand/wrist protection, knee-pads, elbow-pads etc.).

7.11 Toys intended to be strung across a cradle, cot, or perambulator (see 5.4 e))
Toys intended to be strung across a cradle, cot, or perambulator by means of strings, *cords*, elastics or straps shall carry the following warning:

"Warning! To prevent possible injury by entanglement, remove this toy when the child begins to push up on hands and knees."

7.12 Liquid-filled teethers (see 5.5)
- Liquid-filled *teethers* or their *packaging* shall carry the following instruction:

"Cool only in a refrigerator. Do not place in the freezer compartment."

7.13 Percussion caps specifically designed for use in toys (see 4.19)
The *packaging* of percussion caps shall carry the following warning:

"Warning! Do not fire indoors or near eyes and ears. Do not carry caps loose in a pocket."

7.14 /Acoustics (see 4.19 and 4.20 f))
Toys which produce high impulse sound levels, or their *packaging* shall carry the following warning:

"Warning! Do not use close to the ear! Misuse may cause damage to hearing."

For toys using percussion caps add !adjacent to the text above":

"Do not fire indoors! !Use only percussion caps recommended by the manufacturer.

7.15 Toy bicycles (see 4.15.2.2)
- *Toy bicycles* and their *packaging* shall carry the following warning:

"Warning! A protective helmet should be worn when cycling!"

In addition, the instructions for use shall contain a reminder that the bicycle is not suitable for use on public highways. Moreover, parents or carers should ensure that children are properly instructed in the use of *toy bicycles*, particularly in the safe use of the braking systems.

7.16 'Toys intended to bear the mass of a child (see 4.10.1, 4.15.1.2, 4.15.3 and 4.15.4)
- Toys that due to their construction, strength, design or other factors are not suitable for children of 36 months and over shall carry the following warning on the toy and its *packaging*:

”Warning! Not to be used by children over 36 months.”

together with a brief indication of the specific reason for this restriction (e.g. insufficient strength).

The age warning shall be clearly legible at the point of sale of the product.

7.17 Toys comprising monofilament fibres (see 5.9)
- Toys comprising monofilament fibres of straightened length greater than 50 mm attached to a fabric base, or their *packaging*, shall carry the following warning:

”Warning! Not suitable for children under 10 months due to long hair.”.

)*deleted text**

7.18 Toy scooters (see 4.15.5.2)
- *Toy scooters* intended for children with a body mass of 20 kg or less and their *packaging* shall carry the following warning:

“Warning! Protective equipment should be worn. 20 kg max.”

Toy scooters intended for children with a body mass of 50 kg or less and their *packaging* shall carry the following warning:

“Warning! Protective equipment should be worn. 50 kg max.".

The instructions for use shall contain a reminder that the toy shall be used with caution, since it requires great skill, so as to avoid falls or collisions causing injury to the user and third parties. They shall also, as appropriate, include information such as:

- the warnings indicated above;
- how to safely fold or unfold foldable scooters;
- the necessity to pay attention that all locking devices are engaged;
- the dangers of using it in public highways;
- a recommendation to use protective equipment such as helmet, gloves, knee-pads and elbow-pads.

7.19 -Rocking horses and similar toys (see 4.15.3 and A.21)
Rocking horses and similar toys, where the intended sitting surface is 600 mm or more above the ground, shall carry the following warning:

”Warning! Risk of falling. Do not leave children under 36 months sitting or playing unattended.”

The warning shall be clearly legible at the point of sale of the product..

A.30 Liquid-filled toys (see 5.5 and A.42)
These requirements are intended to address the hazards associated with punctured *teethers* and similar products where the child might come into contact with liquids that are contaminated or become contaminated due to a puncture.

The requirements do not apply to electrolyte in batteries nor to paints, finger paints or similar items in containers.

The warning required in 7.12 is intended to make parents aware of the hazard associated with a *teether* which is so cold that it could harm the child.

A.31 Shape and size of certain toys (see 5.8 and A.43)
These requirements are intended to address potential impaction hazards associated with toys intended for children who are too young to sit up unaided.

Toys should be tested according to 8.16 (geometric shape of certain toys) "as supplied". In other words, they should be tested for this requirement before other relevant tests are conducted.

In determining which toys are intended for such children, the following factors are relevant: the manufacturer's stated intent (such as on a label) if it is reasonable, the advertising, the promotion, the marketing and whether the toys are generally considered as suitable for the age group in question.

It is recognised that children normally sit up unaided between five and ten months of age.

A.32 Toys comprising monofilament fibres (see 5.9)
Monofilament fibres attached to fabric base is not the usual method of production, but a toy made in this way was involved in the death of a child of 5 months. The requirement does not apply to monofilament hair which is normally rooted in a dolls head or to pile fabric used in the manufacture of teddy bears and animals etc., for which there are no accident data.

A.33 Warnings and instructions for use (see 7.1)
Warnings, precautions and instructions for use should as a rule be given in the national language(s) of the country where the toy is sold.
Small toys that are sold without *packaging* (for example from a display box or from a vending machine) should have appropriate warnings etc. affixed to them. It is not sufficient to have the warning only on the display box.

General information on how to elaborate and present information for the consumer is given in ISO/IEC Guide 37 - *Instructions for use of products of consumer interest*.

A.34 Warning for toys not intended for children under 36 months (see 7.2)

- The use of the warning should not be misleading or incorrect. Toys intended for children under 36 months should comply with the requirements of Clause 5 (small parts, small balls, sharp edges, sharp points etc.)
The warning does not release the manufacturer or his authorized representative from his obligation to meet these requirements. Information on deciding which toys are intended for children under 36 months and which toys are not, for example, can be found in CR 14379.

The use of the warning should not be confused with a recommendation for use. A recommendation for use
could, for example, be a positive age recommendation by the manufacturer indicating the intended age of use.

Factsheet

The 2009 Toy Safety Directive

Provisions on Warnings

October 2009

This document is one of a series of factsheets, aimed at providing a general overview of the changes introduced by the new Toy Safety Directive (2009 TSD) as adopted in 2009. The objective of the TIE/EC factsheets is to provide guidance to toy manufacturers across the EU regarding the implementation of the 2009 TSD. A particular focus is put on the obligation of manufacturers.

The 2009 TSD will strengthen the rules as laid down in the 1988 TSD. As a result, this new legislation will require adaptations in the manufacturing chain, as well as new procedures along the supply chain.

The 2009 TSD was published in the *Official Journal of the European Union* on 30 June 2009 and entered into force on 20 July 2009. The general provisions of the 2009 TSD will be applicable to toys placed on the market as of 20 July 2011, while the chemical provisions will be applicable to toys placed on the market as of 20 July 2013 (additional 2-year transition period for chemical properties). In practice, this means that the toys compliant with the 1988 TSD will be allowed to be placed on the market until 19 July 2011 or 19 July 2013 in the case of certain chemical provisions.

Warnings

General rules

General warnings which specify user limitations should be provided with the toy where appropriate for safe use. In addition, Part B of Annex V of the 2009 TSD provides that specific warnings for certain categories of toys should be provided.

In addition to the mandatory requirements set out in the 2009 TSD, the harmonized standards also specify warnings that should accompany certain categories of toys.

Within its territory, a Member State may stipulate that the warnings shall be written in a language or languages easily understood by consumers, as determined by the Member State.

Location of the warnings

The manufacturer shall mark the warnings in a clearly visible, easily legible and understandable and accurate manner.

Warnings must be marked on the toy, an affixed label or the packaging. If appropriate, warnings should also be included in the instructions.

It is important to note that in cases where the toy is sold without packaging, the warning needs to be affixed on the toy itself. Affixing warnings on a counter display box is not sufficient to meet the requirements of the 2009 TSD.

Warnings which determine the purchase decision, such as minimum and maximum user age indications and the specific warnings described in Part B of Annex V of the 2009 TSD, must appear on the consumer packaging or be otherwise clearly visible to the consumer before the purchase, even in cases where the purchase is made online.

Specific warnings
User limitations must contain at least the minimum or maximum age of the user. If appropriate, they shall also contain the abilities or characteristics required by a user to be able to use the toy safely (e.g. ability to sit unaided, maximum and minimum weight of the user, need to use the toy under supervision).
Economic operators may choose between a warning phrase or pictogram (or both):
Warning - Not suitable for children under 36 months
In any case, the wording and/or the pictogram must be preceded by the word "Warning" or "warnings" as appropriate.
The specific warning *"Not suitable for children under 3 years"* and pictogram described in Part B of Annex V of the 2009 TSD in relation to children under 3 years cannot be used for toys intended for children under 3 years.
More generally, specific warnings provided for certain categories of toys must not conflict with the intended use of the toy, as determined by virtue of its function, dimension and characteristics.
If necessary, the European Commission may propose wording for the specific warnings of certain categories of toys.

Sources of information
The final text of the 2009 TSD is available here and as a backgrounder the text of the 1988 TSD is available here.
The two documents can also be found at the following URLs:
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ%3AL%3A2009%3A170%3A0001%3A0037%3AEN%3APDF
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1988L0378:20090112:EN:PDF.

Important notice
This factsheet reflects our understanding of the 2009 TSD text published in the *Official Journal of the European Union* on 30 June 2009 and is intended merely to highlight in a general manner certain provisions of that text. TIE does not make any warranties about the completeness of the information herein and assumes no responsibility for any use of or reliance on this factsheet.
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STAND4ALL

Topic 'Further Implementation'

Short introduction to 'Further Implementation'

The final topic of the STAND4ALL training is entitled “Further Implementation” and repeats the importance of implementing accessibility requirements in standards development. It also deals with the question what do the trainees do with the information they received during the training? In the training several topics were being addressed to make clear why user input in standardization is important and how this can be achieved. Practical exercises and a role play supported this in a practical way. Questions to be answered during this 'Further Implementation' session include “What have you learnt?”, “What is your view of CEN / CENELEC Guide 6” and “What are your personal objectives following the STAND4ALL training?”

As both participation in standardization as applying accessibility requirements in standardization require specific skills and knowledge, it essential that at the end of the course it is confirmed that users and committee members have these skills and knowledge and that trainees know how to bring these skills and knowledge into practice.

In the training several topics are being addressed to make clear why user input in standardization is important and how this can be achieved. With exercises and a role-play we supported this in a practical way. Throughout the course, participation of users and of accessibility experts in standardization is one of the central figures. The importance of applying 'Design for All' principles and CEN/CENELEC Guide 6 in standardization is addressed to both the user trainees as the committee member trainees throughout all topics. Now, in this last Topic "Further Implementation" possibilities for concrete action are presented.

The final effect of the STAND4ALL course may depend on how the trainees will bring the lessons learned in practice.

The skills and knowledge presented during the course will be repeated during this final Topic. Together with concrete follow-up

suggestions, it will help trainees to find out how they can chart their course in near future.

Concrete questions for trainees are:
- What will you do with the information gained in this training when you go back home?
- What are the possibilities to use the training in daily work?

To answer these questions, as well as to help trainees further, different opportunities to work in standardization are addressed. Also, the role the trainees – as accessibility experts in standardization- will be discussed.

The 'Further Implementation' session is performed at the end of the STAND4ALL course This means it is a combined session for both groups of trainees (users and committee members) at the end of their one/two day(s) of training. The module is designed to be completed in one and a half hours. In about 60 minutes the trainees discuss their potential role in standardization and how a user perspective could be improved.

The topic will consist of the following parts:
1. possibilities of follow-up projects
2. personal future activities

Goals of this topic are:
- Trainees understand the benefits of user involvement in standardization
- Trainees know about possibilities for further action and make a personal implementation plan

Annexes:
- STAND4ALL document 'Further Implementation'
- Presentation
- List of relevant CEN TC’s
- ETSI contact overview

Sustainability & further implementation

In the training several topics are being addressed to make clear why user input in standardization is important and how this can be achieved. With exercises and a role-play we supported this in a practical way. The question is; what do you do with the information gained in this training when you go back home? What are the possibilities to use the training in daily work?

In this topic we will address different opportunities to work in standardization and discuss the role the trainees would like to play.

For further reading about the subject of active participation, the following documents and websites can be used:

- CEN Brochure on The World of European Standards ftp://ftp.cen.eu/CEN/AboutUs/Publications/Compass.pdf
- CEN Brochure on making standards via ftp://ftp.cencenelec.eu/PUB/MakingEuropeanStandards.pdf
- CEN Brochure of Standards at Play via ftp://ftp.cen.eu/PUB/Standards@play.pdf
- ISO Brochure 'Your voice matters'(ISO) via http://www.iso.org/iso/copolcoyourvoicematters.pdf
- www.anec.org and www.edf-feph.org
- www.stand4all.eu
- E-Learning module STAND4ALL via www.stand4all.eu

Background information

Standards play a role in everyday life and so they play a role in people's quality of life. Therefore the views and experiences of those affected by a standard should be taken into consideration. Both the secretary and committee member have the responsibility to make sure these views and experiences are taken into consideration.

Why should representatives of users/consumers be present in standardization?

- Consumers are affected by standards and are the 'end users' of many.
- Increased public credibility for standards
- Faster, cheaper and better standards
- Consumers bring a common sense and "plain English" approach, have specific knowledge and skills
- Involving consumers (the end user) from the start can speed up the process and avoid costly mistakes
- Understand user's different situations and (im)possibilities and so increase satisfaction for all users

We conclude: Users involvement means input with a professional and personal view. The 'Further Implementation session' aims to transfer this conclusion into concrete steps.

***Further Implementation session**: 'A mutual increased understanding of the needs and viewpoints of both stakeholder groups'*

For many of the trainees the STAND4ALL training is their first opportunity to meet trainees in the other stakeholder group. The interactive nature of the training should promote discussion amongst both groups. Due to the nature of delivering training to persons with disabilities (use of signers for deaf people, or alternative formats for the visually impaired), the committee member groups are able to witness first hand both the everyday issues faced by users and the potential barriers to standardization.

Delivery of training to committee members

Feedback comments received by committee members' trainees* further illustrate the point:

The importance of including individuals with disabilities in standardization and not just their representatives The pro active involvement [of people with disabilities] is fundamental to a functional standard being effective I know now that funding is a problem [for people with disabilities to be involved in standardization]

*collected from trainees of the STAND4ALL training session 2009-2010

The training should deliver a significant focus on Guide 6, especially for the interactive exercises. The committee members trainees are likely better informed in using the guide following the training.

Additionally, in this session 'Further Implementation' you should provide feedback from trainees on using the Guide: Is the guide itself the most effective tool to promote inclusion of accessibility and disability issues in standardization?

Key areas that could be considered for improvement of the guide include: - Improving the accessibility, especially for those with visual impairments. This is of particular concern because a guide promoting accessible products and services, should itself be accessible. - How committee members had heard of the Guide before this training? - Were there any errors in the tables of the Guide discovered during the exercises?

Delivery of training to people with disabilities

A proportion of the trainees in the user stakeholder group can be themselves disabled (or had accessibility requirements). Another part of the trainees in this user stakeholder group are persons with no disability but who are representatives of disabled people.

Evaluation from the STAND4ALL Training session 2009-2010

There was evidence of an increased understanding of the needs and viewpoints of both stakeholder groups, as putting the groups together allowed for informal discussion about issues as well as the interaction that took place as part of the role play sessions. In particular, some of the practical issues about working with disabled people in standards committees were made very apparent; many TC participants had never worked with a Sign Language Interpreter and had to learn how to conduct themselves formally in session and informally to ensure that they included deaf people effectively in the training. Another issue was informal discussions about access to training premises, hotels and transport. Many TC participants saw 'first hand' what sort of barriers disabled people face in day to day living and some used examples of these during discussions in the training.

Another key issue that engendered much discussion was the issue of how to use the knowledge and life experiences of disabled people to inform standards development. It was clear that some disabled people are 'experts by experience' but only in the issues faced by people with same impairments as them, rather than having 'pan disability' knowledge.

Participants of both types realised that simply 'having a disabled person on the committee' is not going to deliver the right results. That person needs to have the right knowledge and expertise, they need to be clear about what they can comment on and what they can't, and how well they actually represent 'disabled people' who are very diverse community. Disabled people may also need practical training, support and 'mentoring' to enable them to develop the skills they need to effectively participate in committees, this is not something that is the responsibility of disabled people to do, participants recognised that NSBs need to do more to support the involvement of disabled people.

Another issue was that participants commented informally that the examples used in the role play (the topic for which was 'lifts') had an obvious relevance to disabled people, but that there was a danger that other issues which would affect disabled people, but which were not seen as being 'obviously relevant' to disabled people might mean that disability issues were overlooked or not considered in some standards. An example of this was given by the presenter, who runs BSI's Disabled Experts Reference Group. She noted that her group had been asked for its views on a draft standard about biometric capture and that those who had produced the document had missed most of the issues that would create barriers for disabled people in reality, e.g. such as the accessibility of the actual capture process.

A further issue was the question of how well NSB's currently involve disabled people in the standards development process. Several NSBs have a specific team or division promoting consumer interests in standardization. A range of models exist, with the chosen model differing according to resource availability in the NSBs. Other NSBs have no specific activity in this field.

Due to the differing sizes of NSBs and national contexts within the EU a single model for user participation for all NSBs would not be appropriate.

In this 'Further Implementation' session we'll focus on two objectives, namely:

- objectives for users
- objectives for committee members

The objective for users

What ?
Promote, transfer and spread your knowledge on accessibility to standardization experts

How?
Via participation of users in standardization, either at European or national level

Explanation:
(Representatives of) users who want to share their particular knowledge and experience about the products and services they use or that matter to them can participate in standardization. By participating in standardization, both at European and at national level, users have an opportunity to influence the standardization process by providing information about their attitudes, experiences and their (technical) knowledge.
A (representative of) user participates in meetings of national or international Technical Committees where standards are developed.

Although no particular background is required, users should have an interest in, and specific (technical) knowledge of, the subject area.
Indeed, user participation in standardization should be increased, but taking into account some requirements as 'being disabled' does not automatically mean someone is an 'expert in disability'. The level of experience and abilities of a user need to be considered by both the NSBs and the group of user stakeholders; user participation requires competent, professional, broader knowledge on a range of different disabilities. The background and the level of knowledge of users on standardization is considered to be very important in relation to future participation in standardization and the effectiveness of it. Having no or little knowledge on 'The world of standardization' and its processes is considered to be a barrier. Personal skills of users are of great importance for the activeness during the session and follow-up.

Someone who is neither an expert in the specific field nor has sufficient expertise in standardization will be ignored in the standardization process unless the person can make advantageous use of arguments. At the same time, as long as the input from users is based on clear arguments, technical committees and their members will be open for it and take it into consideration. Having both experience and knowledge is forceful. During the 'Further Implementation topic' user-trainees should be able to make clear that they have knowledge on how to ensure consumer issues are considered in the standardization process and what skills are necessary in doing so

The user organizations of people with disabilities need to identify priority areas and potential areas of interest, as CEN publishes about 500 standards a year and (on top of that, CENELEC, ETSI, ISO and IEC also are publishing every year). In CEN there are about 400 Technical Committees, covering thousands of working groups. This leads to a difficulty to find an appropriate technical committee for users to participate in. Suitable ongoing activities can be targeted by liaising with CEN and the NSBs in this respect and to support their members in the preparation and participation.
Of help is the List of Ongoing Activities (added in this manual), the stand4all website (www.stand4all.eu), the e-Learning module (also via the stand4all website) and the

brochure provided by CEN ('Standards at Play), that illustrates that standards are always working in everyday life.

In general, the standards being developed that address issues of concern to users, may include some of the following : health, safety, ergonomics, quality, comfort, environmental protection, ease-of-use and compatibility.

Participation of users in standardization, either at European or national level: how does it work?

1. Contact your national user umbrella organization

The umbrella's often cooperate with national standards bodies, or with larger consumer group. Examples such as the Maltese situation where the NSB has an agreement with a disability umbrella organization for membership and input and other countries, a government department supports umbrella organizations financially to take (partly) part in standardization, can be used as a model.

2. Contact your National Standardization Body (NSB)

This body is the representative national standards body of your country. Contact details are available on CEN Website, via 'Members':
http://www.cen.eu/cen/Members/Pages/default.aspx
However, it depends on how the NSB in a country is structured and how it channels consumer views into its work. In some countries, national standards bodies seek the views of consumers by involving one or more national consumer associations both in policy-making and in standards development work.

Several NSBs have a specific team or division promoting consumer interests in standardization. A range of models exist, with the chosen model differing according to resource availability in the NSBs. Other NSBs have no specific activity in this field.

Due to the differing sizes of NSBs and national contexts within the EU a single model for user participation for all NSBs would not be appropriate.

For concrete user participation, it could be useful to make use of existing models.
The different models (identified by the STAND4ALL study) can be listed as follows (with examples):

1. A Disabled Experts Reference Group, including representatives of disabled people, within a Consumer Network supported by a Consumer Unit (model BSI, AENOR).
2. A national mirror group for general accessibility issues, including representatives of disabled and elderly people (model NEN, NSAI, SIS, DIN)
3. Attendance of representatives of people with disabilities on the Board of Standards of a NSB (model Malta)
4. Attendance of representatives of people with disabilities in various national mirror committees (model ON)
5. Establishment of an action plan on Design for All, including priority of areas (model SN)

Contact the European consumer and user organizations

At European level, both ANEC and EDF are active in standardization. The ANEC Design for All Working Group includes experts from both the consumer movement and the disability/elderly organizations and is represented in various Technical Committees, for example CEN TC 293 'Assistive products for persons with disabilities', CEN TC 261 WG 2

'Accessible Packaging' and CENELEC TC 61 WG 4 'Safety of household appliances for vulnerable people'. EDF is involved in standards development with regard to accessibility; examples are M/420, M/376, CEN TC 256 WG 44 TSI PRM and CEN WS 51. ANEC and the European Disability Forum (EDF) signed a Memorandum of Understanding (MoU). Building on the long-standing collaboration between the ANEC Design for All WG and EDF, the EDF Executive Committee and the ANEC Steering Committee have agreed to join forces in order to achieve a high level of safety and accessibility for consumers of all ages and abilities. More information can be found via: www.anec.org and www.edf-feph.org

The objective for committee members

What ?

- **Promote, transfer and spread your knowledge on accessibility to standardization other standardization experts**
- **Promote, transfer and spread your knowledge on standardization to 'new' stakeholders**

How?

By taking into account the needs of elderly and disabled people – using CEN/CLC Guide 6 on a regular basis

The committee members should 'spread' the word in their standardization work. They should convince their "standardization colleagues" while developing or reviewing a standard. This could be based on an exception mechanism, where committee member provides a clear statement of whether that document would have implications for older and disabled people, with evidence supporting decisions not to include accessibility requirements.

Committee members are asked to make effective use of CEN/CENELEC Guide 6, whose use by TCs is already mandated by CEN.

Also committee members should contact their NSB
As said before, it depends on how the NSB in a country is structured and how it channels consumer views into its work. It is of high importance that committee members know how their NSB is organized and how the NSB deals with this matter; some NSBs take the responsibility for co-ordinating the participation of user representatives and committee members in subjects such as child safety or ergonomics. The committee member can support users in those projects to transfer their requirements into standardization processes.

The NSBs can also provide guidance for a nomination of the expert to the (mirror committee of) CEN/CENELEC BT WG on Guide 6 Implementation mechanism.

Examples of follow-up by committee members is given in box below

What you have done yourself with regard to accessibility issues or CEN/CLC Guide 6 in standardization after your course?

- I am currently helping to draft a new British Standard on Inclusive Service Provision, which deals specifically with the accessibility of services by consumers who may be in vulnerable circumstances, so I will try to ensure that the relevant parts of Guide 6 and other learning from the training are reflected in the draft standard.
- For me this was a great opportunity to network and meet some people for the first time. I will likely join the BSI disabled experts user reference group as a result of the course.
- The message I transmitted to my colleagues [in Germany] who are, TC Chairmen, TC Secretaries, committee members, was that active participation of disabled persons within TC working groups needs to be considered with due attention, as well as introduction of any specific requirements that may be of interest to any disabled

persons.
- ISO/TC 159 WG2 and ISO/TC 159/SC1/WG1 together with NSB are working on an amended definition about "accessibility" which is quite important for the understanding and addressing of ergonomics issues to accessibility.
- We will propose to work out a paper/overview addressing the different concepts and different understandings of "Design for All" and/or equivalent expressions.
- I have prepared an extract for our international department that they are willing to use for training courses of TC/SC/WG Chairmen, Secretaries and Convenors held on a regularly basis.

Committee members can contribute to ‘accessibility in standardization’ by making the use of the E-Learning module, developed by STAND4ALL . Information exchange on that platform is essential, both between the two groups of stakeholders as for within one group of stakeholders. In the E-Learning environment there are different types of activities: the discussion forum, a wiki and the quizzes.

The discussion forum is a good method to answer a question and to discuss the views of different users. A typical task in a forum would be to answer the question given and to reply to at least three other discussion threads. As discussions can take place over an extended period of time wherein the trainees are asked to return to the forum and to check what has been discussed. In a forum you can also exchange information on practical solutions.
Wiki is used to collect, sort, and arrange information in a structured way. The trainer usually provides a subject, topic or theme and creates a basic structure. The content is provided by the trainees who may use a forum to discuss how to proceed with the assignment.
Quizzes can be used to assess whether pre-defined learning goals were achieved. In the STAND4ALL E-Learning module there are different types of quizzes including closed texts, multiple choice answers, or free text. Trainees can monitor their performance in the course. A messaging system allows individuals to get in touch with each other.

Parts of the training on accessibility and disability issues could be made obligatory for ESOs and NSBs.
The STAND4ALL training framework could be rolled out on national and European level; ideas on this are currently under investigation.

Further Implementation

Agenda

- Part 1:

Repetition of training and trainee objectives

- Part 2:

Presentation on follow-up projects

Interactive session on personal future activities

2

This last topic is divided into two parts.

The first part is to make sure trainees:

- understand STAND4ALL objectives

-understand the benefits of user involvement in standardization

As both these issues are handled in the training, this should thus be a repetition to the trainees. There should not be any 'new' information here.

The second part is on the continuation of user involvement in standardization. Therefore, concrete follow-up projects will be explained and refered to. The trainer should link theses 'follow-up projects' to 'future steps taken by trainees' . Therefore, PART 2 of this presentation needs to be handled interactively. In this second part, it is important to start the discussion with trainees to be sure that trainees set personal follow up actions

With this slide it can be made clear what the first part of the presentation is about.

Please make sure that this presentation does not contain very much 'new information', it is moreless a discussion on what has been learnt in the training and how this can become 'alive'.

Please explain all bullets:

Trainees understand STAND4ALL objectives

Trainees understand the benefits of user involvement in standardization

Trainees set personal follow up actions

PART 1
STAND4ALL objectives

Trainees understand the benefits of user involvement in standardization

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In the STAND4ALL trainings, we:

-explained to participants that involvement is not about being 'nice'. We also saw that disabled and older people can give a professional and personal view on how issues affect them.

(this is explained more in detail in slide 5)

In order to make sure that trainees understand the benefits of user involvement in standardization, we have clarified in the training

-what the drivers are for involving disabled and older people in standards development

(this is explained in slide 6)

Trainees understand the benefits of user involvement in standardization

Users: input with a professional and personal view

5

In the training, we have explained that users are one of the stakeholders that should be present in standardization.

Why should they be present?

-Consumers are affected by standards and are the 'end users' of many.

-Increased public credibility for standards

-Faster, cheaper and better standards

-Consumers bring a common sense and "plain English" approach, have specific knowledge and skills

-Involving consumers (the end user) from the start can speed up the process and avoid costly mistakes

-Understand user's different situations and (im)possibilities and so increase satisfaction for all users

Trainees understand the benefits of user involvement in standardization

The drivers for involvement

- Policy and legislative drivers
- Demographic changes and changes in society
- The business case
- The political and moral case

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The drivers for involving disabled and older people in standards development are the following four:

Policy and legislative drivers

1.Demographic changes and changes in society

2.The business case

3.The political and moral case

Please repeat shortly what these four drivers mean and ask trainees if they remember and understand.

1. Policy and legislative drivers

The UN Convention on the Human Rights of Disabled People

EU and Member State legislation on non-discrimination and rights of disabled people

2. Demographic changes and changes in society

People are living much longer than they used to

Many more older people live independently at home

Older people's aspirations for inclusion are growing – 'grey power'

More disabled babies are being born and surviving into adulthood

Many more disabled people living independently not institutions

More disabled people are able to improve their life chances through education, employment and social participation so they demand access to services

3.The business case

More disabled people are setting up their own businesses to provide

PART 1
STAND4ALL objectives

For users:

Promote, transfer and spread your knowledge on accessibility to standardization experts

> Participation of users in standardization

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We have exlained why user involvement in standardization is important and also what drivers are.

Now, we ask both the users and the committee members to take this into account and to start working on this actively.

They should start 'spread the word' about this in their own organisation.

We ask users to

- ***promote, transfer and spread their knowledge on accessibility to standardization experts***

Please ask the audience if they have any ideas how to do this.

Examples of how this can be done will be given in PART 2 of the presentation.

PART 1
STAND4ALL objectives

For committee members in standardization:

Promote, transfer and spread your knowledge on accessibility to other standardization experts

Promote, transfer and spread your knowledge on standardization to 'new' stakeholders

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We ask committee members to

- Promote, transfer and spread their knowledge on accessibility to other standardization experts

- Promote, transfer and spread their knowledge on standardization to 'new' stakeholders

Please ask the audience if they have any ideas how to do this.

Examples of how this can be done will be given in PART 2 of the presentation.

PART 2

- Presentation on follow-up projects
- Interactive session on personal future activities

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PART 2 is on the continuation of user involvement in standardization. Therefore, concrete follow-up projects will be explained and refered to.

After clarification of these ‘follow-up projects’ the trainer should ask trainees about their personal future activities.

Please make sure the trainees have an idea of what can be done in next future by them. Treat the session as open as possible, so that trainees are not ‘scared’ to committ.

Follow up activities

Existing relevant TCs and how to get involved

Existing relevant projects and how to get involved

STAND4ALL Network

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With this slide, we want to show which ways are there to be taken as follow-up activities.

We want to stimulate the users to actually go into standardization, so please give them guidance. Perhaps in interaction with the committee members.

Existing relevant TCs and how to get involved; a list is added in the manual

This list can be discussed.

•The TCs have National Mirror Committees, please guide the trainees to these mirror commitees (contact via their NSB)

•In which TCs are the committee members in the room participating?

Existing relevant projects and how to get involved (both at national level and at European level).

Propose different options, but also try to find out if trainees themselves have additions to this.

•ANEC

•CEN/CLC/BT/WG ' Guide 6 – Implementation mechanism'

Here are some examples of representation of older persons or persons with disabilities within various NSBs (please look after the background of trainees to see which ones are applicable)

NSBs as contact points for the participants and interested stakeholders. Many standards bodies now have a team or division looking after consumer interests, or even more specifically, disability issues.

-In the British NSB, BSI, the Consumer & Public Interest Network includes a Disabled Experts Reference Group (DERG). They provide comment on issues arising in standardization.

-In the Spanish NSB, AENOR, national/regional authorities and sector federations participate in governing bodies and technical committees. Several persons with disabilities attend Spanish national technical committees, e.g.

-In the Austrian NSB, ON, the Consumer Council, and Non-Governmental Organisations, NGOs, participate in the technical committees.

- In the Irish NSB, NSAI coordinates the AASCC (access for all standards consultative committee)

-In the Dutch NSB, NEN, there is a national projectteam ' Accessibility for All', in order to promote the use of CEN/CENELEC guide 6

Stand4All Network (explanation via next slide)

STAND4ALL Network

Public website
http://stand4all.eu

Trainees information exchange system
Communication/virtual meetings:
E-Learning

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The objective is to maintain a sustainable network.

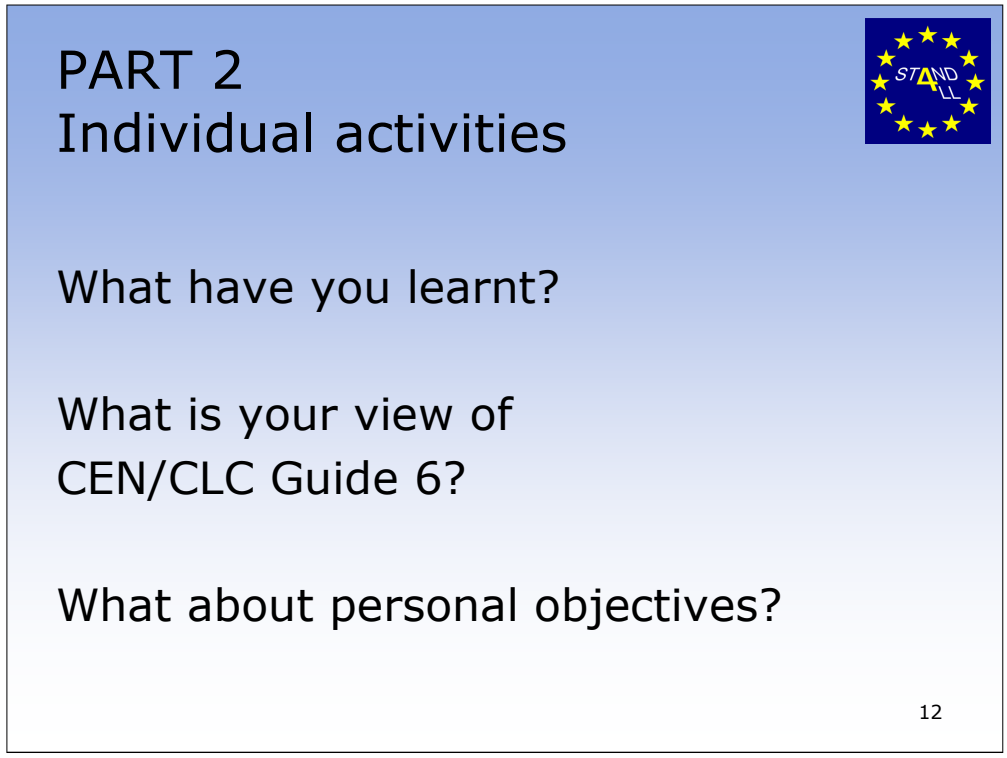
STAND4ALL Network of trainees :

A possibility of maintaining communications with trainees to remind and encourage them to continue to address accessibility issues in their own standards work.

Could be via the website: http://stand4all.eu

or

a trainees information system/ virtual meetings : the E-Learning Module that is set-up by the STAND4ALL consortium



Break into groups to discuss future objectives. E.g groups of 4, then each group explains to the audience

What have you learnt?

From - yesterday and - today ?

Answers can vary from "meeting other stakeholders", "lobbying", "further knowledge on standardization", "further knowledge on accessibility in standardization", "concrete use of Guide 6" etc.

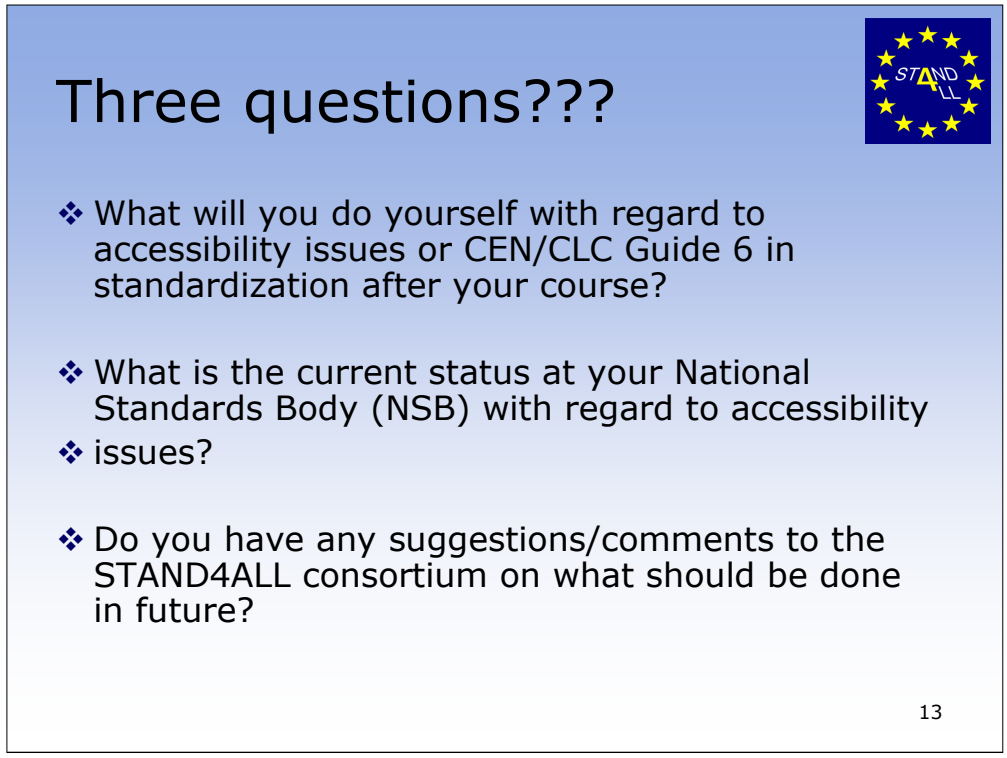
What is your view of CEN/CLC Guide 6?

Please ask if trainees feel that they understand the Guide now and if they are able to use the Guide.

Please ask if trainees are going to use the Guide now. Why yes or why no, please find out difficulties / barriers.

What about personal objectives?

Please ask trainees to re-think about what their learning objectives were at the beginning of the session and if the training fulfilled.



Please make this session as interactive as possible.

Please ask these three questions, to start a discussion. These questions will also (additionally) send by email to all trainees, so that they can take the time to answer them more concretely after the course > **as " Homework after the training course"**

Nevertheless, start to discuss these three questions during this topic as an opening for any answers given by trainees.

What will you do yourself with regard to accessibility issues or CEN/CLC Guide 6 in standardization

after your course?

Please ask trainees about concrete steps to be taken after the course. This varies of course because of the different backgrounds of the trainees (both for users and committee members).

Please investigate:

•Will committee members try to ensure that the relevant parts of Guide 6 and other learnings from the training are reflected in a draft standard?

•Will committee members use Guide 6 as a checklist to ensure they have the appropriate content?

WHY YES or WHY NO?

Please investigate:

-Will users ' spread the word' in their organization and seek contact with their NSB?

-Will users increase the use Guide 6 as a checklist to ensure requirements of elderly and disabled are taken into account in standardization?

WHY YES or WHY NO?

What has is the current status at your National Standards Body (NSB) with regard to accessibility issues?

Please investigate if trainees know this status, and if not: please stimulate them to investigate this.

Ask them if they know how to investigate this (do they know the routes/contactpersons)

Do you have any suggestions/comments to the STAND4ALL consortium on what should be done in future?

Investigate if trainees have any. Possibilities are:

1. Identifying NSB's that are not yet engaged in this field and encouraging them to take action

2. Supporting NSB's that have been involved to roll out the training to relevant staff and representatives

in their own bodies and in NSB's that are not yet engaged

3. Targeting chairs and secretaries of TCs/PCs and other key contacts, to ensure that they are aware of

the need for their standards to address accessibility issues

Make it more concrete (use of checklists, revision of Guide 6, the accessibility of the Guide itself, the accessibility of documents provided by NSBs etc)

Conclusion

Accessibility

<>

standardization

No more exclusion !

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This is what we should be the case, finally.

STAND4ALL List of relevant ETSI persons	

ETSI Secretariat

Delegates to the DATSCG group (Design for All and Assistive Technology Standardization Coordination Group):

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ETSI STF's

Following are the STF's that have a relation with Design for All/Assistive Technology

STF181 (closed)

Requirements of Assistive Technology Devices in ICT (STF 181)
No homepage available anymore.

Members can possibly be reached by contacting the STF181 secretary:
ted.laverack@etsi.org

STF184 (closed)

Design for All: Guidelines for ICT Products and Services (STF 184)
No homepage available anymore.

Members can possibly be reached by contacting the STF184 secretary: ted.laverack@etsi.org

STF265 (closed)

User Profile Management (STF 265)
http://portal.etsi.org/STFs/STF_HomePages/STF265/STF265.asp

Members are listed on the homepage and can probably still be reached by sending an email
to the convener: francoise.petersen@apica.com

STF284 (closed)

Human related technical guidelines for real-time person-to-person communication services (STF 284)
http://portal.etsi.org/STFs/STF_HomePages/STF284/STF284.asp

Members are listed on the homepage and can probably still be reached by sending an email to the STF leader, bjorn-olav.hestnes@telenor.com

STF286 (closed)

Access symbols for use with video content and ICT devices (STF 286)
http://portal.etsi.org/STFs/STF_HomePages/STF286/STF286.asp

Members are listed on the homepage and can probably still be reached by sending an email to the STF leader, mellors@etsi.org

STF287 (closed)

User-oriented handling of multicultural issues in multimedia communications (STF287)
http://portal.etsi.org/stfs/STF_HomePages/STF287/STF287.asp

Members are listed on the homepage and can probably still be reached by sending an email to the STF's email address: mailto:multicultural@etsi.org

STF304 (closed)

AT Commands for Assistive Mobile Device Interfaces (STF 304)
http://portal.etsi.org/STFs/STF_HomePages/STF304/STF304.asp

Members are listed on the homepage and can be reached as follows:
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Erik Zetterström <erik.zetterstrom@omnitor.se>

STF322 (closed in March 2009)

Guidelines for generic user interface elements for 3G mobile terminals, services and applications (STF 322)
http://portal.etsi.org/STFs/STF_HomePages/STF322/STF322.asp

Members are listed on the homepage and can probably still be reached by sending an email to the convener: bruno@vonniman.com

STF324 (closed)

Extending e-Inclusion to Public Internet Access Points (PIAPs) (STF 324)
http://portal.etsi.org/STFs/STF_HomePages/STF324/STF324.asp

Members are listed on the homepage and can probably still be reached by sending an email
to the convener: francoise.petersen@apica.com

STF326 (closed)

Generic spoken command vocabulary for ICT devices and services (STF 326)
http://portal.etsi.org/STFs/STF_HomePages/STF326/STF326.asp

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to the responsible person: stephen.furner@bt.com

STF342

Personalization and User Profile Management Standardization (STF342)

http://portal.etsi.org/STFs/STF_HomePages/STF342/STF342.asp

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STAND4ALL List of relevant CEN/TCs	

3.1 Construction

CEN/TC 33: Doors, windows, shutters, building hardware and curtain walling
nathalie.girardot@afnor.org

CEN/TC 163: Sanitary appliances
cristiano.fiameni@uni.com

CEN/TC 247: Building automation, controls and building management
mschumacher.sce@bluewin.ch

CEN/TC 278 Road transport and traffic telematics
jelte.dijkstra@nen.nl

CEN/TC 315: Spectator facilities
annemieke.venemans@nen.nl

CEN/TC 339: Slip resistance of pedestrian surfaces – Methods of evaluation
michael.schmitt@din.de

3.2 CONSUMER PRODUCTS

CEN/TC 136: Sports, playground and other recreational equipment
daniela.rickert@din.de

CEN/TC 207: Furniture
fabrizio.tacca@uni.com

3.3 HEALTH AND SAFETY

CEN/TC 70: Manual means of fire fighting equipment
catherine.pineau@afnor.org

CEN/TC 122: Ergonomics
stefan.krebs@din.de

CEN/TC 169: Light and lighting
soheil.moghtader@din.de

3.4 HVAC etc (gas appliances etc)

Appliances burning gaseous fuels
CEN/TC 49: Gas cooking appliances
raffaella.angelini@uni.com

CEN/TC 58: Safety and control devices for gas-burners and gas-burning appliances
mike.leggett@bsigroup.com

CEN/TC 62: Independent gas-fired space heaters
Danny.Peacock@bsi-global.com

CEN/TC 109: Central heating boilers using gaseous fuels
han.leonhard@nen.nl

3.5 ISSS (ICT)

CEN/TC 224: Machine-readable cards, related device interfaces and operations
clement.chevauche@afnor.org

3.6 MECHANICAL ENGINEERING

CEN/TC 10: Lifts, escalators and moving walks
gael.cholletmeirieu@afnor.org

CEN/TC 98: Lifting platforms
armin.weih@vdma.org

CEN/TC 152: Fairground and amusement park machinery and structures – Safety
giovanni.micciche@uni.com

3.7 SERVICES

CEN/TC 329: Tourism services
claudia.laabs@din.de)

CEN/TC 331 Postal services
Tim.Kniep@nen.nl

3.8 TRANSPORT AND PACKAGING

CEN/TC 242: Safety requirements for passenger transportation by rope

CEN/TC 261: Packaging
annick.galpin@afnor.org

STAND4ALL

Evaluation Forms

Evaluation form – For completion by participants from older and disabled people's organisations

Understanding the standards making process and how to get involved - training feedback form

Name:

Organisation:

1. Are you a disabled or older person?
   (you do not have to answer this question)

2. Current involvement in standards work:

3. Email address or preferred contact method:

We hope that you have found the training informative and useful, please complete the feedback form to help us evaluate the training and improve it for the future.

Day 1

Session 1 – Welcome

a. Was it clear from the introduction what the aims of the training were?

Yes

No

Comments

b. Did you think that the trainer made sure that everyone understood and respected your access requirements?

Yes

No

Comments

c. If you did raise a concern or ask a question, was it dealt with appropriately?

Yes

No

Comments:

Session 2 – Topic 1 background and motivation

a. Did the session help you to understand the importance of standards and how they can affect the lives of disabled and older people?

Yes

No

Comments:

b. Were there other issues or topics that you think should have been covered in this section?

Yes

No

Comments:

Session 3 – Information on the standardization process

a. Do you feel more knowledgeable about standards?

Yes

No

Comments:

Session 4 – User participation in standardization

a. Did you feel that the session helped you to understand how to get involved in standards development?

Yes

No

Comments:

b. Did you feel that that you learnt more about how disabled and older people could get involved in standards development?

Yes

No

Comments:

c. Did you have any concerns or issues that you felt should have been discussed in this session?

Yes

No

Comments:

d. What do you think would improve this session?

Comments:

Day 2

Session 1 – review of learning from previous day

a. Did you feel that the review helped you to remember the relevant learning points?

Session 2 - Exercises

a. Did you feel that the exercises enabled you to learn more about the issues?

Yes

No

Comments:

b. Do you feel that the exercises were appropriate and inclusive for you?

Yes

No

Comments:

c. What do you think could have been done differently in this session?

Comments

Session 3 – Role-plays

a. Did you feel that the role-plays helped you to understand the issues?

Yes

No

Comments:

b. Did you feel that the other participants worked well with you during this session?

Yes

No

Comments:

Session 4 – Further implementation

a. **Did you feel confident about taking forward what you have learnt?**

Yes

No

Comments:

b. **What do you think would have improve this session?**

Comments

Other issues

Please base your responses to the questions below on the following scoring system:

A = excellent B = good C= satisfactory D = poor E = very poor

a. Overall, how would you rate the training?

Please choose A, B, C, D or E

Comments

b. Were the training materials provided useful and accessible to you?

Yes

No

Comments:

c. Was the venue accessible and nice to be in?

Yes

No

Comments:

d. How would you rate the food and refreshments provided during the training?

Please choose A, B, C, D or E

Comments

Learning actions

a. What have you learnt from the training?

b. How do you think the training could be improved?

c. Would you like to make any other comments?

STAND4ALL evaluation case study

Now that you have completed the STAND4ALL training, we would like to ascertain whether or not you feel you can apply your learning in future standards development processes. So we have devised a short case study to help you to demonstrate your competence at using Guide 6 to deal with disability and accessibility issues when you are working with a committee to develop a new standard or revise an existing standard.

The task

You have been asked to work with a group of experts and disabled people to scope out a standard for a biometric capture system for identity verification for a building security system. The scope of the standard only cover s the actual capture of the biometrics from building users and visitors, it does not cover the specification of the security system that will be used thereafter. So the scope of the standard is as follows:

- What biometrics will be captured?
- How will they be captured?
- How will the process of capture be managed including setting up capture locations, getting people there to record biometrics, the process of capture
- What training will staff need to do the biometric capture?
- How will confidentiality, data protection and privacy issues be dealt with?
- End process verification – ensuring the biometrics captured can be used successfully for verification of identity.

Stage 1

Using Guide 6, firstly set out below which tables you think are relevant to this proposed standard and why you think they are relevant:

Stage 2

Go back over each table and look back to the scope of the standard, what do you think the accessibility and disability issues are for each element?

Stage 3

What solutions could you suggest to solve these issues?

Answers

(this section to be used by STAND4ALL consortium member to establish how good the responses are).

Stage 1

Relevant table	Reason(s)
Table 1 - information	a. Information will need to be provided about how and where the biometric capture will take place including any access issues such as booking accessible parking spaces, BSL interpreters to support Deaf people, appointment systems b. Any information provided to people before or on the day will also need to be fully accessible. E.g. instructions on what the process will be, any queuing procedure etc will all need to be accessible.
Table 3 - Materials	This is not an easy one to think about, but it could be relevant in terms of what the biometric capture system parts are made of, e.g. the way that the physical capture system is constructed.
Table 5 – user interface	Very relevant, for example if the biometric capture is in a booth, is this accessible to wheelchair users, if the system is automated by voice command this will need to be accessible to Deaf people and sight impaired people where the auto instruction will need to be well designed. Also what role will staff

	assisting people take, will they have disability equality training, and will they be able to appropriately assist disabled people?
Table 7 – built environment	This could be a catch all for everything that isn't related to people, the premises used for capture, the way that the capture system works, and the way that the end product is provided to people.

Stage 2

There will be other issues that people may identify either under tables or separately. A summary of the key issues for various groups is as follows:

Visually impaired people:

- Absence of iris caused by genetic problems or possibly same effects from people who have had laser eye surgery
- Blind people can have problems due to their natural difficulty to align their eyes with the camera
- Nystagmus (tremor of the eyes)
- People that have been operated on for cataracts may need to be re-enrolled

Hearing impaired-Deaf people

- Speech may be affected due to loss of hearing resulting in difficulty in using voice recognition systems
- Inability to hear instructions for example from the camera of face and iris recognition systems or from staff assisting people to register

Physically impaired people

- Conditions such as arthritis may affect usability (it may be difficult to position the finger and/or hand correctly)

- Skin conditions such as eczema may cause blistering on the fingertips
- Any kind of surgery that significantly changes the structure of the face, will require an individual to re-enroll
- Cuts, bruises and swelling can have a temporary affect on face or hand images
- Inability to use hand or finger based systems due to loss of limbs and or digits
- Crutches may make it difficult to stand steadily
- Drooping eyelids
- Wheelchair users can face usability barriers due to the usual location of cameras and insufficient height variation possibilities
- Changes in medical condition can be faster than normal ageing affects so need to re-enroll more regularly
- Those with cerebral palsy, multiple sclerosis, muscular dystrophy, motor neurone disease etc, may have little control of their muscle movement and may find it very difficult to hold their head or fingers still long enough for a facial, iris or fingerprint recognition device. Similarly they may be unable to record a digital signature or a consistent digital signature.

People with cognitive impairments

- Dyslexia, language, learning or knowledge retention difficulties may make it difficult to reliably and consistently provide a biometric sample or otherwise navigate through an automated process
- May need additional support and explanation from staff about how to register including information in easy words and pictures.

Older people

- Biometrics usually have higher failure rates with the very old. As people get older, ageing processes tend to degrade biometrics. For instance the ridges of their fingerprints wear down and cataracts are more prevalent.
- In addition to visual impairments, many older people have a combination of impairments (cognitive impairments such as dementia, physical impairments such as arthritis and Parkinson's disease etc). Also multi-tasking becomes less easy. The effect of all these factors is that many older people may have problems in using

a biometric terminal at the same speed as their younger counterparts if at all

Accessibility problems for non-disabled people

Accessibility problems may not be restricted to disabled people. Other groups of people may be affected, for example, people carrying out construction and manual work. People working with cement and chemicals may result in the wearing down of fingerprints.

The wearing of veils due to religious reasons may result in some people being unwilling to use certain biometric technologies such as face and iris recognition systems.

People who have had cosmetic surgery (e.g. botox) may have problems with face recognition systems, in particular at the authentication stage if they have had the procedure after the enrolment stage.

Cold weather may affect people using fingerprint and signature recognition systems especially if the authentication terminals are outside.

If the instructions of how to use an unmanned enrolment or authentication terminal are not clear then this will affect everybody in using all systems.

Stage 3

Some solutions should be about process design and some should be about 'physical accessibility'. If people suggest that they will seek advice before putting forward solutions that's a good thing as long as they make it clear they will seek advice from experts but will also develop solutions with disabled people's involvement.

Background information that may be useful

Relevant standards

ISO/IEC 19795 - Biometric Performance Testing & Reporting
ISO/IEC 19792 - Framework for Security Evaluation of Biometric Systems

Section 5.4.38 Biometric Characteristics of the draft European standard EN 1332-4 Identification Card Systems - Man-Machine Interface - Part 4: Coding of user requirements for people with special needs relates to a multimodal tag.

Best Practices in Testing & Reporting Biometric Device Performance
www.cesg.gov.uk/site/ast/biometrics/media/BestPractice.pdf

Standards
A draft ISO standard is under development that will highlight the needs of disabled and older people and suggest practical ways of addressing their needs:

1. Systems using a biometric should be designed so that as many potential subjects as is reasonably possible can use the system effectively and with the minimum of discomfort.
2. In the design of such new systems or services, the needs of disabled subjects should be considered from the outset.
3. Before systems are deployed, they should be thoroughly tested with subjects who represent the widest range of abilities (that is, in respect of visual, auditory, physical, cognitive and behavioural ability).
4. For subjects with a disability, adequate training in the use of the system should be offered.
5. Wherever practicable, the subject should have a choice of biometric systems, and should not be discriminated against if their disability prevents them from using a specific biometric.

6. Where no alternative biometric is available and where the disability prevents the use of this biometric, subjects should be permitted to use an alternative method. Wherever practicable, the use of such an alternative should not result in an inferior level of service or functionality to the subject.
7. If the subject can no longer use a verification system reliably, the subject should be provided wherever feasible with the opportunity to repeat the registration process.
8. Staff operating systems using a system with biometrics should be trained in how to process disabled subjects.
9. A system using a biometric should not store details of a subject's disabilities without their informed consent.
10. The rights of privacy of a disabled subject should be the same as those of a non-disabled subject.

What are biometrics?

A biometric is a physical or behavioural feature or attribute that can be measured. It can be used as a means of proving that you are who you claim to be, or as a means of proving without revealing your identity that you have a certain right.

Biometrics which are commonly used to confirm identity include:

- Fingerprint recognition
- Iris recognition
- Face recognition
- Hand geometry recognition
- Vein recognition
- Voice recognition
- Dynamic signature recognition

What is a biometric system?

A biometric system is essentially a pattern recognition system that operates by acquiring biometric data from an individual, extracting a feature set from the acquired data, and comparing this feature set against the template set in the database.

If you would like further background information on biometrics please click on the following link: An introduction to biometrics

Some physiological and medical factors can affect the usability and efficiency of biometrics:

Advantages of biometrics for people with disabilities
The obvious advantage of biometric systems is that the user no longer has to remember PINs (personal identification numbers) and keep this number secret. People with a cognitive impairment will find most biometric systems much easier to use and provide a greater level of security.

People who have limited or no use at all of arms or hands will find using face and iris recognition systems an advantage as they will not have to swipe a card or type in a name or PIN number.

Enrolment Terminals

To register a biometric for public use (e.g. for a passport), the subject will usually have to go to a centre where specialist staff take the biometric and check other relevant documentation. Ideally these staff should be trained to work with people with disabilities. For private use (e.g. replacement for a password on a personal device such as a laptop computer), the subject is expected to follow instructions on the screen or in a printed manual to register the biometric.

The environment of the enrolment centre needs to meet the general accessibility for public access terminals. However specific biometrics will require special consideration (see details in the sections related to the various biometrics).

Authentication Terminals

These may be fully supervised, partially supervised or un-supervised; this is likely to be significant for occasional users and for some people with disabilities. In general, a consistent user interface will benefit all users

and may be of particular importance for some people with disabilities. With un-supervised terminals it would be beneficial for there to be a standardised set of icons, symbols and pictograms for the operation of the terminal.

It is essential that the authentication terminal is comfortable to use. For instance, enrolment of fingerprints will normally be done with the subject sitting down. However the authentication may be done with subject standing. It is important that the height and angle of the fingerprint reader is comfortable for both a tall person and someone in a wheelchair. If it is not viable to make the reader variable height (or on a flexile lead), it might be helpful if it was tiltable to allow a comfortable angle for the wrist. A wrist rest might be beneficial for a subject with hand tremor.

Like all input devices on public terminals, it is important that the device gives both auditory and visual feedback of the current status (e.g. still processing, accepted, rejected). It is also important that error messages are helpful and give guidance on what the subject should do differently.

Ability to update biometric

The biometric information can be stored in a central database or on a smart card. Users are likely to prefer the information to be stored on their card rather than on a remote database. However, it is easier to regularly update the database with revised biometric data as the user's characteristics change.

Using multimodality to enhance the usability of systems

Two (or more) modalities could be combined in parallel to produce a system that would allow more flexible use. For example biometric systems built for both fingerprint and face recognition, could allow the use of only the facial image for verification when users have problems enrolling their fingerprints and vice-versa. Moreover, this procedure could prove extremely useful to those users who have temporarily lost the ability to provide one of their biometric traits (for example, a temporary

eye problem that rules out an iris scan). The same could apply in cases where people refuse to use a specific modality (for religious or health purposes, for instance). A multimodal system therefore allows enhanced flexibility by providing alternatives for the identification process. As such, it also has the potential to be more socially inclusive.

Providing instructions in an accessible format

- If the terminal is unmanned, or an assistant is not always available to help the user, audio instructions should be provided, taking the user step-by-step through the enrolment and authentication process.
- Instructions should be provided, explaining any progress made.

  For example, if a fingerprint scan is successful: "This scan was successful, please remove your finger and place it on the reader again."

- Any further instructions explaining what the user is doing wrong would also be very helpful.

For example, if an iris scan is not successful: "This scan was not successful, please turn your head slightly to the right."

or

if a fingerprint scan is not successful: "This scan was not successful, please hold your finger still on the reader."

- There should be a clear sound to indicate a success and a failure. A success should be signified by a higher more pleasant sound (e.g. chimes ringing), a failure by a lower less pleasant sound (e.g. buzz).
- The user should be told, before the scanning process starts, if it is necessary for more than one scan to be taken for registration.
- When the first scan has been taken there should be an audible acknowledgement (such as a chime sound) followed by a spoken instruction: "The first scan has been successfully recorded. Please place your finger on the fingerprint reader for the second scan." And so on.

- There should be a clear indication when the registration process is complete. For example an audio message "Your iris pattern has been successfully registered."
- If the terminal is awaiting further information, the instruction should say this. If not, it should indicate that the user has reached the end of the process. For example "The registration process is now complete. Thank you."
- If registration fails, there should be a clear indication that the process will restart. For example "The registration has failed because the four images did not match. The process will now restart."

Informing the user that the reader is waiting for him/her to take action

- The reader should be lit when it is awaiting input from the user.
- The reader should only light up when it is ready to enroll a biometric. When the process is complete the light should turn off.
- A spoken message to inform users that the biometric reader is awaiting input would help users who have insufficient vision to see the visual signal.
- A timeout feature on the terminal should not be excessively short, as the user may need an extended period of time to find the reader and to complete the required actions.
- If the user is taking an unusually long period of time to respond to an instruction the instruction should be repeated at least once before the terminal times out.

Catering for users who do not require audio instructions (e.g. those who have good vision, or those who are familiar with the process)

- An option to bypass the audio instructions should be provided. This could simply be that the audio comment is skipped or cuts out if the user provides the correct input.

Reference: Identification of Accessibility Issues for Visually Impaired Users of Biometric Technologies: Fingerprint Readers

Research
In the United States of America, the Biometric Standards, Performance

and Assurance Laboratory of Purdue University, focuses on the data collection of "extreme populations". Two examples are the elderly and those that have illnesses that can affect a biometric either through the illness of the treatment:

- Image quality and the elderly: an initial study examined how fingerprint image quality was affected by age
- Extreme populations: focuses on data collection of "extreme populations". Two examples are the elderly and those that have illnesses that can affect a biometric either through the illness or the treatment

The primary aim of the Social and Environmental Special Interest Group of the European Biometrics Forum is to investigate and report on issues and concerns which might arise from the mass implementation of biometric systems across the European Community, from the end user perspective.
These include issues and concerns relating to:

- Physically disabled and people with learning difficulties

The Biometric Foundation is dedicated to a systematic program of research and education to reduce impediments to wide adoption and use of all biometric technologies. The Foundation will address technical, societal, and legal aspects of biometric technologies and their applications. Accordingly, the Foundation's agenda will include studies of public attitudes toward uses of biometrics; demonstration and evaluation of alternative biometric technologies; inquiry into biometric standards issues; development of formal educational curricula that encourage students to enter the field of biometrics as a professional career choice; and conferences and seminars about the most effective uses of biometrics in key applications.

UK Passport Service (UKPS) Biometrics Enrolment Trial (PDF)
The goal of the UKPS Biometrics Enrolment Trial was to test the processes and record customer experience and attitude during the recording and verification of facial, iris and fingerprint biometrics, rather than test or develop the biometric technology itself. One of the 3 sample groups recruited were a disabled participant sample of 750.

According to the UKPS, the trial results highlighted several issues that require further investigation or work. Among other things, further trials are needed, specifically targeted towards those disabled groups that have experienced enrolment difficulties due to environment design, biometric device design, or to specific group problems - for example, black participants and participants aged over 59 had lower iris enrolment success rates.

Further information

- Ashbourne, J, Ethnicity in Relation to Biometric Identity Verification, March 2004
- Ashbourne, J, The Social Implications of the Wide Scale Implementation of Biometric and Related Technologies, (PDF) , January 2005
- Biometrics: Designing for People (PDF)
- Biometrics: Usability & User Acceptance (PDF)
- European Biometrics Forum
- Fennell, A, Dr. Identification of Accessibility Issues for Visually Impaired Users of Biometric Technologies: Fingerprint Readers
- International Biometric Group
- Maghiros, I, Punie, Y, Delaitre, S, Lignos, E, Rodgríguez, C, Ulbrich, M, Cabrera, M, Clements, B, Beslay, L, Van Bavel, R. Biometrics at the Frontiers: Assessing the Impact on Society (PDF), EUR No: EUR 21585 EN, February 2005
- Proceedings of Conference on Accessible Biometrics,18th May 2005, London
- Resources Related to Biometrics and People with Disabilities
- UK Passport Service (UKPS) Biometrics Enrolment Trial (PDF)
- Using speech: Designing Biometric Devices

Acknowledgements

The information contained in this section was collected from the following sources:

- Maghiros, I, Punie, Y, Delaitre, S, Lignos, E, Rodgríguez, C, Ulbrich, M, Cabrera, M, Clements, B, Beslay, L, Van Bavel, R. Biometrics at

the Frontiers: Assessing the Impact on Society (PDF), EUR No: EUR 21585 EN, February 2005
- Marek Rejman-Greene, Home Office
- Anil K. Jain, Arun Ross and Salil Prabhakar, An Introduction to Biometric Recognition (PDF) , Appeared in IEEE Transactions on Circuits and Systems for Video Technology, Special Issue on Image- and Video-Based Biometrics, Vol. 14, No. 1, January 2004. (Section 8. Multimodal Biometric Systems)

Evaluation Form – To be used by the person observing the trainers in their training delivery

Observation of training delivery – evaluation form

As you watch the training please answer the questions below.

Date of Observation……

Observer's name ……..

Trainer(s) Name(s) …….

Course Title ……. .

Number of Participants …….

1. Who was the training delivered to?

2. What types of training resources were used?

Method	Tick if used	Was it effective - give reasons for your answer
Training manual on paper		
Flip charts		
PowerPoint presentations		
Other (please specify)		

3. What training methods were used?

Method	Tick if used	Was it effective - give reasons for your answer
Presentations		
Flip chart discussions		
Group exercises		
Role play		
Other (please specify)		

4. Was the room layout appropriate?

5. How were discussions facilitated?

6. Question and answer sessions – how effective were they and why?

7. If there were any ‘difficult situations’ for the Trainer(s) to deal with how did they manage them?

8. Please give an example of effective follow up questions used by either Trainer

9. Did the trainer display effective self-management (such as keeping the sessions to time, dealing with conflict etc)?

10. Did the trainer demonstrate knowledge of client group/ organisation/ sector?

11. Did the trainer demonstrate a working knowledge and commitment to: Social model, equal opportunities, disability equality and inclusion?

12. Did the Trainer explain the nature of the sessions putting them in context clearly?

13. Did the trainer convey key messages clearly?

14. Did the trainer maintain the interest of the participants?

15. Did the trainer effectively include people in discussions? Are there any questions you wish to ask the Trainer(s) or Training Team?

Evaluation Form – To be completed by the person delivering the training

Trainer self-evaluation form

Date of Training…….
Your name ……
Role…….

Co-Trainers name ……
Role ……

1. Who was the training delivered to?
   ……..

2. How do you feel the training session went?

3. What are your training needs as a trainer?

4. How do you think the session went for your co-trainer?

(Please use this section to provide your co-trainer with any constructive criticism)

5. Are there any other comments you would like to make?