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The need for information on standards on eAccessibility&eInclusion – Based on the experience of the EU-project IN LIFE

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The need for information on standards on eAccessibility&eInclusion – Based on the experience of the EU-project IN LIFE

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Abstract. Recent investigations in the framework of several EU-projects, incl. IN LIFE¹ revealed that for several reasons experts in the field of eAccessibility & eInclusion (eAcc&eIncl) – but also general ICT developers, not to mention decision makers in industry and administration – are quite unaware of the importance of standards for interoperability and sustainability of ICT solutions. Especially, if persons with disabilities (PwD) are concerned, system development and the design of services thus may become unnecessarily costly. With respect to accessibility in general and eAcc&eIncl in particular, knowing about pertinent standards is becoming an asset in terms of personal competencies of experts and decision makers, and particularly benefit small enterprises in the field. Given the complex world of standardization and the multitude of standards developing organizations (SDOs) easy access to information on standards is critical.

Keywords. EU-project IN LIFE, information on standards, eAccessibility and eInclusion related standards, categorization and indexing of standards, standards guaranteeing interoperability and sustainability, ICT developer standards, service standards, management standards

1. Introduction

The IN LIFE Database of information on standards started off from several collections of information on standards, such as ISO/IEC TR 29138-2:2009 *Information technology – Accessibility considerations for people with disabilities – Part 2: Standards inventory* and ETSI (2013) *Human Factors (HF); An annotated bibliography of documents dealing with Human Factors and disability*. The data were updated and extended by consulting evaluations of standards by several EU projects – e.g. ASK-IT, OASIS, REMOTE, AEGIS, universAAL, AALIANCE², EIP-AHA, GPII – and other sources. Most have their own categorization or list of key words which were aligned as much as possible.

Altogether about 550 “international standards” were identified with a focus on eAcc&eIncl aspects. There are more standards around which deal with eAcc&eIncl aspects in a part of a multipart standard or in individual chapters or paragraphs of a standard. In addition, many standards should deal not only with their core topic, but also consider eAcc&eIncl aspects. This would possibly affect about 50% of all standards in the fields of ICT in general, eHealth and related fields. Because of reasons lying in the nature of the standardization system, eAcc&eIncl is often not considered at all.

¹ Independent Living support Functions for the Elderly

As IN LIFE – and many other projects or developments – is not confined to national boundaries, the focus of the data collection was on international standards, with certain exceptions, if for instance there is only a national standard for a given topic which is widely applied also by other countries. International de jure standards are developed by international standards organizations, such as ISO², IEC³ and ITU⁴. Besides, there are international organizations also issuing standards or guidelines which have a highly authoritative nature, such as those from WHO⁵, or the ones forming the basis of the Internet, such as those of W3C⁶, IEEE⁷ etc. Often major standards of these organizations are adopted by ISO or IEC as international standards.

The international standards organizations mutually recognize the standards of European Standards Organizations (ESOs) as international standards on the basis of ISO-CEN, IEC-CENELEC and ITU-ETSI agreements. Increasingly standards of the above-mentioned organizations are taken over as national standards by the national member bodies (NMBs) of these organizations. In some countries, the whole body of standards exceeds the body of legal regulations.

In addition to the above there are numerous SDOs outside of the framework of official or de jure standardization which develop standards, especially industry or de facto standards. Again, some of these standards are adopted as international de jure standards if considered suitable or necessary. Others just become so widely used – for example Bluetooth – that they are effectively as powerful as de jure standards.

All of the above adds up to a complex system of hundreds of SDOs at different level of geographical outreach, degree of authoritativeness, different industrial or societal focus – many complementary to each other, others competing with each other. Most of them have their defined users and information systems focused on their markets.

Anybody who wants to find up-to-date information on standards related to eAcc&eIncl has to identify and then search hundreds of websites of SDOs of all sorts – all of them having their own system, usually with their own categorization, often no cross-references to other SDOs' standards, etc. Some of the SDOs offer their standards free-of-charge, very few in accessible formats. Other SDOs' business model relies on selling standards – again standards rarely being offered in accessible formats.

2. Risks from not knowing pertinent standards

As can be gathered from the above, even the difficulties to find reliable information on standards related to eAcc&eIncl pose a formidable barrier for those who are interested in or need this information. However, caregiving organizations or institutions are obliged to apply pertinent standards. They must refer to standards when outsourcing certain services or system development. This applies to private and public organizations alike. Companies or service providers bidding for public tenders must be familiar and comply with pertinent standards.

² International Organization for Standardization

³ International Electrotechnical Commission

⁴ International Telecommunication Union

⁵ World Health Organization

⁶ World Wide Web Consortium

⁷ Institute of Electrical and Electronics Engineers, Inc.

There are ‘management standards’, such as concerning quality management, risk management, corporate social responsibility, ethical management, security management etc. which need – especially, if applied in fields related to eAcc&eIncl – to be extended by considering and complying with pertinent standards. Therefore, the lack of familiarity with standards may result in risks at management and expert level.

3. New expectations towards SDOs for easing access to information on standards

Many EU projects, conferences and initiatives address the difficulties faced by system developers, their customers, health care providers and end-users when trying to find pertinent standards particularly in eAcc&eIncl and related fields. Given that potentially several thousand standards are or should be of relevance to eAcc&eIncl, “Recommendation 2016 concerning standards on eAccessibility and eInclusion” formulated at the ICCHP 2016⁸ calls upon stakeholders of eAcc&eIncl, in particular SDOs, to:

- *“develop a more refined classification or keywording approach to identify content in standards with a bearing on eAccessibility and eInclusion*
- *register the potential relevance for eAccessibility & eInclusion of an emerging standard right from the beginning of a standardization activity*
- *cross-reference standards having a bearing on eAccessibility and eInclusion*
- *encourage the formulation and use of consistent vocabulary / terminology*
- *implement search functionalities that ease the use of standards*
- *facilitate the active involvement of PwD as end-users in standardizing activities among others by providing standards documents in an ‘accessible’ format*

Implementing the above measures would enhance interoperability of eAccessibility&eInclusion related products and services and thus benefit users of standards and standardization at large.”

The recommendation concludes: *“Standards development processes and monitoring in conjunction with standards about eAccessibility and eInclusion and related aspects, should allow the coordination of standardizing activities across technical committees and SDOs, leading to content coherence among standards about similar themes. This would help industry and other organizations to comply with standards’ requirements referring to corporate social responsibility and risk management, as well as with the latest legal regulations on accessibility in eProcurement and public websites.*

Supportive measures may be worthwhile pursuing, to (a) promote certification schemes based on standards about eAccessibility and eInclusion, (b) encourage education and training activities regarding such standards, and (c) enhance the positive role that media (both institutional and social) and civil society can play here.”

Recommendation 2016 draws on the final recommendations adopted by Workshop “Accessibility and the contribution of International Standards”, Geneva (Switzerland), 3-5 November 2010, organized by the World Standards Cooperation (WSC) of ITU,

⁸ 15th International Conference on Computers Helping People with Special Needs – ICCHP 2016, Linz (Austria), in July 2016)

ISO and IEC. AAATE gratefully playing an active role in promoting effective use of eAcc&eIncl standards endorsed Recommendation 2016 with the following motivation:

- *“Barrier-free design of ICTs is important in order to meet the needs of all users and to allow them to actively participate in the digital society.*
- *The effective use of standards regarding eAccessibility & eInclusion will further barrier-free design.*
- *Institutions and organizations as well as single experts in fields related to disability and technology have great difficulties to engage with standards and with standardization processes. An important reason for this is that access to information on pertinent standards (or parts thereof or paragraphs therein) is difficult.*
- *Standardization bodies do not have refined information tools that provide the information in a selective way. In order not to overload people with non-relevant information, structural and procedural measures need to be developed and access to information on standards need to be disclosed.*
- *The above requires further action and highlights the need to speed up with competence certification schemes in order to cope with the exponentially increasing need for qualified eAccessibility & eInclusion experts.”*

4. New requests to SDOs for easing access to information on standards

Given the difficulties of obtaining information on standards and the great complexity of some of the standards, designing and implementing large platforms for offering tools and services related to eAcc&eIncl is a complex task. The reasons mentioned are to some extent referring to the nature of ICT standards, but may also be due to insufficient coordination of the content of standards across committees, SDOs and applications.

“While the use of standards is a prerequisite for achieving interoperability, the use of standards in itself is not sufficient to guarantee interoperability. ... A number of approaches have been devised over time to deal with these issues. It should be noted that all of these approaches only complement the use of standards – they do not try to replace standards.” [1]

Therefore, *“it is necessary to make SDOs aware of the fact that today’s organization of and working procedures in standardization need adaptation in the direction of ‘semantic coherence’ of standards across TCs and sometimes even across SDOs. Likewise, it is crucial to raise the project partners’ awareness not only for the usefulness of standards in many developments, but for the imperative application of standards in certain cases.” [2]*

It cannot be overemphasized that the issues raised here are also a result of the highly positive increase of standardizing activities in eAcc&eIncl and related fields. Given this increase due to the dedicated engagement of many stakeholders, the problems mentioned in this contribution will surely be positively resolved before long.

References

- [1] AALIANCE² D4.5:2014 Updated Report on standards and certification in AAL
- [2] IN LIFE D9.8:2017 Dissemination & Standardisation Plan