

## D2.6.2

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## D2.6.2 - Final Quality Metrics for TV access

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**HBB4ALL**  
Hybrid Broadcast Broadband for All

CIP- Pilot actions  
Competitiveness and innovation framework programme 2007-2013

### D2.6.2 – Final Quality Metrics for TV access

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## 1. Introduction

HBB4ALL set up to define quality metrics. The approach was to avoid the “one size fits all” and define one quality. Since too many stakeholders are involved when broadcasting media accessibility content, the project proposed to scale quality (singular) to qualities (plural), from a unique quality to the many and different qualities required and expected by stakeholders. An important part of HBB4ALL effort was devoted to understanding stakeholders, contacting their representatives at EU level, and looking at ways to gather info regarding what is expected in terms of quality.

In D2.6.1 the methodological approach to gather quality benchmarking, and the stakeholders was defined. D2.6.1 also gathered all existing published documentation \_ guidelines, laws, regulations, recommendations - leading to a top down understanding to “quality”. After analysing over 20 documents from across the world the conclusion was that “high quality” is mentioned as a target, with no further definition and some timid approaches such as that from the UK regulator OFCOM. For this reason the HBB4ALL bottom up approach for drafting quality benchmarking was even more interesting and needed. It was hoped it would offer some quality values –which would not clash with any existing documentation. It was expected that D2.6.2 will actually produce results from tests and questionnaires from the following stakeholders:

- User associations
- Broadcasters
- Regulators

As described in chapter 2, no results have been drawn from the studies. In place of quality benchmarking values **HBB4ALL has drafted guidelines for the creation of good quality services**, presented in chapter 3.

## 2. Summary of the Initial Stakeholders Approach

HBB4ALL drafted questionnaires for the 3 groups of stakeholders mentioned above: User associations, Broadcasters, and Regulator. The questionnaires are included in the APPENDIX of this document. Nevertheless, no results have been drawn from the studies due to the following reasons:

### 1. Terminology

While questionnaires drafted made a clear difference between subtitles (translations) and subtitles for the deaf (transcriptions + annotations), most stakeholders refuse to accept this.

#### a) End user associations

EDF, EFHOH (European Federation of Hard of Hearing), EURO-CIU (European Association of Cochlear Implant Users).

When the terminology issue was mentioned to end users and end user associations their response was:

“EFHOH reports have made the term clear that subtitles have evolved in English language from simple translation. Recent attempt to clarify the issue also mention captioning, which is internationally understood as subtitles for deaf and hard of hearing.”

#### b) Broadcasters

While no written statement has been produced by EBU, in 2015 HBB4ALL distributed a questionnaire amongst 25 EU public broadcasters. The results showed how subtitling/ subtitles for the deaf and hard of hearing was the same service.

#### c) Regulators

In February 2016 HBB4ALL organised the 3rd workshop in Lisbon, asking OFCOM (UK regulators) and one of the leading EU regulators with a clear policy towards looking for quality benchmarking and evaluation. They also considered that subtitling and subtitles for the deaf were considered one service for the UK market.

Given the fact that is impossible to agree on terminology, and the specificities of access services, gathering data to issue quality values was impossible, or even worse: dangerous.

### 2. EU legal developments

Two EU legal developments took place in 2015 in an almost simultaneously related to accessibility, and has impacted greatly HBB4ALL.

a) Revision of the AVMSD, which “article 7” is devoted to Media Accessibility, where many ambitious changes were proposed to adapt the existing framework to technical developments and tendencies, the work is ongoing.

b) The new European Accessibility Act (EAA) was announced and work towards defining its content is ongoing.

For the past two years “Article 7” has been of dynamic nature, moving forwards and backwards between AVMSD and EAA. Consultation in the European Parliament on the EAA proposals to different committees

such as CULT have also produced reactions between all agents involved: members of the parliament, regulators, broadcasters and end user associations. The situation at the time of drafting this report is that “article 7” will be part of AVMSD – though this may change again.

The situation within the European Parliament at present is as follows:

- ERGA, The European Regulators Group for Audiovisual Media Services (ERGA) brings together heads or high level representatives of national independent regulatory bodies in the field of audiovisual services, to advise the Commission on the implementation of the EU's Audiovisual Media Services Directive (AVMSD). They issued a report where HBB4ALL was consulted, and can be found here:

<http://www.actproject.eu/content/4-resources/erga-report-on-accessibility-services/accessibilitytoaudiovisualmediaservicesforpersonswithdisabilities.pdf>

- CULT – The Committee on Culture Education report on the proposal for a directive of the European Parliament and of the Council amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services in view of changing market realities (COM(2016)0287 – C8-0193/2016 – 2016/0151(COD)) can be found here:

<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-587.655+02+DOC+PDF+V0//EN&language=EN>

and finally

- IMCO – The Internal Market and Consumer Protection drafted the Coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services in view of changing market realities can be found here:

[http://www.emeeeting.europarl.europa.eu/committees/agenda/201612/IMCO/IMCO\(2016\)1205\\_1/sitt-3521164](http://www.emeeeting.europarl.europa.eu/committees/agenda/201612/IMCO/IMCO(2016)1205_1/sitt-3521164)

### 3. Guidelines for the creation of good quality services

Within this context HBB4ALL decided -in consultation to the evaluators in the second year review- that rather than drafting prescriptive quality benchmarking the approach will be reversed to descriptive guidelines towards quality. The result is a series of documents describing for each service recommendations. The documents have been drafted to be useful and a legacy of HBB4ALL, hoping they will have validity for years to come. These documents are introduced by the following brief guide and can be consulted directly at the HBB4ALL website:

## Brief Guide to Access Services

### What is media accessibility?

It is the way to make sure all people have access to media content, and especially persons with disabilities, those who can't understand the language, and the aged.

Media accessibility is also useful for learning languages, for social cohesion, and to secure an inclusive society for all.

### Scope of the document:

There are many accessibility services and through the EU funded projects HBB4ALL we piloted the below list of services in hybrid environments. For each service we've created a document defining the service and providing best practice examples:

- AUDIO DESCRIPTION: <http://www.hbb4all.eu/wp-content/uploads/2016/12/AUDIO-DESCRIPTION-IN-HBBTV.pdf>
- AUDIO SUBTITLES: <http://www.hbb4all.eu/wp-content/uploads/2016/12/AUDIO-SUBTITLES-IN-HBBTV.pdf>
- CLEAN AUDIO FOR IMPROVED SPEECH INTELLIGIBILITY: <http://www.hbb4all.eu/wp-content/uploads/2016/12/CLEAN-AUDIO-FOR-IMPROVED-SPEECH-INTELLIGIBILITY.pdf>
- INTERLINGUAL SUBTITLES AND SDHH: <http://www.hbb4all.eu/wp-content/uploads/2016/12/INTERLINGUAL-SUBTITLES-AND-SDH-IN-HBBTV.pdf>
- REAL-TIME SUBTITLING: <http://www.hbb4all.eu/wp-content/uploads/2016/12/REAL-TIME-SUBTITLING-IN-HBBTV.pdf>
- SIGN LANGUAGE INTERPRETING: <http://www.hbb4all.eu/wp-content/uploads/2016/12/SIGN-LANGUAGE-INTERPRETING-IN-HBBTV.pdf>

### Intended readers:

Broadcasters and those working with audiovisual media content: production, distribution and exhibition.



## APPENDIX

### A. Questionnaire for regulators

“ACCESSIBILITY SERVICES: DEFINING QUALITY”  
Proposal of Questionnaire to EPRA Members

Terminology Matter:
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In US and Canada, “Caption” and “Subtitle” do have different meanings.

"Subtitles" assume the viewer can hear but cannot understand the language or accent, or the speech is not entirely clear. Also, subtitles are used to translate films or video programs without dubbing.

"Captions" aim to describe all significant audio content to persons with disabilities (Sensorial disabilities: deaf or hard of hearing. Cognitive disabilities: dyslexia, etc.).

The term "closed" (versus "open") indicates that the captions are not visible until activated by the viewer, usually via the remote control or menu option. "Open", "burned-in", "baked on", or "hard-coded" captions are visible to all viewers.

Starting Point
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In order not to repeat questions and stuff, one starting point of this Questionnaire is the [“Comparative Background Document. WR3 – Access to Audiovisual Media Services with Persons with Disabilities”](#) (37<sup>th</sup> EPRA Meeting, Krakow, 8-10 May 2013).

We assume that no setback in national regulatory frameworks has occurred during this period, but the Questionnaire should include an initial option to explain it, if it had occurred.

Also, is there any foreseen legal/regulatory development in the national/regional framework?

In 2013, all EPRA NRA reported the existence of provisions dealing with accessibility. In some countries / infra-state regions, the regulation implies effective measures, but in others, general provisions did not correlate with some concrete obligations.

Among the first cases (effective measures), the basic principle in current regulation is “QUANTITY of accessible services”. Only three NRA (France, Ireland and UK) reported initiatives regarding a step beyond: QUALITY.

**QUESTIONNAIRE****Subtitling / Captioning**

How do you define Quality in subtitles / captions?

Please, choose X items as “Primary characteristics” and X items as “Secondary characteristics”

- Accuracy.

Subtitles / captions should transcribe without major errors what is transmitted by the sound track.

- Segmentation and Coherence.

Subtitles / captions should be run into meaningful units.

- Non-verbal information.

Subtitles /captions should include speaker identification (with chevron or hyphen), relevant sounds (crashes, bombs, sounds in off like applauds, laughs, etc.).

- Synchronicity.

Subtitles /captions should coincide temporarily with their correspondent transmitted by the sound track, without relevant latencies.

- Readability.

Subtitles /captions should appear time enough on screen in order to be understood by the audience.

- Completeness.

Subtitles /captions should be run from the beginning to the end of the programme.

- Placement.

Subtitles /captions should not cover up other on-screen information such as featured text (breaking news, sports scores, weather information, etc.).

- Feature.

Subtitles /captions should fit to specific criteria, such as size, font, background and foreground colours, in order not to discriminate specific groups (colour-blind people, etc.).

- Complaints service.

Subtitles / captions service should include an agile, efficient and user-friendly complaints service.

- Emergency information.

Subtitles /captions services should include particular and specific standards/protocols regarding emergency situations.

Questions related to “Quality items”
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**ACCURACY.**

How does your NRA define “major error”?

Ofcom approach (NER Model): is it correct?

NER Formula:

$$\text{NER Value} = (N - E - R / N) * 100$$

NER Model divides errors into three categories: serious, standard and minor.

How do you quantify accuracy in subtitling / captioning?

Again, NER Model.

What is an appropriate accuracy rate for subtitling / captioning of live programming?

What is an appropriate accuracy rate for subtitling / captioning of near-life programming (recorded within 24 hours prior)?

**SYNCHRONICITY.**

What is an appropriate lag time for subtitling / captioning of live programming?

**READIBILITY.**

What is an appropriate speed for subtitling / captioning in live programming?

What is an appropriate speed for subtitling / captioning in children’s programming ?

**PLACEMENT.**

Should subtitles / captions take precedent regarding other graphic elements?

Live programmes, rebroadcast programmes and new audiovisual services
--

Live programmes should be subtitled verbatim?

What is an appropriate timeframe within which to expect the correction of errors in live programs prior to rebroadcast?

Should the accessibility regulation be extended to other services?

- HD contents
- Ultra HD contents
- 3D contents
- Non-linear contents

## Audiodescription

Audiodescription is an accessibility service that needs an important human performance, that's why many of the given items defining quality in audiodescription are hardly measurable. (This makes difficult to establish quality standards...).

How do you define Quality in subtitles / captions?

Please, choose X items as “Primary characteristics” and X items as “Secondary characteristics”

- Appropriate vocabulary.

Audiodescription should match vocabulary and expressions to the programme, without offensive, interpretative or technical terms, unless absolutely necessary.

- Balanced intervention.

Audiodescription should perform a warm, discrete intervention, respecting background sounds, without attracting attention. The voice talent is not a new plot's performer, nor should have a detached, clinical tone.

- “What you see is what you say”.

Audiodescription should be clear, direct, from general/relevant elements to concrete/secondary ones. No censorship in description must be done.

- Consistency.

Audiodescription should not change style, standards along a programme, especially in long productions and TV series which could require more than a voice talent.

- Appropriate quality of sound.

Audiodescription sound should be technically good and audible. It should not completely cover sound effects, music or ambience.

- Complaints service.

Subtitles / captions service should include an agile, efficient and user-friendly complaints service.

### NRA regulatory action

Mandatory regulation should be based on a social awareness which pursues integration of disabled individuals.

Has your NRA launched/participated in an awareness campaign / public consultation regarding accessibility for disabled people?

Mandatory regulation should take into account the disabled audience in its design, test and evaluation action.

Has your NRA a permanent collaboration with disabled organisations in order to design/implement/evaluate accessibility regulation?

Has your NRA considered to include children in validation exercises for speed of subtitles / audiodescription?

Mandatory regulation should be achievable, measurable and enforceable. Has the accessibility regulation a practical guide including concrete examples and explanations?

How does your NRA consider setting a methodology for monitoring accessibility quality (objective measurement, valid statistics, etc.).

[Again, NERStar].

### Nature of Regulation

Which would be the best mechanism for monitor the implementation of accessibility regulation?

- NRA in-house regulatory action
- Co-regulation between NRA and organised industry organisation/s
- Self-regulation

In co- and self-regulatory mechanisms, what would be the required criteria:

- Commitment from the industry to the accessibility regulation and principles.
- Expertise in accessibility standards and regulation.
- Actualisation of methods and protocols in the light of the technological advance.
- Membership that reflects the various public, industry, professional, consumer and social interest groups to ensure fair and adequate representation.
- An independent and sustainable source of sufficient funding to ensure resources are available for effective co- or self-regulation.
- A clearly stated mandate to include industry and public awareness activities.
- Effective complaints mechanisms to monitor adherence and compliance with the regulation and respond to complaints.
- A provision for reporting to the NRA. Accountability.

## Legal framework

We assume that no setback in national regulatory frameworks has occurred since 2013 (last EPRA Questionnaire on Accessibility), but the Questionnaire should include an initial option to explain it, if it had occurred.

Also, is there any foreseen legal/regulatory development in the national/regional framework?

### **B. Questionnaires for broadcasters**

For broadcasters there were three different questionnaires for the three identified services:

#### ***Questionnaire on quality for same language subtitles for the deaf and hard of hearing for broadcasters***

##### General questions

What is quality for you? (choose three out of eight points)

- grammatically correct sentences
- avoiding metaphors
- timelines (like maximum speed or minimal duration)
- segmentation/display subtitles in meaning units
- interoperability for different vectors (television, internet, HbbTV)
- allocation of the text to the person speaking
- coherence of the subtitle
- in sync of the subtitle with the spoken text

Should subtitles for the deaf and hard of hearing also explain audio-effects?

- yes
- no

Have you got an in-house style-guide which determines how your subtitles have to look like?

- yes
- no

Has this guide been

- written by you as a broadcaster?
- specified by the regulator?
- elaborated in cooperation with the associations of the sensory handicapped?

### Prerecorded programs

Internal production:

Are your subtitles proofread and post edited by another person before being broadcast?

- yes
- no

External production:

Do you trust your supplier?

- although the supplier proofreads and post edits the subtitles, we do it once more in house
- we proofread a sample chosen by random
- we trust and do not any proofreading

Do you broadcast subtitles (from another provider) that do not correspond to your style-guide?

- never, since this would drop the quality
- yes, we use such subtitles since we get them for free or at a low price. This is better than no subtitles at all.

### Live subtitling

Our live subtitles are done by (multiple answers possible)

- respeaking
- stenotyping
- fast typing
- dual keyboard
- automatic speech recognition

We proofread and evaluate live subtitles

- all or nearly all of them
- a sample chosen by random
- none of them.

The evaluation is done

- in house
- by an external entity
- in house but proof controlled by an external entity

The evaluation is done according to

- word error rate

- NER model
- by another model. Which one?

Should there be an antenna-delay for live broadcast?

- yes
- no

When requesting a new service, do you?

Take into account the cost?

Is cost different for different genres: news, documentaries, reality shows?

Any comments you wish to add

## ***Questionnaire on quality for audio description for broadcasters***

### General questions

What is quality for you? (chose three out of six points)

- grammatically correct content
- sound mix
- respect for timelines
- interoperability for different vectors (television, internet, HbbTV)
- coherence of the audio description
- voice of “voice-talent”

Have you got a in-house style-guide which determines how your audio description have to look like?

- yes
- no
- other, e.g. network guide, national guide...

Has this guide been (all three are possible)

- written by you as a broadcaster?
- specified by the regulator?
- elaborated in cooperation with the associations of the sensory handicapped?



### Prerecorded programs

Internal production:

Are your audio descriptions proofread/sound mix check by another person before being broadcast?

- yes
- no

External production:

Do you trust your supplier?

- although the supplier proofreads the audio description, we do it once more in house
- we proofread a sample chosen by random
- we trust and do not any proofreading

Do you check the sound mix?

- although the supplier checks the sound mix, we do it once more in house
- we check a sample chosen by random
- we trust them and do not any checking

Do you broadcast audio descriptions (from another provider) that do not correspond to your style-guide?

- never, since this would drop the quality
- yes, we use such audio descriptions since we get them for free or at a low price. This is better than no audio description at all.

Do you broadcast audio descriptions with synthetic voices?

- yes
- no

Would you consider broadcasting audio descriptions with synthetic voice?

- yes
- no

Do you offer audio subtitling, when content is in a different language, and separate from Audio Description?

- yes
- no

Do you offer audio subtitling with audio description?

- yes
- no

When requesting a new service, do you?

Take into account the cost?

Is cost different for different genres: news, documentaries, reality shows?

Any comments you wish to add

## ***Proposal for a questionnaire on quality for signing***

### General questions

What is quality for you?

- grammatically correct sentences
- avoiding metaphors
- timelines (like maximum speed or minimal duration)
- display subtitles in meaning units
- interoperability for different vectors (television, internet, HbbTV)
- allocation of the text to the person speaking
- coherence of the subtitle
- in sync of the subtitle with the spoken text

(chose three out of eight points)

Have you got a style-guide which determines how your subtitles have to look like?

- yes
- no

Has this guide been

- written by you as a broadcaster?
- specified by the regulator?
- elaborated in cooperation with the associations of the sensory handicapped?

### Prerecorded programs

Internal production:

Are your subtitles proofread and post edited by another person before being broadcast?

- yes
- no

External production:

Do you trust your supplier?

- although the supplier proofreads and post edits the subtitles, we do it once more in house
- we proofread a sample chosen by random
- we trust and do not any proofreading

Do you broadcast subtitles (from another provider) that do not correspond to your style-guide?

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- yes, we use such subtitles since we get them for free or at a low price. This is better than no subtitles at all.

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Our live subtitles are done by

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When requesting a new service, do you?

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Is cost different for different genres: news, documentaries, reality shows?