

D2.4.4

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D2.4.4 – Dissemination Activities and Advisory Board conclusions (M25-M36)

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www.hbb4all.eu

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Project no. 621014
HBB4ALL
 Hybrid Broadcast Broadband for All

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

D2.4.4 – Dissemination Activities and Advisory Board conclusions (M25-M36)

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| PP | Restricted to other programme participants (including the Commission Services) | |
| RE | Restricted to a group specified by the consortium (including the Commission Services) | |
| CO | Confidential, only for members of the consortium (including the Commission Services) | |

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Executive Summary

This document is a report on dissemination activities carried out by the project partners during the third year of the project. Dissemination covers the project cooperation with its Advisory Board, as well as external communication.

In the third year, the main effort was dedicated to:

- the project website www.hbb4all.eu update and constant improvement, and the management of the social media progress;
- the dissemination barometer for monitoring and follow-up of the project's dissemination activities (events, publications, etc.);
- standardisation activities,
- Advisory Board activities,
- and the HBB4ALL White Paper preparation and publication.

Among 50 activities/events in the third project year (against 57 in 2015 and 46 in 2014), project partners have made presentations at national and international symposiums and conferences. Public deliverables and presentations have been made available on the project website, once agreed by the partners. In addition, 11 articles have been published in international journals (against 6 in 2015, and 3 in 2014).

With regard to standards HBB4ALL continued to be actively involved in 4 working groups (EBU, ITU, ISO and AENOR), partners participated in 13 events related to standards, and they helped actively draft documents.

The plan for project dissemination activities, described in D2.4.1, May 2014, followed the barometer, an online working tool, which has been made available for all partners to centralise the collection and review of all dissemination activities.

This third year was punctuated by the preparation and realisation of the HBB4ALL White Paper: for the very first time, at a European level, all relevant stakeholders in the connected TV environment, brought together by their common interest in access services and inclusion matters, have created this exceptional in-depth document, a major dissemination tool for accessibility within the connected TV environment.

At least 4 partners from HBB4ALL collaborated in the NEM position paper on Accessibility Services with the title "Opening doors to Universal Access to the Media", published in February 2016¹.

¹ <https://nem-initiative.org/wp-content/uploads/2016/03/NEM-ACCESS-Policy-suggestions.pdf>

1. Introduction

This document summarises the dissemination activities of the project from months 25 to 36 and gives an outlook on the perspectives for the last project year.

It provides comprehensive information of achieved dissemination and standardisation activities, Advisory Board conclusions as well as the common HBB4ALL White Paper co-produced by the project partners and the AB members.

The report describes the activities and provides pointers to further documentation (e.g. publications, slides, etc.). Some illustrations highlight performed dissemination activities.

In the following section (2), we assess the situation of the dissemination barometer, which is the basic assessment tool for dissemination activities. All 2015-2016 dissemination activities are listed and comprehensively described from website and social media to press releases, promotional material and online platforms, events and standardization activities. This part illustrates realized dissemination activities/results. Particular attention is put on Advisory Board (AB) conclusions (3) and the HBB4ALL White Paper worked out between the partners and their Advisory Board (4). The document closes with a general conclusion and the achievement of success criteria and addresses issues allowing the maintaining of the HBB4ALL website after the project running time (5).

2. Dissemination

2.1. Barometer: monitoring dissemination habits adopted by partners

All project partners participated in common dissemination activities as well as dissemination activities at their own regional level and in their own language. The monitoring was done through the “dissemination barometer”.

This barometer has been operational as online working tool for two years now, to support all partners in documenting their dissemination activities and to monitor regularly their respective dissemination activities. This barometer was designed to:

- Collect and centralise the information of achievements from all partners on a monthly basis,
- allow them to share upcoming events and dissemination activities,
- give ideas and feedback on dissemination issues and suggest events to attend.

The barometer collected mainly five basic dissemination data from the partners:

- **Events calendar**, to inform of up-coming events and get feedback from passed events.
- **Press and other external releases**: follow-up of external publication/information releases and content collection of the partners' contributions for external communication.
- **Social timeline**, collecting texts used by partners for general use and facilitate the relay of information; for example, conferences, website publications, articles, project presentation, Advisory Board (AB) actions, etc. (HBB4ALL or third events speaking about the project).
- **Event Publication**, follow-up and grouping all public documents: academic or other public articles.

- A specific **standardization** folder collects the partners' standardisation activities with regard to the project needs.

The dissemination barometer also allows converting its content into dissemination reports. It gathered online all relevant actions from each partner to feed website, social media, and newsletter and nourish deliverables with updates. It is represented in the following scheme:

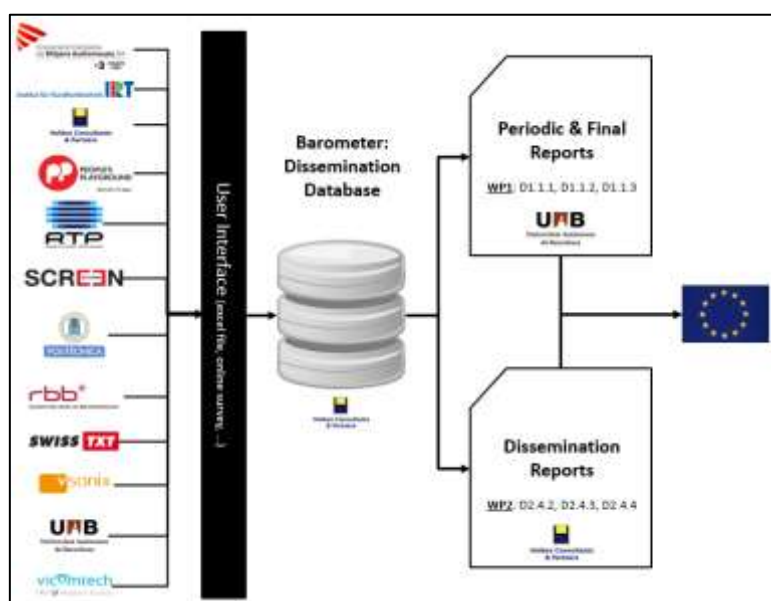


Figure 1. Inputs and outputs of the dissemination barometer

2.2. Major dissemination activities

The overall objective of dissemination within WP2 is to create project awareness and visibility of the achievements of HBB4ALL pilots, user trials and results and the preparation for the market take-up of HBB4ALL at national and international levels.

Dissemination is also about cross-fertilization of results, best practices and synergies from other existing EU projects involved in accessibility and interactive media (TV, web, mobile). This has been done through major communication and support actions such as:

- Website and online communication,
- Social media channels and Web showcase of **HBB4ALL**,
- Events and (scientific, industry and media/IT) publications, workshops and conferences,
- Standardization activities.

2.2.1. Website and online communication

The HBB4ALL website presents the project's objectives and results as they become available. HC always ensure the website updates and make all the project progress details or valuable information available. Once implemented on the website, the project news are shared via all the project social media profiles as well as through the classical channels like newsletters and press releases.

This communication process meets two objectives. The first one is that the project brand and especially its advancements constitute a constant news flow exposed to the knowledge of the project sphere. So, this sphere can also disseminate the project progress via its own network. The second objective is to assure that the project informs and gathers far more stakeholders than only those interested by one or another project aspect, it aims at creating some real opportunities for future exploitation and potential further collaborative projects.

2.2.1.1. HBB4ALL website-updates since mid-November 2015

The HBB4ALL website www.hbb4all.eu is the primary source of information for the public, and the first online dissemination channel for the partners. It provides extensive updates about the project HBB4ALL such as the progress of this project pilots (deliverables, pilots, publications and target outcomes) and other sections.

The following table shows the HBB4ALL website categories:

| HBB4ALL website categories 2016 | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • HBB4ALL <ul style="list-style-type: none"> ◦ The Pilots A, B, C & D • About the project <ul style="list-style-type: none"> ◦ Methodology ◦ Target outcomes • The partners <ul style="list-style-type: none"> ◦ The consortium ◦ Advisory Board ➤ Publications: 56 pages of news | <ul style="list-style-type: none"> • Deliverables: 2014 – 2016 • Events: 2014 – 2016 (per month) • Press Releases 2014 - 2016 • Newsletters: 10 newsletters • Media Library <ul style="list-style-type: none"> ◦ Event Gallery ◦ Communication medium • Contact |

Table 1. HBB4ALL website categories

Figure 2, below, shows a screenshot of the HBB4ALL website home page which contains the main sections:

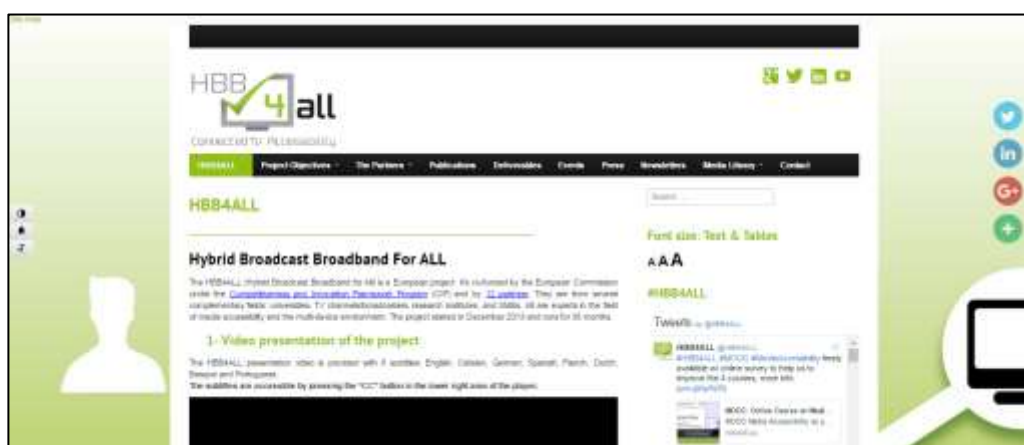


Figure 2. HBB4ALL website main sections

2.2.1.2. Website traffic

The number of impressions, visitors and users of the HBB4ALL website are indicative figures of usage behaviour. To illustrate the attendance and traffic figures of the website, we rely on the period between mid-

November 2015 and November 2016. Beyond the factual observation, these figures allow to monitor the results of the improvement actions or content updates on the website by examining impact on site traffic.

For the final traffic monitoring, we noted the stats for the last three years to better illustrate the progress of the traffic on the website. So, the table below shows that the project website has regularly improved its figures and generated 18 519 visitors during three years of online activities and communication actions. For this last year, new visitors count for 69% of the overall traffic, whereas half of them came back regularly to the site, which shows an ongoing interest for its content.

Besides these positive results, we must be aware that the current stats don't include November & December 2016. During this period, we anticipate that a (huge) further record growth of the website due to the coming publications of the third HBB4ALL workshop outcomes and the last deliverables of the project.

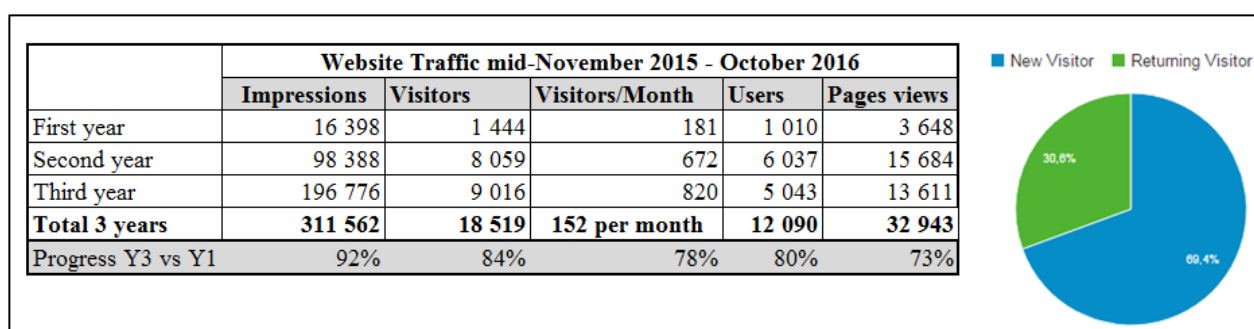


Figure 3. Website Traffic of 3 Years

Therefore some stats of the third year have slightly decreased the number of users for example. This year, the partners were more concentrated on the access services demonstrations and the achievements of the project without public available information. The website visitors note a constant continuous increase and positive progress. We anticipate that the stats will be in great progress for the two coming months due to the events and activities during the final project month: The Languages and Media 2016 where HBB4ALL had its own panel, the 3rd HBB4ALL workshop, the EBU Eurovision Access Services Plenary 2016 (which had a strong HBB4ALL participation and contribution), and the HBB4ALL White Paper publication.

The projected success criteria outlined in the dissemination plan projected 200 to 300 visitors on the website per trimester. With 820 visitors per month, which leads to 2460 visitors every three months' period, this objective has also been achieved and even largely bypassed for the third year of the project. Regarding the entire project period, the website registered 156 visitors per month (468 every trimester), which is also more than the expected stats (100 visitors per month).

2.2.2. Social media channels of HBB4ALL

2.2.2.1. HBB4ALL video presentation and the YouTube Profile

2 videos were produced for the project, the first one by VSX and the second one by TVC. The video presentation of the project registered a little progress: 277 views this year vs 210 views for last year.

2.2.2.2. Twitter Profile and traffic

The project twitter profile: <https://twitter.com/HBB4ALL> is daily used to relay the progress news as well as the event participations.



Figure 4. HBB4ALL twitter home page

The twitter account has 333 followers and HBB4ALL follows 256 accounts with similar interests. As an active European project, HBB4ALL is attracting international interest:

| | Traffic mid-November 2015 - November 2016 | | |
|---------------------|-------------------------------------------|--------|--------|
| Activity of 3 years | 2014 | 2015 | 2016 |
| Impressions | 11 000 | 57 600 | 66 900 |
| Tweets | 68 | 405 | 587 |
| Followers | 66 | 231 | 333 |
| Following | 33 | 187 | 256 |
| Favorited | 0 | 52 | 84 |

Figure 5. HBB4ALL Twitter stats

The twitter communication strategy still focused exclusively on HBB4ALL publications, on the partners' articles or their contributions, the events and all general information about the project evolution or news. The twitter traffic increases each time following the project progress and news availability. The twitter is also used to relay the communication about the partners' realisations within the project pilots, for example: the MOOC (Massive Open Online Course) on Media Accessibility from le Pilot-C or the participation of RBB at IFA2016.

The communication about the online course generated a real interest among the followers, as they liked the information as well as the course itself: 400 views within one day. The tweet about IFA2016 generated about 1630 views the day it was announced. Those two examples give a slight insight about the direct relation between the availability of interesting news and the positive evolution of twitter stats.

2.2.2.3. LinkedIn Profile and traffic

The [LinkedIn business page](#) of the project is still available on the professional network LinkedIn. During the third year, HC continued to gather professional profiles among individuals and companies interested or specialised in the field of connected TV accessibility as well as broadcast broadband technologies.

| Traffic mid-November 2015 - October 2016 | | | |
|------------------------------------------|-------|-------|-------|
| Activity | 2014 | 2015 | 2016 |
| Impressions | 1 027 | 8 570 | 9 010 |
| Followers | 45 | 87 | 109 |
| Posts | 12 | 39 | 40 |
| Clics | 22 | 145 | 229 |

Figure 6. HBB4ALL LinkedIn stats

2.2.3. HBB4ALL MOOC on Media Accessibility

In the scope of the Pilot-C, VSX and UAB collaborated to develop a specific online MOOC (Massive Open Online course) on media accessibility. This free online course was especially elaborated for the operational phase of Pilot-C, and it is available since March 2016. To highlight this accessibility service as one of the HBB4ALL's technological innovations, VSX has created a specific web page for the MOOC and its online survey: <http://www.accessguide.tv/course>. The dissemination of this online course was done through the usual HBB4ALL dissemination channels.



Figure 7. The HBB4ALL MOOC home page

To inform massively about the existence of such an online course, HC took in charge the online communication by creating a specific webpage for the MOOC and publishing the information on the project web channels:





| Website | Twitter |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| LinkedIn | Newsletter |
|  |  |

Table 2. HBB4ALL MOOC dissemination

2.2.4. Promotional materials and corporate identity

Since the very beginning, the project's promotional and communication materials were designed to set the HBB4ALL visual identity, to disseminate the brand spirit and to create a common communication process with all partners. The promotional material (poster/kakemono/leaflet) was created by a special creative designer in order to harmonise external communication. Regarding the other materials, common presentations and templates were made available for all the partners. Several tools, detailed in deliverables D2.2.4 and D2.3.4, were printed or created by HC. They served and were useful for different events.

| 4 th Consortium Meeting 2016 | IRT Symposium 2016 |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |



| HBB4ALL Workshop 2016 By RTP | PIM 2016 By HC |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |

Table 3. HBB4ALL dissemination materials used for several events 2016

Regarding the update of the promotional tools, the project information was very extensive for 2015-2016; the consortium decided to adjust the content presentations to each event and to print separately additional information consistent with the event interest. Thus, many PDF presentations were added to the main project leaflets, as used for example for the EBU Eurovision Access Services Plenary 2016.

2.2.5. Communication and Management Tools

For the management of the internal communication and project follow-up, the project partners are still using the following tools:

- Nebula: more details are available in Deliverable D2.2.3.
- HBB4ALL Barometer available on the Google Drive platform: the monitoring of ongoing dissemination and standardization activities is managed by HC. A monthly reminder is sent to the consortium, with the main dissemination actions to be carried out by each partner, and collected/stored within this tool.

2.2.6. Press Releases & Newsletters

The following sections show achieved and ongoing activities: press releases and newsletters for 2016.

2.2.6.1. Press Releases

For 2016, the consortium drafted five HBB4ALL press releases. They were published on the project website and also on those of the partners, as well as on selected free international PR platforms.

- **1st PR January:** achievements and next steps for the last year of the project

The first press release entitled “HBB4ALL Connected TV Accessibility: From prototypes to operational pilots” presented the last achievements of the HBB4ALL project, with some coming steps for the last year.

In three main points, the article has informed largely about the project pilots progress and the user tests process started during 2015. It also introduced the important events where the applications developed under the 4 pilots would be presented. Finally, it has opened the way to some relevant action points planned for 2016.

| The 1 st PR publications | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HBB4ALL | www.hbb4all.eu/press/ |
| PR.com | http://www.pr.com/press-release/651916 |
| News Wire | http://www.newswire.com/news/hbb4all-connected-tv-accessibility-from-prototypes-to-operational-pilots-7198722 |
| PR Point | http://www.pressreleasepoint.com/hbb4all-connected-tv-accessibility-prototypes-operational-pilots |

- **2nd PR February:** HBB4ALL workshop organised by RTP, Lisbon

The second press release was about the HBB4ALL workshop entitled “Enabling Accessibility in a Connected World”, 26 February 2016, organised by RTP. It announced the workshop objectives, the agenda, the participants and the programmed access services demonstrations.

| The 2 nd PR publications | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HBB4ALL | www.hbb4all.eu/hbb4all-workshop-2016/ |
| PR.com | http://www.pr.com/press-release/657715 |
| PR Express | http://www.bizwireexpress.com/showstoryPRcom.php?storyid=393573 |
| Online PR media | https://www.onlineprnews.com/news/663877-1455116322-hbb4all-workshop-2016-enabling-accessibility-in-a-connected-world-lisbon-portugal.html |
| News Wire | https://www.newswire.com/news/hbb4all-connected-tv-accessibility-from-prototypes-to-operational-pilots-7198722 |
| INR (Portugal) | http://www.inr.pt/content/1/4115/workshop-rtp-assegurar-acessibilidade-num-mundo-conectado |
| ANACOM (Portugal) | http://www.anacom.pt/render.jsp?contentId=1379759#.V_-fS-iLSM8 |

- **3rd PR March:** Live streaming subtitles, coordinated by IRT

This third PR “Standardised approach for subtitles in live streams on PC, mobile and Smart TV” was coordinated by IRT. It announced the collaborative work between IRT and Akamai, Keepix, BR and DasErste in the scope of the HBB4ALL project.

| The 3 rd PR publications | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IRT | https://www.irt.de/fileadmin/media/downloads/pressemitteilungen/2016/2016_02_PR_Live_streaming_subtitles.pdf |
| HBB4ALL | http://www.hbb4all.eu/mpegdash-live-streams-ebuttd-subtitles/ |
| Advanced TV | http://advanced-television.com/2016/03/16/standardised-approach-for-subtitles-in-live-streams-on-pc-mobile-and-smart-tv/ |
| EBU Tech | https://tech.ebu.ch/news/2016/03/standardised-approach-for-subtit |

- **4th PR April:** EBU BroadThinking event 2016 by CCMA (Spanish)

Press release published on CCMA internal and public portal about the Hbb4All presentation on EBU BroadThinking 2016 Geneva.

| The 4 th PR publications | |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CCMA | http://www.eleconomista.es/CanalPDA/2016/64569/la-ccma-presenta-el-seu-servei-daccessibilitat-en-hbbtv-a-lebu-broadthinking-2016-de-ginebra/ |

- **5th PR September:** CCMA (TVC) published its HbbTV subtitling software as open source

In September 2016 TVC announced the availability of its “HbbTV subtitling software as open source”. The partner's PR, drafted for this purpose, explained in great details that CCMA has shared the software code to show subtitles on its TV3alacarta HbbTV VoD service, developed in the scope of the HBB4ALL European project.

| The 5 th PR publications | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HBB4ALL | http://www.hbb4all.eu/ccma-subtitling-software-open-source/ |
| PR.com | http://www.pr.com/press-release/692125 |
| PR Point | http://www.pressreleasepoint.com/catalan-audiovisual-corporation-published-its-hbbtv-subtitling-software-open-source |
| CCMA | http://www.ccma.cat/premsa/la-ccma-publica-el-programari-per-visualitzar-els-subtitols-en-la-seva-aplicacio-per-hbbtv/nota-de-premsa/2751436/ |
| Techno News | http://www.tecnonews.info/noticias/la_ccma_publica_el_software_para_visualizar_los_subtitulos |
| Panorama Audiovisual | http://www.panoramaaudiovisual.com/en/2016/09/30/the-ccma-releases-the-software-to-display-subtitles-under-standard-hbbtv/ |
| Video Popular | http://videopopular.es/not/2780/la-ccma-publica-el-programario-para-visualizar-los-subtitulos-en-su-aplicacion-para-hbbtv/ |

- **6th PR October:** GATV realisations within the project, by UPM

UPM drafted this press release entitled “HBB4ALL: a successful case of broadcast-broadband convergence” in order to go back on its contribution and its involvement during 3 years of collaborative work within the project consortium.

| The 6 th PR publications | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UPM | http://www.gatv.ssr.upm.es/index.php/en/news/current/233-nota-de-prensa-sobre-el-proyecto-hbb4all-accesibilidad-y-televisioan |
| | http://www.gatv.ssr.upm.es/index.php/es/noticias/actualidad/233-nota-de-prensa-sobre-el-proyecto-hbb4all-accesibilidad-y-televisioan |
| HBB4ALL | http://www.hbb4all.eu/gatv-broadcast-broadband-convergence/ |

2.2.6.2. Newsletters

For the newsletters dissemination, the project continues to use the external platform Mailchimp, as decided by the consortium (see report D2.4.3). Linked directly to the project website, it allows interested stakeholders or any potential reader to register for the news via the HBB4ALL website.

The HBB4ALL account is exclusively used to disseminate the project news: events, articles, contributions, PRs, advancements, etc. In addition, all the 12 newsletters sent for now (11 news + 1 reminder) are also

available on the HBB4ALL website, in order to remind the visitors that we have interesting news. They can subscribe to receive them, and share all of them or selected news through their own networks.

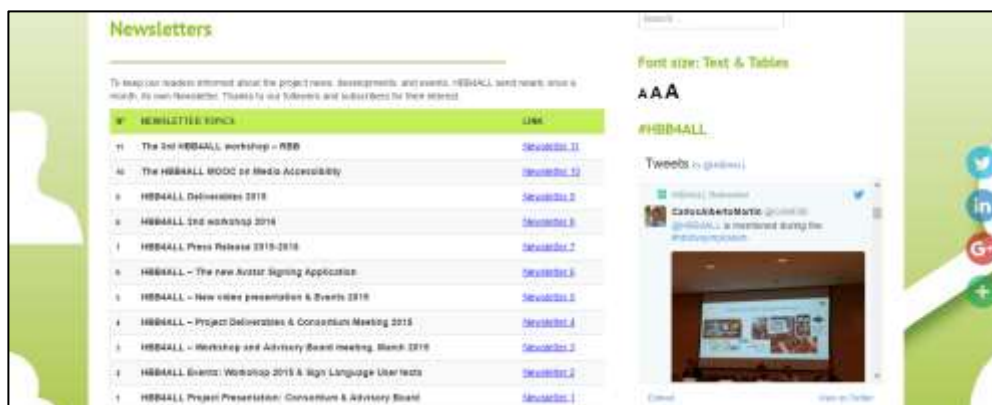


Figure 8. HBB4ALL newsletters on the website

For the coming months (December 2016 – January 2017), seven more newsletters are expected to be published: five about the coming project deliverables, one for the White Paper publication and the last one to announce the end of the project.

Regarding the stats, the HBB4ALL database includes for now 70 subscribers. The communication strategy explained in D2.4.3 was also maintained this year. It allowed the number of the registered persons to progress slightly without being intrusive. The law that controls the newsletters of non-profit organisms is very strict about it. With the seven coming newsletters we expect this number to grow. Meanwhile the report below shows the increase of the opening rate as well as the clicks generated:

| Report Stats Newsletters 2014 - 2016 | | | | |
|--------------------------------------|-------------|------------|------------|--|
| Newsletters | Subscribers | Opens | clicks | |
| 1 | 24 | 14 | 25% | |
| 2 | 38 | 24 | 24% | |
| 3 | 49 | 30 | 14% | |
| 4 | 53 | 28 | 11% | |
| 5 | 56 | 27 | 23% | |
| 6 | 57 | 24 | 18% | |
| 7 | 61 | 40 | 28% | |
| 8 | 61 | 28 | 28% | |
| 9 | 62 | 26 | 15% | |
| 10 | 67 | 29 | 23% | |
| 11 | 69 | 37 | 25% | |
| 12 | 69 | 39 | 22% | |
| Total | 69 | 346 | 23% | |

Figure 9. Newsletters stats 2016

2.3. Events activities outcomes

This section gives qualitative feedback about the most relevant events attended by the partners from the end of December 2015 to November 2016.

By qualitative information, we mean that each concerned partner gives a feedback about a chosen event(s). The partners explain for what reason(s) they have attended the event(s) and how they contributed. This general information is completed by a short description of the (expected) impact, added-value and potential outcomes for the project from their participation (possible exploitation, future cooperation, future research, others),

This section was created to meet the recommendations and the needs of the last reviewer's reports. The events table is moved to the annexe.

Section 2.3.1 highlights collaborative partner presence at some key events. The following section 2.3.2 gives then individual partner feedback from key events they covered.

2.3.1. *Collective contributions at consortium level*

HBB4ALL project partners were involved as a consortium in multiple major events, e.g. the 2nd HBB4ALL workshop organized by RTP in Lisbon (February 2016), the EBU BroadThinking event, where the 3rd Advisory Board meeting was held (April 2016), the 3rd HBB4ALL workshop organized by RBB in Berlin, (November 2016) and The Languages and the Media conference (November 2016).

2.3.1.1. The 2nd HBB4ALL workshop

The 2nd HBB4ALL workshop “Enabling Accessibility in a Connected World” was organised and hosted by the Portuguese project partner RTP, 26 February 2016 in Lisbon.

During this workshop, the partners presented the last achievements with demonstrations and the ongoing user test results. After the success of the first workshop 2015, the second workshop was successfully focused on enabling levels for and by the media accessibility value chain: regulators, broadcasters, and end user associations. Besides the presentation to the public of the latest work of the HBB4ALL consortium, broadcasters from Europe shared their experience in accessibility services. Portuguese and British regulators presented and discussed the recent guidelines for accessibilities; and experts from the industry in the area discussed among others European standardization issues.

This event was an excellent opportunity to follow up the pilots' progress and to discover live demonstrations of HBB4ALL access services. Moreover, those who were the most interested and concerned by access services promoted a round table discussion with Portuguese deaf and blind users' association representatives. They raised a debate about their needs, expectations and perception of HBB4ALL services, and recalled the need to work accessibility projects with them and not just for them.

During the presentation, it was a great reward for partners to receive the gratefulness from impaired people. Here the presented demonstrations:

| Partner(s) | Author(s) | Title(s) |
|------------|-------------|-----------------------------------------------------------------------|
| IRT | Andreas Tai | MPEG-DASH streaming and EBU-TT subtitles as part of HbbTV2.0 Showcase |

| Partner(s) | Author(s) | Title(s) |
|----------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| | | Live MPEG-DASH streaming with EBU-TT-D on multiple devices |
| | | Subtitle format conversion, subtitle database |
| IRT | Ronald Mies | Improved speech intelligibility with Clean Audio |
| RBB | Annette Wilson | Customised HbbTV Subtitles for VoD |
| UPM & RTP | Carlos Alberto Martín Mario Sequeira | Multiplatform subtitles in web environments |
| TVC | Francesc Mas | Customizable Subtitling & Audio-Description Services |
| VICOMTECH | Mikel Zorrilla | Automatically generated Multilingual Subtitles for broadcast and automatically generated sign language avatar |
| VSONIX | Volker Han | Personalized UI adaptation and subtitling in a web based learning application |
| RBB | Remo Vogel | HbbTV-based signing pilot |

Table 4. The 2nd workshop demonstrations

IRT particularly used the workshop to strengthen its cooperation with Samsung on HbbTV2.0 showcases and to generate ideas on further potential applications of the Clean Audio tool.

For VIC, this event was the opportunity to disseminate the progress on their research lines and discuss with different stakeholders the requirements on different use cases, the current status of the technology and to influence the research roadmap of the research lines.

RBB used the workshop to demonstrate its work on subtitles to a variety of attendees from European Commission representatives to general accessibility experts.

RTP / UPM had the opportunity to disseminate the work developed in the project. For RTP, as a broadcaster, it was a good opportunity to follow up the criteria used by the Portuguese and foreign regulators, concerning accessibility issues on broadcasting regulation. It was also an opportunity to share and discuss some common issues with others broadcasters and interact with RTP potential accessibility users, by promoting the discussion of what a public service should do in accessibility area.

HC took the opportunity to follow up on the coming 3rd AB meeting and HBB4ALL White Paper production issues.

Within this workshop vsonix made a presentation on personalized UI adaptation and how it used in the online course on media accessibility that vsonix provides based on its accessible online video platform. For vsonix the event was important in order to show its capabilities on accessible online video creating new contacts to the community and addressing stakeholders that are interested in accessible online video applications.

2.3.1.2. The EBU BroadThinking event

The EBU BroadThinking event was held on 6th - 7th April 2016, Geneva Switzerland. HBB4ALL partners, who met in Geneva for the 3rd and last Advisory Board meeting, have participated to present the latest achievements among the access services developed within the project pilots.

Indeed, the organisers arranged a special session on access services within the BroadThinking event, which highlighted that Internet services are of growing importance for public broadcasters. Audiences are using different types of devices to access media and more media is being delivered via broadband networks. OTT techniques were supposed to help public service media continue to reach their audiences on new platforms.

Within this context, Annette Wilson from RBB gave an HBB4ALL presentation about “Access services in the connected TV world”, and Frances Mas discussed “CCMA HbbTV access services”. The presentations were followed by a question and answer session.

Moreover, the WP leaders and project partners involved in tests and trials were present with booths and showed, through several demonstrations, all the collaborative work and project results. The audiences were mainly technical representatives of European broadcasters, and they highly appreciated the demos and individual discussions with the project representatives.

The demonstrations carried by HBB4ALL partners alongside the EBU Broadthinking event, by WP:

| | | | |
|------------|-----------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------|
| WP3 | Customised HbbTV Subtitles for VoD, Annette Wilson RBB | WP4 | Improved speech intelligibility with Clean Audio, Ronald Mies IRT |
| | EBU-TT-D Personalised Subtitles on HbbTV 1.5, Francesc Mas TVC | | Audiodescription content in HbbTV catchup, Francesc Mas TVC |
| | Multiplatform EBU-TT-D subtitles in web environments, Carlos Alberto Martín Edo UPM & Mario Sequeira RTP | WP3 | Multi platform subtitles in Web environments, Carlos Alberto Martín UPM |
| | Automated Multilingual Broadcast Subtitles (video), Mikel Zorrilla Vicomtech | | |
| | MPEG-DASH streaming and EBU-TT subtitles as part of HbbTV2.0 Showcase, Andreas Tai IRT | WP6 | HbbTV-based signing pilot, Annette Wilson RBB |
| | MPEG-DASH live streaming and EBU-TT subtitles on multiple devices, Andreas Tai IRT | | Sign Language Avatar, Mikel Zorrilla Vicomtech |
| | Subtitle database and subtitle format conversion, Andreas Tai IRT . | | |

For RBB, the Broad Thinking event, organised and hosted by the EBU, provided an ideal opportunity to present the services and technology behind them to representatives from a large number of European broadcasters. The combination of presentation and demos meant the project was very prominent during the event and generated a lot of interest.

Given the background of the participants, the EBU BroadThinking event was a good opportunity to create further awareness on how Internet-based applications can be used to increase and improve the Access Services being offered by broadcasters. For IRT specifically there was great interest in the MPEG-DASH streaming and EBU-TT subtitles demonstrations. In our discussions we were able to create further awareness of the potential of the EBU-TT subtitle format and of the technical innovations made based on this standard.

Otherwise, VIC used the event to disseminate the progress on their research lines and discuss with different stakeholders the requirements on different use cases, the current status of the technology and to influence the research roadmap of the research lines.

RTP & UPM had the opportunity to disseminate the work developed in the project.

2.3.1.3. The 3rd HBB4ALL workshop

The 3rd HBB4ALL workshop was hosted by RBB in Berlin on 2 November 2016. The timing of the workshop was important as it coincided with the Eurovision Access Services Experts Meeting also hosted by

RBB on the same day in the same location and it was one day before the Languages and The Media Conference in Berlin. The workshop combined a presentation during the Eurovision meeting and demonstrations by HBB4ALL partners. The Eurovision Access Services Experts Meeting, organised by the EBU is attended by representatives responsible for access service from a range of European public service broadcasters. The HBB4ALL presentation and demonstrations were included in the agenda of the meeting.

Project partners set up demonstrations of the services piloted in HBB4ALL in the Foyer of RBB's television centre. At six stations, demonstrations covering sign language, subtitles, alternative audio tracks and the HBB4ALL MOOC were available. During the lunch break and following the meeting, participants of the Eurovision Accessibility Experts Meeting and RBB staff members attended the workshop. During the meeting, Annette Wilson of RBB presented the results of the project and lessons learned. The following is a list of the demos available during the workshop:

| Partner(s) | Title(s) |
|----------------------|-------------------------------------------------------------------------------------------------------------|
| RBB | Customisable HbbTV subtitles for catch-up TV |
| | Clean Audio Samples |
| | HbbTV Signer App |
| IRT | Subtitles for live streaming |
| | Subcheck: Subtitle Quality Check |
| | Audio Description synchronised on multiple devices |
| | Improved speech intelligibility with automatic Clean Audio |
| UPM & RTP | Customisable subtitles for web players |
| | Customisable signing services for web players (Double-screen signing service for live and catch-up content) |
| CCMA (TVC) | Customisable HbbTV subtitles for catch-up TV |
| | Audio Description in HbbTV catch-up TV |
| UAB | Sign language questionnaires |
| VSONIX | MOOC: Online video learning application on media accessibility |
| VICOMTECH | Automatic Live HbbTV subtitles (Prototype) |
| | Avatar signer for weather forecast (Prototype) |

Table 5. The partners' demos for the 3rd HBB4ALL workshop



Figure 10. Demos at 3rd HBB4ALL Workshop

2.3.1.4. The Languages and The Media

Thursday 3 November 2016, the project benefited from a whole HBB4ALL panel to present its achievements during the event “Languages and The Media 2016”, Berlin, Germany. The International Conference on Language Transfer for Audiovisual Media on a bi-yearly basis gathers international stakeholders to share their experiences and to create opportunities for the future.

The HBB4ALL partners presented in details, the various project realisations under the main theme of “Media Accessibility Services in a Hybrid Broadcast Environment: Achievements and Outlook”. RBB, IRT, VSX, UPM and UAB attended the panel:

- Annette Wilson, Rundfunk Berlin-Brandenburg (RBB), Germany: “Subtitle Distribution in a Converged Environment. What we’ve achieved and what challenges we still face. What’s next?”
- Ronald Mies, Institut für Rundfunktechnik, Germany: “Audio as an Accessibility Service”
- Volker Hahn, vsonix GmbH, Germany
- Carlos Alberto Martín Edo, Universidad Politécnica de Madrid, Spain
- Theresa Liebl, Institut für Rundfunktechnik, Germany
- Iris C. Permyu Hércules de Solás, Universitat Autònoma de Barcelona, Spain
- Olivia Gerber-Morón, Universitat Autònoma de Barcelona, Spain
- Pilar Orero – Chaired the session

Additionally, in other panel sessions there were presentations from Alicia Rodríguez, Andreas Tai (IRT) and Agnieszka Walczak.

UPM was the responsible for presenting the signing activities of the project in the HBB4ALL session of the conference “Languages & the Media”.

During the HBB4ALL panel Q&A session, several questions arose in the audience on the Clean Audio user tests. This confirmed, that speech intelligibility in TV programs is an issue in other European countries as well and that solutions to improve intelligibility is needed.



Figure 11. Group photo: the partners at "The Languages & The Media" 2016



Figure 12. Annette Wilson (RBB) - The Languages & The Media 2016

2.3.1.5. BEREC

On 5 October 2016 the Body of European Regulators for Electronic Communications (BEREC) held a workshop on the Accessibility of Communications Services, taking into account the needs of disabled end-users. The workshop was focused in particular on broadcasting, other audio-visual services and the provision of online content. The event preceded BEREC's quarterly plenary meeting of national regulators at which common regulatory subjects across Europe are discussed. On this occasion, the event was hosted by the national communications regulator of Lithuania, RRT, in Vilnius.

Especially for this event BEREC had invited several organizations representing European citizens and disabled people, as well as representatives of broadcasters, online service providers and equipment manufacturers, who shared their views and experience.

Representing HBB4ALL, IRT and RTP – cooperatively with UAB representing EDF – informed the BEREC about the potential of access services in the converged broadcast / broadband environment, specifically also by means of HbbTV, combining broadcast and Internet to bring access services to the end user. This information was welcomed by the BEREC members, and can be taken into account by them in their further discussions and considerations.

2.3.2. UAB events contributions

UAB participated in 6 events, with the participation in the 9th session of the Conference of States Parties (COSP) to the Convention on the Rights of Persons with Disabilities (CRPD) at UN in New York as the most significant. Participants from all countries worldwide were present, and HBB4ALL contributed showing the training courses produced in the MOOC.



Figure 13. HBB4ALL Online Course on Media Accessibility



Figure 14. The 1st course of the MOOC

Many countries showed some interest in following these courses, since they are free, online and accessible. Good collaboration was established with EDF.

UAB also contributed in the European Parliament conference “EDF & Disability Intergroup conference on the Accessibility Act” organised by EDF on 8th of November in Brussels. The conference focused on tackling the complex proposal for the European Accessibility Act as an ambitious task.

The Disability Intergroup was represented by its co-chairs: Ádám Kósa (European Parliament), Helga Stevens (European Parliament), Kostadinka Kuneva (European Parliament), and its vice-chair, Olga Sehnalová. They all expressed their support on the adoption of a meaningful Accessibility Act that will benefit not only 80 million persons with disabilities and 150 million older people who live in Europe but all citizens. It was also highlighted that the involvement of EDF and its national members is very important in this process. Pilar Orero, from HBB4ALL presented the project and the pilots that have been tested with the accessibility services and the many possibilities to achieve broadcast accessibility.

The newly appointed rapporteur of the Act in the IMCO committee, Morten Løkkegaard, was also present at the meeting stating he was there mostly to listen rather than to present a defined position, since he took over this file only very recently. He expressed his determination to get the proposal of the Act moving forward on time but also wondered whether the scope of the proposal is precise enough. He also reflected on the issue of maintaining balance and ensuring that innovation was not hampered.



Figure 15. EDF & Disability Intergroup conference on the Accessibility Act 2016

2.3.3. UPM events contributions

2.3.3.1. Participation in eVIA exhibition 2015

eVIA is the Spanish technological platform of technologies for the health and the active and independent living. It is a meeting point for the organisations interested in inclusion, accessibility, health and wellbeing. eVIA organised the awards INNOVA 2015 to recognise the better projects and initiatives in the field of assistive technologies and HBB4ALL was one of the participant projects. HBB4ALL was invited to participate in an exhibition about the use of technologies for the health and the wellbeing, conceived as a place for dissemination and networking. It took place on 4 November 2015. The figure shows the HBB4ALL stand.



Figure 16. Stand at the eVIA exhibition

This technological platform is managed by AMETIC (Spanish Association of Electronics, Information and Communications Technologies, Telecommunications and Digital Content Companies), which is one of the organisations that attended the second Advisory Board meeting as observers.

2.3.3.2. "Live campus: researching in the university"

"Live campus: researching in the university" (or in Spanish "Campus vivo: investigar en la Universidad") is the name of an exhibition organised by MUNCYT (Spanish National Museum of Science and Technology) and CRUE (board of Spanish universities) to underline the societal importance of the research carried out in universities. HBB4ALL was one of the eight project selected for the exhibition amongst 236 candidates. The candidature was presented by UPM and this HBB4ALL partner has been responsible to prepare the participation of HBB4ALL in the exhibition and the related dissemination materials, like the mosaic shown in the figure, that tries to represent the variety of services and pilots deployed in HBB4ALL.



Figure 17. Mosaic created as dissemination material for the MUNCYT exhibition

The exhibition was inaugurated on 21 October 2016 in the premises of the museum in Alcobendas, near Madrid. The exhibition will stay six months in Alcobendas. After that, it will be installed in the premises of the museum in A Coruña, in the North of Spain. The figure shows the moment when the authorities visited the HBB4ALL stand during the inauguration.



Figure 18. Inauguration of the MUNCYT exhibition

2.3.3.3. Presentation in AMADIS conference

UPM presented the HBB4ALL project in the conference AMADIS2016: "Accessibility in audio-visual media for people with disabilities". Since another presentation was accepted in the previous edition of this conference (2014), AMADIS2016 has allowed to show the progress of HBB4ALL from 2014 to 2016. The title was: "HBB4ALL: new access service in the Connected TV environment" and it was presented during the conference in Toledo (Spain) on 27 October 2016.

2.3.3.4. Presentation in NEM Summit

NEM, New European Media, is one of the European technology platforms. NEM organises an annual conference named "NEM Summit", which includes paper sessions. UPM proposed an article that was accepted for the conference. The title is "HBB4ALL: access services for a smart convergent environment" and it will be presented in Porto (Portugal) the 24th November 2016.

2.3.4. RBB events contributions

2.3.4.1. Cooperation with representatives from Berlin and Brandenburg user associations

In regular meetings with representatives of Berlin and Brandenburg associations representing the interest of the deaf and hard-of-hearing and people with disabilities RBB report on progress in access services. During these meetings RBB has presented progress in HBB4ALL. The meetings are important for both RBB and the associations as they offer a forum to exchange information and ideas on issues related to accessibility and broadcast services. The association helped RBB recruit users for the HBB4ALL pilots and also provided valuable feedback on the methodology and questionnaires used in the tests.

2.3.4.2. IRT Symposium on barrier free access services: “Audiovisuelle Medien barrierefrei”

As described in section 2.3.5.2, IRT hosted the symposium “Audiovisuelle Medien barrierefrei” on 29 and 30 June 2016. Bettina Heidkamp, head of RBB Innovation Projects, presented RBB’s work in HBB4ALL, focussing on the services produced, tests and results. The symposium offered RBB an excellent opportunity to share results of the project with German speaking media and accessibility representatives from Germany, Austria and Switzerland.

2.3.4.3. RBB at IFA 2016

The consumer electronics trade fair IFA took place from 2 to 7 September 2016 in Berlin. The IFA is an important platform for ARD and RBB to present the latest services, shows and stars to the general public. It is also a meeting place for industry representatives to discuss the latest trends and innovations. At the annual ARD and ZDF Production and Technology Commission press conference that traditionally takes place on the opening day of the IFA, one of the topics presented and discussed was “Barrierefreies Fernsehen über HbbTV” (Accessible television with HbbTV) in which several HBB4ALL developments were mentioned.

On its booth in the ARD hall, the RBB Innovation Projects presented the subtitle, clean audio and signer services tested in the German HBB4ALL pilot. The customisable subtitle options for the HbbTV catch up service “Mediathek” were optimised as a result of the user tests. The latest version was premiered at the IFA. The booth was visited by members of the public, representatives of user associations in Berlin and Brandenburg, external partners, ARD and RBB members and representatives from other broadcast organisations.



Figure 19. Overview of subtitles videos in RBB Mediathek



Figure 20. Michael Albrecht, ARD DVB coordinator, presents access apps

2.3.5. IRT events contributions

2.3.5.1. Cooperation with accessibility officers from German, Austrian and Swiss public broadcasters

In a permanent working group² with accessibility officers from public German, Austrian and Swiss broadcasters, IRT continuously exchanges experience and discusses various aspects of production and delivery of access services, with a focus on subtitles. In addition to subtitles, many of the participants also have responsibilities with respect to the provisioning of other access services (hence the English translation “accessibility officer”). Regular meetings, telcos and dedicated workshops are organized and coordinated by IRT.

Representatives of IRT in this group continuously present activities and results from HBB4ALL to the participants, e.g. on subtitle production and delivery and possible improvements on speech intelligibility.

Conversely, the meetings are also used to continuously gather input on the changing requirements regarding the evolution of Access Services.

During the plenary meeting of the Eurovision Access Services Experts Group³ (2 November 2016, Berlin) HBB4ALL presented the project’s results to accessibility representatives from public broadcasters on a European level. This was done by a presentation during the meeting, as well as by accompanying demonstrations of HBB4ALL implementations during the breaks.

2.3.5.2. IRT Symposium on barrier free access services: “Audiovisuelle Medien barrierefrei”

² German: Arbeitsgruppe der „Untertitelbeauftragten der ARD“ (responsible for access services in the respective TV programs - German only).

³ <https://www.ebu.ch/groups/tv/eurovision-access-services-experts.html>

On 29 and 30 June 2016 the IRT held its regular symposium, this year focusing on media accessibility⁴. The event was cooperatively organized with the ARD.ZDF Medienakademie and supported by HBB4ALL. Over 100 participants coming from media creators, authorities as well as end user associations in the German-speaking countries, took part in the event.

The latest developments in the field were presented, and viewpoints from all key stakeholders were exchanged. In her opening speech, the Bavarian representative for the disabled, Irmgard Badura, stressed that also for people with impairments the access to information, culture and entertainment should be a matter of course. Politics and industry were summoned to accept accessibility as a key to the ageing society and an extended customer base. The realization of media accessibility is a continuous process, which is driven forward - state of the art as well as near-market innovations were presented. On the other hand, all agreed that there is still room for improvement.

The event was kindly hosted by the Bayerische Rundfunk (BR) at its head-quarters in Munich. HBB4ALL contributed several high-quality presentations. Andreas Tai (IRT) presented the technical hurdles as well as potential solutions for bringing the same subtitles to the various end user devices (online as well as broadcast). Bettina Heidkamp (RBB) zoomed in on some of RBB's innovation activities with respect to broadcaster's access service offers. Theresa Liebl (IRT) addressed speech intelligibility and the potential of Clean Audio. Gion Linder (Swiss TXT) gave some insights in how a broadcaster can operate his access services offer, within the limited (financial) possibilities.

The event was completely subtitled and translated into sign language (both in real time).



⁴ Full title: barrier free audiovisual media – better accessibility to images, audio and information for all people (German: „Audiovisuelle Medien barrierefrei - besserer Zugang zu Bild, Ton und Informationen für alle Menschen“)



Figure 21. IRT Symposium on barrier free access services

2.3.5.3. IRT at IFA 2016 & IBC 2016

IRT, in cooperation with RBB and Samsung, demonstrated novel HbbTV 2.0 applications to exemplify show an additional step forward towards future audio Access Services, e.g. offering the original audio mix in parallel with Audio Description, Clean Audio and/or a dubbed version of the original sound, where one of the latter can be consumed on a secondary device.

Based on an HbbTV 2.0 prototype TV combined with a regular tablet PC as secondary device, it was shown how the same audio visual content can be consumed on these devices in a synchronized manner. The content used for this prototype demonstration contained audio tracks in German as well as English (but any audio version relevant to the program may obviously be used). The TV can present the program with German audio track, whilst on the tablet simultaneously the English version (e.g. via headphones) is running. This feature allows TV viewers in the same living room to enjoy the same TV program with different audio content. At a later stage, this prototype service was enhanced to demonstrate the functionality with Audio Description content on a second screen device, synchronised with the TV program on the HbbTV 2.0 device. This was shown during the 3rd HBB4ALL Workshop and the Eurovision Access Experts meeting in November 2016 (see section 2.3.1.3).

This prototype was shown to the general audience during IFA 2016 (2 to 7 September 2016) and IBC 2016 (9 to 13 September 2016).



Figure 22. IRT at IFA 2016 & IBC 2016

Together with the BBC and EBU, IRT organized a Vendor Tour and an Industry meeting during IBC 2016. At the vendor tour broadcasters could discuss with manufacturers and service providers the newest developments in subtitling technology with a focus on speech recognition, live subtitling and the adoption of the different EBU-TT profiles. At a well visited industry meeting representatives of different standard groups, subtitling manufacturers and broadcaster came together to discuss options for a global harmonization of subtitle formats (see also TVC's contribution in section 2.3.7).

2.3.6. RTP events contributions

2.3.6.1. RTP at BEREC Accessibility Workshop 2016

On 5 October 2016, RTP was invited to participate in the workshop BEREC Accessibility Workshop 2016, as a public service broadcaster and accessibility provider.

During this workshop, several point of views where shared and discussed by electronic manufactures, web accessibilities experts and services providers, and public and private broadcasters. It was an opportunity to sensitise and raise the awareness to the several representatives of the European regulators for electronic communications for the need of common politics and rules for the manufacturing of electronic equipment to be used by disabled people.

RTP had the opportunity to present and share the work that has been done in accessibilities, and together with IRT and UAB, it was also an opportunity to present the HBB4ALL project and its progress.

2.3.6.2. RTP at Eurovision Access Services Experts Meeting 2016 Berlin

On 2 November 2016, RTP participated in the Eurovision Access Services Experts Meeting 2016, hosted by RBB, in Berlin. This event coincided with the HBB4ALL 3rd workshop, also hosted by RBB.

RTP, as public broadcaster and access provider, had the opportunity to present and share the work that has been done in accessibilities, within the European broadcasters' community and it was also an opportunity to present the motivations that took RTP to participate in HBB4ALL project.



Figure 23. RTP at Eurovision Access Services Experts Meeting 2016 Berlin

2.3.7. CCMA (TVC) events contributions

During the International Broadcast Convention 2016 (IBC 2016), on Saturday 10 September in Amsterdam, the Eurovision organized the EBU Cross-industry meeting on subtitling to join all main subtitling companies and stakeholders with the aim to walk one step below in the advance of standards for subtitles and captions.

The event was attended by [IRT](#), [DR](#) (Danish TV broadcaster), [CTA](#), [Dalet](#), EBU, Anglatècnic, [CCMA](#), [EBU](#), [Microsoft](#), [MovieLabs](#), [Screen Systems](#), [Ericsson](#), [BBC](#), [SWR](#), [GPAC Licensing](#).



Figure 24. Francesc Mas talking about HbbTV EBU-TT-D subtitling implementation

TVC (CCMA) participated in the event with the presentation of its EBU-TT-D customizable subtitling service developed, integrated and deployed in its HbbTV catch up within the scope of the Hbb4All European project. Within the presentation, CCMA explained improvements developed on its subtitling workflow from production to Internet publishing and the steps they required to allow playing EBU-TT-D subtitling standard on SmartTV with HbbTV versions 1.0 and 1.5. CCMA also mentioned the subtitling customization feature developed to allow the end-user the best viewing and understanding.

The presentation raised the interest of the audience and this was reflected through deep questions about TVC implementation and the HBB4ALL project.

Once all the presentations were finished, a debate about subtitling standards started, and all participants were invited to reflect in a central poster the subtitling standards/solutions used in their workflows for creation, content management, publication, playback... This way the debate became a brainstorming about future steps to achieve best solutions/standards.

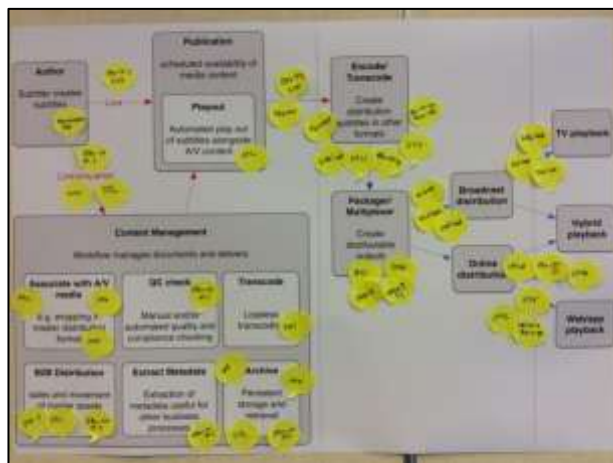


Figure 25. The poster helped the attendants to understand the current situation of standards

2.3.8. VIC events contributions

VIC created a video published the 9 February 2016 in Vicomtech-IK4's YouTube Channel⁵ showing the automatically generated subtitles in multiple languages for broadcast content.



Figure 26. VIC video: HBBTV compatible Multilingual Subtitling Service

⁵ VIC's dissemination video: <https://www.youtube.com/watch?v=kiAjOU3eHfs>

This video has been disseminated through VIC's social networks (such as LinkedIn⁶) and has been used to support the live demonstrator and technically explain it. This video and the live demo have been showed by VIC in different events organised by the HBB4ALL project and already mentioned in this document.

2.3.9. VSX events contributions

During the third project year vsonix has participated at different events in order to show the project results and to network with potential customers and other stakeholders that are interested in accessible online video applications. Vsonix participated at Learntec 2016, which is a trade fair on technologies related to online learning, at the online marketing day 2016 in Frankfurt, where we made contacts to potential customers, which have the need for multi-language content based on subtitles. Another important event for vsonix was the IBC 2016, where we had the chance to talk to a number of potential customers about their needs on accessible online video services, including live subtitling and automatic content translation.

2.3.10. HC events contributions

During the 3rd year of the project, HC participated to 7 events to present the project progress and to promote its access services (see annexe section). 2 of them were highly important for the project, one at a regional level (PIM, Plaine Innovation Meetings organised in the North Paris Region), another one at international level (ICCHP 2016), which is an important academia event bringing together ICT access experts and user representatives from different continents.

2.3.10.1. PIM 2016

HC participated to the 2nd Technological Business Convention organised by Plaine Commune the 16th February 2016, Paris France (<http://www.plaineinnovation.com>). This event was dedicated to open innovation stakeholders to discuss project developments and future opportunities through conferences, workshops, exhibition, technological presentations and face-to-face meetings. Approximately 250 stakeholders attended the event.

HC contributions were:

- To program and to moderate one of the conference focused on "Media Accessibility & e-inclusion" organized within the Open Innovation and convergences conferences held in the same event.
- To lead a workshop entitled "Experiments and media4D network", which put the light on access services and ongoing projects, the results of meetings and collaborative work initiated by HC networks.
- A specific slot/session was dedicated to the access services developed within the HBB4ALL project.
- HC was also present at the exhibition and held a booth with HBB4ALL posters, kakemonos and flyers, and presented the project throughout the day on its booth.

Especially academic research institutes and user association representatives, who discovered the HBB4All project, were very interested in getting more information, including after the project time. The first group of stakeholders was very interested in getting together for future research and innovation matters: the second

⁶ VIC's LinkedIn portal: <https://www.linkedin.com/company/vicomtech>

group would expect or hope, that HBB4ALL access service could get a European impact, including in France; or at least envisage to articulate developments and HBB4ALL outcomes with existing perspectives in France.

Moreover, HBB4ALL had its booth where Poster, Kakemono and leaflets were exposed. About 215 leaflets were distributed. The HBB4ALL presentation and the video were presented all the day. Some participants were interested by the project deliverables and shared their emails to be contacted for further publications.



Figure 27. HBB4ALL booth, PIM 2016

2.3.10.2. The ICCHP 2016

HC attended the 15th international conference ICCHP 2016, which took place from July 13-15, at Johannes Kepler University of Linz in Austria (<http://www.icchp.org>).

ICCHP is a series of biannual scientific conferences in the field of ICT/AT for people with disabilities run in co-operation with the Johannes Kepler University and the Austrian Computer Society.

This high level event, which focuses on “Computer helping people with special needs” provides a unique platform for end users, researchers, developers and practitioners. It is an important academia event bringing together ICT access experts and user representatives from various disciplines and continents. ICCHP provided space for HBB4ALL posters and kakemonos, as well as a space to discuss with attendees.

The objectives were to present HBB4ALL to computer access communities and to introduce audiovisual/media access issues.

This HBB4ALL presence followed up with its first project year experience, where the project and its partners were hosted for the 1st Advisory Board meeting together with ICCHP 2014 at the Paris 8 University in Paris, France. One of the six project advisors, Klaus Miesenberger, former eAcces+ coordinator, and organizer of

the ICCHP conferences welcomed the idea to progress together and bring HBB4ALL and its TV/media access services to the ICCHP communities.

The event received more than 350 stakeholders. In terms of impact, the project progress and its future perspectives impressed some participants, who already came to Paris two years ago. A second type of impact is that HBB4ALL gained visibility in the international context beyond Europe, as many participants proposed to disseminate the project progress by their own networks. And thirdly, even extra European research communities may be interested in developing a potential future international cooperation around HBB4ALL outcomes. HC may be the intermediary to set contacts between the interest groups at the international level.



Figure 28. HBB4ALL at ICCHP206

2.4. Standardization activities outcomes

2.4.1. IEC TC 100

The International Electrotechnical Commission (IEC) is the world's leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies. The IEC is one of three global organizations (IEC, ISO, ITU) that develop International Standards for the world. The TCs (Technical Committees), SCs (Subcommittees) and Project Teams (PT) / Maintenance Teams (MT) carry out the standards work of the IEC. The IEC TC 100 prepares international standards in the field of audio, video and multimedia systems and equipment. Technical Area (TA) 16 focusses on developing international publications addressing aspects of active assisted living (AAL), accessibility, usability and specific user interfaces related to audio, video and multimedia systems and equipment within the scope of TC 100.

Through the Technical Secretary of TA16 in TC 100, HBB4ALL was invited to the IEC TC 100 meeting on 23-25 May 2016 to present the HBB4ALL activities and results. IRT, as a representative for the whole project, gave an overview presentation, update on HBB4ALL and discussed the potential standardisation with the IEC TC 100 members. Specifically, for the Accessibility Services being investigated in HBB4ALL (Subtitles, Alternative Audio and Sign Language), the required standards' implementations in end user devices were presented. The presentation definitely created some interest.

From the broadcasters' perspective, the required features are already present in TV related standards (specified by EBU, DVB, HbbTV) – the issue is rather the implementation of non-mandatory features rather than their specification. Currently, from that point of view, no specific need for additional standardisation has been identified. It was highlighted which features would improve the market situation for the deployment of new access services as for example a customizable signing application. In case a specific feature needs to be standardised, the requesting party / company needs to be directly involved in the proposed standardization efforts (if not leading it). It was agreed that for each effort the right standardization group needs to be identified; international standards can also be done by other standard bodies like MPEG.

2.4.2. UAB standardization contributions

UAB has contributed to the drafting of the following documents with information from the HBB4ALL results from tests:

- Audio description (ISO/IEC 20071-21)
- Audio subtitling (ISO/IEC 20071-23),
- Captioning (new item ISO/IEC JTC1/SC35/WG6),
- User needs (reworking series ISO29138)
- Accessibility Terms and Definitions (UN/ITU SG16 Q26)

2.4.3. IRT standardization contributions

2.4.3.1. EBU-TT

Today's distribution platforms offer a higher quality display of subtitling and more flexible positioning options than traditional analogue television. File- and IP-based production facilities demand clearly specified ways to carry subtitles during production, exchange, archiving and distribution to their customers, including the use of online services. To handle these new contexts, broadcasters need a low-complexity, but thoroughly specified subtitling format.

To meet these requirements, the EBU Working Group 'Subtitles in XML' (XMLSubs) has developed EBU-TT, which stands for EBU Timed Text. EBU-TT is the follow-up to the widely used EBU STL format (EBU Tech 3264). The EBU-TT family currently consists of several specifications⁷. It is based on TTML (Timed Text Markup Language), developed by the World Wide Web Consortium. Timed Text is textual information that is associated with timing information.

Under coordination by IRT, HBB4ALL partners undertook several activities to further develop the EBU-TT specifications and at the same time promote its usage and interoperability also in other standardisation fora.

2.4.3.2. EBU Standardisation activities 2016

The EBU XMLSubs Working Group worked on the stable release of the document EBU Tech 3360 which defines the mapping between EBU STL and EBU-TT. This document should be seen as an important support and often pre-requisite for broadcasters' migrations of the complete subtitles production chain from a teletext scenario to a multiformat and multiplatform scenario. It is also of benefit for the provision of subtitles for HbbTV and Web applications (as developed in HBB4ALL) and make them more efficient. This standard activity is chaired by IRT and Screen is the responsible editor.

⁷ <https://tech.ebu.ch/subtitling>

IRT and Screen also participated in the EBU-TT Part 3 Live Subtitling activity (EBU Tech 3370) which provides the first standardized way for the contribution of live subtitles. This specification also is highly important for the realisation of linear broadband-only live streams that can be consumed by HbbTV 2.0 devices using also MPEG DASH technology. This activity has been chaired by the HBB4ALL advisory board member BBC.

HBB4ALL partners IRT and Screen actively contributed to the activities in EBU XMLSubs, together with BBC, an HBB4ALL advisory board member – all activities in this group were coordinated by EBU, also an HBB4ALL advisory board member.

2.4.3.3. Further standardisation activities

- **W3C**

In addition to the work on EBU-TT, IRT undertook activities to strengthen the compatibility / exchangeability with subtitle formats used on the web. IRT participated as member of the W3C Timed Text Working Group (TTWG) in standardisation of the new update of TTML (TTML2)⁸, and the publication the recommendation of IMSC 1 format⁹. The main focus for IRT in the TTWG was to ensure compatibility with the defined standard for HbbTV (EBU-TT-D) and improve also interoperability with the HTML5 ecosystem for web applications. Both activities have been chaired by HBB4ALL advisory board member BBC.

- **DVB TM-SUB**

IRT actively participated in the TM-SUB working group in DVB, which focusses on subtitles for current and future services (including UHD TV). The objective is to reach harmonization with the new subtitle standards. Specifically, IRT has contributed to the specification for transmission of TTML-based subtitles in MPEG2 Transport Streams.

- **IRT Open Source Application Samples**

To promote the use of EBU-TT, IRT has supported implementers in using the IRT application samples. The samples have proven to be very useful in implementing reference software like ImscJS¹⁰ or subtitle guidelines like BBC subtitle guidelines¹¹.

2.4.4. UPM standardization contributions

UPM has participated in standardization activities at the national level. UPM was invited by CNLSE (Spanish Sign Language Standardization Center) to participate in a working group to produce a code of good practice for the integration of Spanish Sign Language on TV programmes. This code of guidelines will be used as a Spanish norm for the provision of sign language services on TV. It must be taken into account that this kind of codes of good practice specifies the performance of the services (access services at this case) whereas technical standards specify the technology behind the services. Technical standards are international documents to promote scale economics but this is not the case in codes of good practice, which are adopted at a national level. UPM has presented in this working group the experience gained in HBBALL, amongst other activities carried out by UPM in the field of TV signing. The code of good practice will be published

⁸ <https://www.w3.org/TR/ttml2/>

⁹ <https://www.w3.org/TR/ttml-imscl/>

¹⁰ <https://github.com/sandflow/imsclJS> and <http://sandflow.com/imsclproc/samples.html>

¹¹ <http://bbc.github.io/subtitle-guidelines/#EBU-TT-and-EBU-TT-D-Documents-in-detail>

by the Spanish Royal Board on Accessibility by the end of 2016. UAB has also participated in this working group.



Figure 29. Participants in a meeting of the working group in Madrid, September 23rd 2016, including Marta Bosch (UAB) and Carlos Alberto Martín (UPM)

3. Advisory board

Alongside the HBB4ALL consortium partners, AB members are considered as ambassadors of the HBB4ALL project in their respective communities.



Figure 30. Group Photo AB & Partners: Advisory Board meeting 2016

Like in the previous years 2014 and 2015, the consortium worked with the same circle of restricted number of advisors (6 people) with commitments to active contributions to the Advisory Board. This third and final Advisory Board meeting was held in Geneva (Switzerland) on 5 April 2016¹².

Besides the presence of HBB4ALL partners and in line with the objectives, the meeting welcomed five advisors (Age Platform Europe, European Disability Forum, EBU-European Broadcasting Union, eAccess+, ITU), and four observers (BBC, France Televisions, Berlin/Brandenburg Centre of Culture and Visual

¹² This was decided during the 2nd AB meeting in Barcelona, March 2015

Communication for Deaf, Samsung)¹³. Only the representative of Digital Europe apologized. The meeting was organized by HC with the support of and hosted by the EBU in Geneva.

The partners organised demos sessions with observations from AB members, and the main comments and recommendations are listed below. This 3rd AB meeting was juxtaposed as side activity to the event EBU BroadThinking 2016, where the attending European broadcasters could benefit during two days of HBB4ALL demos and the partners presentations and presence.

This meeting reflected a very positive mindset and highlighted the constructive cooperation between HBB4ALL partners and AB members. The demonstrations were highly appreciated and this last AB meeting gave the opportunity to discuss concrete interests of the stakeholders and future issues.

3.1.The AB conclusions

The following members attended the AB meeting in April 2016:

| Organization | Expert | Status |
|---------------------------------------------------------------------------------|-------------------------------------------------------|--------|
| AGE Platform Europe | David Sinclair | AD |
| European Disability Forum | Mia Ahlgren | AD |
| ICCHP (eAccess+) | Klaus Miesenberger | AD |
| EBU Technical | Frans de Jong | AD |
| Digital Europe | Ulrike Haltrich (apologised) | AD |
| ITU | Christoph Dosch | AD |
| BBC/UK | Nigel Megitt | OBS |
| France Televisions/F | Vincent Dabouineau (representing Matthieu Parmentier) | OBS |
| Berlin/Brandenburg Centre of Culture and Visual Communication for Deaf//Germany | Steffen Helbing | OBS |
| Samsung | Richard Moreton | OBS |

Table 6. List of attending Advisors (AD) and Observers (OBS)

This 3rd AB meeting was dedicated to demonstrations. Each demonstration had a small prior introduction by the leading partner. The objective was to discuss and get feedback from the AB. The following demos have been presented and discussed:

¹³ Respective roles of advisors, observers and guests are described in the D.2.4.1 Dissemination Plan, p. 6 -7.

| WP demos / pilots | List of demonstrations, presenters |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Demos WP3 – Pilot A: “Multi-Platform Subtitle Services” objectives and main results with demos | <ul style="list-style-type: none"> • Customised HbbTV Subtitles for VoD, Annette Wilson, RBB • EBU-TT-D Personalised Subtitles on HbbTV 1.5, Francesc Mas, TVC • Multiplatform EBU-TT-D subtitles in web environments, Carlos Alberto Martín Edo/UPM, Mario Sequeira, RTP • Automated Multilingual Broadcast Subtitles (video), Mikel Zorrilla, Vicomtech • MPEG-DASH streaming and EBU-TT subtitles as part of HbbTV2.0 Showcase, Andreas Tai, IRT • MPEG-DASH live streaming and EBU-TT subtitles on multiple devices, Andreas Tai, IRT • Subtitle database and subtitle format conversion, Andreas Tai, IRT |
| Demos WP4 – Pilot B: “Alternative audio production and distribution” objectives and main results with demos | <ul style="list-style-type: none"> • Improved speech intelligibility with Clean Audio, Ronald Mies, IRT • Audiodescription content in HbbTV catch-up TV, Francesc Mas, TVC |
| Demos WP5 – Pilot C: “Automatic UI adaptation” objectives and main results with demo | <ul style="list-style-type: none"> • Personalized UI adaptation and subtitling in a web based learning application. Volker Hahn, VSONIX |
| Demos WP6 – Pilot D: “Sign Language Translation Services” objectives and main results with demos | <ul style="list-style-type: none"> • HbbTV-based signing pilot, Annette Wilson, RBB • Sign Language Avatar, Mikel Zorrilla, Vicomtech • Sign-language questionnaires, Carlos Alberto Martín, UPM |

Table 7. Demos presented to Advisors (AD) and Observers (OBS)

The AB members were very interested by the demonstrations presented during the meeting:



Figure 31. AB meeting: demonstrations session



Figure 32. AB meeting: discussion session

Concerning the **access services**, some generic main issues and recommendations, including the after-project time, were as follows:

- **Subtitling** (WP3): the project using existing standards (MPEG DASH, TTML, EBU-TT-D...), it would be appreciated to make subtitles available on all platforms, and convince manufacturers to implement the current developments/specifications.
- **Audio** (WP4): The created Clean Audio tool can be used, from technical point of view, for services on any device. EBU R128 is also used, but there is still a need to increase the intelligibility of dialogue and the question is how to continue this work. A common approach, e.g. taken by an EBU Working Group, would be welcomed.
- **Signing** (WP6): a lot of further research is still to be done in the field of automatic signing (speech to text, semantical analysis of the transcription) to give a more natural aspect to the sign language avatar.

In terms of **dissemination/exploitation**, the following recommendations for actions were raised:

- **Eurovision Access Services Experts group** would welcome HBB4ALL presentations/demos at the next Eurovision Access Services Experts meeting. This recommendation was followed and implemented on 2 November 2016 in Berlin at RBB).
- **Publication in the EBU technical review:** HBB4ALL partners are invited to provide an article for publication in the "EBU technical review" magazine. This magazine targets people working in the media industry, especially broadcasters. One or more WP leaders (or project partners) are expected to write a technical article with project results.
- Extend the impact of HBB4ALL achievements and documents: make possibly information and demonstrations **available on the HBB4ALL website**.
- **Give open-source information:** some AB members welcomed that some HBB4ALL partners intend to make their software developments available in the public domain as **open-source**. They encourage to promote this as much as possible to give it value.

Recommendations on **awareness creation for the personalization of access services**, particularly beyond the TV domain and after the project time, are to:

- Give incentives about how personalization can be useful for other providers of media video services (for example through gaming and online education),
- Introduce **labeling** (labels, icons, standardization works), **as support of access services**. It was outlined that access services have *different* icons or acronyms in each country. Ideally each icon should be explained with a description. It seems possible to foster international standardization to favor the same icons worldwide.

With regard to **standardization** give clear recommendations how to use (existing) standards:

- As the standards for many of the required features are already available, **a clear recommendation on how to use the standards is necessary in order to make it happen**. For example, an international organization such as EBU or ITU could develop a respective recommendation as an "implementation guideline".

The Advisory Board highly welcomed the utility of the HBB4ALL project and encouraged to pursue (future) cooperation, the dialogue between the stakeholders and think "go-to-the-market". Its members recommended to give instructions related to finding content with access services, allowing concerned people to find them. A main problem is **creating the content**. Therefore, it has been encouraged to install a dialogue with producers, especially when talking about speech intelligibility (but not only).

3.2. The AB member's disseminations

The AB members are very active on the online process of dissemination. Be it the social media or the website of their organizations, they follow or relay systematically the project progress and news.

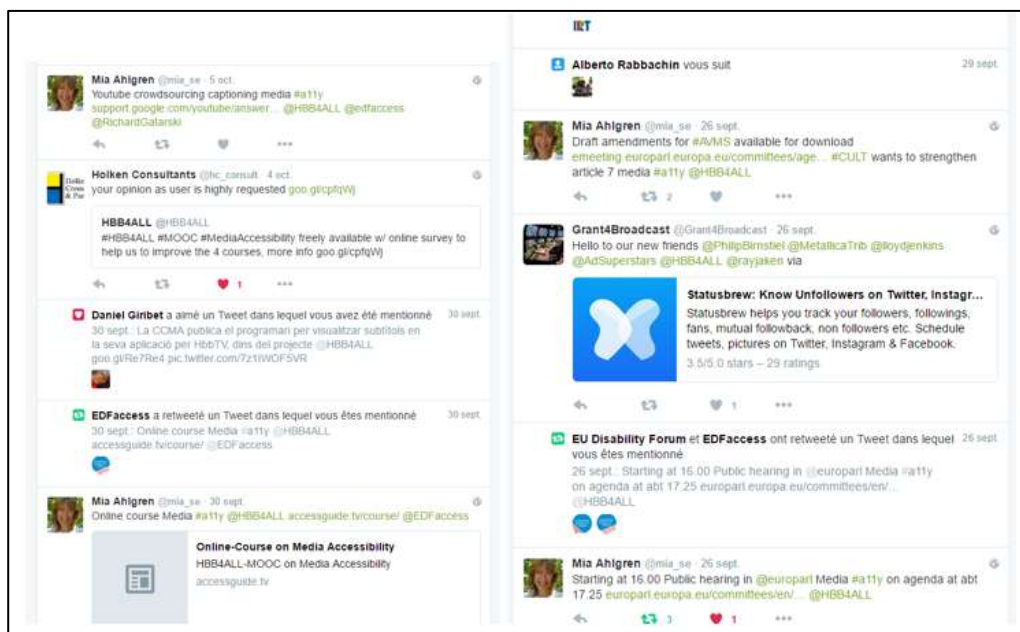


Figure 33. EDF and European commission are interested by our twitter (and website) feeds

The online publications are directly related to the project cooperation works, technical advancements and main events where the partners are invited to present the HBB4ALL collaborative achievements. Some publications are listed below:

| AB(s) | Title(s) | Link(s) |
|---------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EBU | Standardized Subtitle Streams Made Public | https://tech.ebu.ch/news/2016/03/standardised-approach-for-subtit |
| | BroadThinking event 2016 | https://tech.ebu.ch/news/2016/04/moving-online-at-ebu-broadthinki |
| | Eurovision Access Services Plenary 2016 | https://www.ebu.ch/events/2016/11/eurovision-access-services-plena |
| Samsung | Samsung Electronics Demonstrates Subtitling Format at IFA and IBC That Delivers Accessibility Fit for the Internet Age | https://news.samsung.com/global/samsung-electronics-demonstrates-sub-titling-format-at-ifa-and-ibc-that-delivers-accessibility-fit-for-the-internet-age |
| | Samsung Electronics Showcases Subtitling Format that Delivers Accessibility for the Hearing Impaired | http://www.samsung.com/za/news/local/samsung-electronics-showcases-sub-titling-format-that-delivers-accessibility-for-the-hearing-impaired |
| | Samsung mobile: new subtitling technologies | http://www.sammobile.com/2015/08/31/samsung-to-demonstrate-new-sub-titling-technologies-at-ifa/ |

Moreover, AB members participated actively to create the HBB4ALL White Paper, as outlined in the following part.

4. HBB4ALL White Paper

The HBB4ALL White Paper is expected to be a major dissemination tool for the project and to support the sustainability of the results after the project time. The HBB4ALL White Paper idea, an initiative of HC, has been presented a first time at the 2nd Advisory Board meeting in Barcelona/Spain (17/03/2015) and received spontaneous positive feedback from advisors and observers with regard to their participation. It has been matured with the partners since then and reiterated at the 3rd AB meeting in Geneva (05/04/2016). The very positive result is that besides the partners all six Advisers plus two more observers participated in that process. This is excellent for future large spread HBB4ALL dissemination throughout several concerned communities.

For the very first time, at a European level, all relevant stakeholders in the connected TV environment, brought together by their common interest in access services and inclusion matters, have created this exceptional in-depth document which makes it clear that broadcasters and media content providers are gradually improving their media access provision to meet the requirements of all people, especially those with special needs.

This White Paper focuses on HBB4ALL achievements and future recommendations, and it includes individual articles and points of views from AB members. Together the project partners and AB members contributed to this HBB4ALL White Paper, in order to:

- raise awareness of media access services,
- report on the state of the art in TV accessibility,
- highlight future media access needs so that new needs can be anticipated,
- address possible directions for future research,
- bring together views of where and why research and innovation should go in the connected TV and accessibility environment.

The added value of the paper comes from the various contributions of the partners and advisors/observers and opens possibly a sort of a common vision, be it individual community related visions. To push and guarantee the future of media access services, the White Paper presents the recommendations of the individual HBB4ALL partners and its Advisory Board members.

5. Conclusions

5.1. Achieved performances

All set objectives in the previous dissemination report have been met and/or are to be finished shortly. Among the particular issues of expressed next steps in last year dissemination report, the resume is as follows:

- Follow-up of web and social media communication: fully achieved as constantly improved and updated.
- The MOOC web showcase has been created by VSX in collaboration with UAB and implemented after the user tests/deployments and relayed on the website and social media.
- The Advisory Board has been invited to link partners websites with the HBB4ALL website and/or other Social Media. As HBB4ALL results appear, some AB members relayed project information and linked to the project website.
- The HBB4ALL White Paper production is in its final stage. It will be made available via the project's website, disseminated through AB members, a press release and social media networking.
- Interactions between project partners and the well-established Advisory Board work well. It is composed of high reputation European and international experts with the required market and usage insight. Here are two essential observations:
 - During the AB meeting in Geneva, AB participants responded actively to all questions the consortium has carefully prepared in advance. The intention was to get feedback on the demos and on dissemination, and the output is written in the minutes of the 3rd AB meeting.
 - All advisors and some more observers contributed actively with their articles and points of views to the HBB4ALL White Paper.
- Future exploitation issues are collected and treated in a separate report (D2.3.3).

Detailed performances for HBB4ALL dissemination is measurable below in the right column (status: November 2016):

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|-----------------------------|----|----------------------------------|----------------------------------------|------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Website & Social Networking | 1 | Accessibility of Hbb4All website | Conformance to Accessibility standards | Target reached: website accessible | Recommendations for improvements achieved Technical advancement ongoing | Website improved following the basic recommendations. The technical advancements have been regularly adjusted in line with the browsers updates |

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|----------------|----|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| | 2 | Number of visitors on website / trimester | 200 to 300/trimester | 181/month = 543/trimester (Objectives bypassed) | 736/month = 2208 /trimester (Objectives bypassed) | 820/month = 2460/trimester (Objectives bypassed) |
| | 3 | Number of subscriptions to newsletter | TBD | 24 | 58 | 70 subscribers |
| | 4 | Number of newsletters | 1/trimester: project needs | 1 st Newsletter | 5 Newsletters | 10 Newsletters (+ 7 upcoming) |
| | 5 | Number of Social Networks where HBB4ALL is represented | 2 (Twitter /LinkedIn) | 2 (target reached) | 4: Twitter, LinkedIn, YouTube & Google+ | 4: Twitter, LinkedIn, YouTube & Google+ |
| | 6 | Number of companies / individuals which are in the network / followers. | + 30/trimester (Twitter) + 15/trimester (LinkedIn) (Partners should follow the SN and bring also new followers) | Start of Twitter & LinkedIn: March 2014 74 Twitter followers 47 LinkedIn followers | Twitter: 240 LinkedIn: 87 HBB4ALL video: 213 views Start of G+ & YouTube July 2015 YouTube: 3 Google+: 2 | Twitter: 342 LinkedIn: 109 HBB4ALL video: 277 views YouTube: 4 Google+: 4063 views |
| Press releases | 7 | Number of press releases | TBD (With regard to project events) | 1 | 1 | 1 |
| | 8 | Number of press releases per partner | 1 per year | VIC: 1 TVC: 1 HC: 1 | HC: 1 TVC: 3 IRT: 1 RBB: 1 | UAB: 0 RBB: 1 IRT: 1 RTP: 0 TVC: 1 TXT: 0 VSX: 0 HC: 1 UPM: 1 VIC: 1 |

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|--------------------------------------------------------------|----|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|
| | 9 | Reach of press releases | 9 selected press release websites /year Number of other channels, websites, portals that are reached (partners, advisory board members, others (tbd)) | 10 press release publications websites | 5 press release publications websites | 12 press release publications websites |
| Branding through Dissemination materials (tools)* | 10 | Flyers | Paper creation, also communicated on websites Number of distributed flyers | Available | Available | Available |
| | 11 | Posters | Paper creation, also communicated on websites Number of used posters | Available | Available | Available |
| | 12 | Kakemono | Creation, also communicated on websites Number of used kakemonos | Available | Available | Available |
| | 13 | Totem | Creation, also communicated on websites Number of used totems | Available | Available | Available |
| Events: Conference, workshops, Show cases, Training sessions | 14 | Presence of HBB4ALL at conferences and events | 1/partner/year Can be more important for academics. | UAB: 13 RBB: 10 IRT: 9 RTP: 0 TVC: 2 TXT: 0 VSX: 3 | UAB: 15 RBB: 7 IRT: 15 RTP: 1 TVC: 4 TXT: 5 VSX: 1 | UAB: 14 RBB: 12 IRT: 17 RTP: 2 TVC: 6 TXT: 1 VSX: 6 |

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|--------------|----|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| | | | | SCREEN: 8 HC: 5 PPG: 0 UPM: 2 VIC: 0 | SCREEN: 1 HC: 4 PPG: 0 UPM: 5 VIC: 4 | SCREEN: 2 HC: 7 PPG: 1 UPM: 5 VIC: 5 |
| | 15 | Workshops organised by HBB4ALL (3 in total (1/year)) | The WS foreseen by RBB initially in Nov 2014 was reported to the project end, when concrete results and apps were available. | - | 1 st HBB4ALL Workshop 2015 Organised by UAB (Barcelona) | 2 nd HBB4ALL Workshop organised by RTP (Lisbon) 3 rd HBB4ALL Workshop organised by RBB (Berlin) |
| | 16 | Number of participants | 20/WS | | 1 st HBB4ALL WS: number of attendees 120 | 2 nd HBB4ALL WS: number of attendees 50 3 rd HBB4ALL WS: number of attendees: 50+ |
| | 17 | Showcases | (1/year) | 1 Media and Languages (November in Berlin) | IBC 2015 IFA 2015 Münchener Medientage 2015 | IBC 2016 IFA 2016 Languages and the Media 2016 |
| | 18 | Training sessions | Organised by UAB Number of students | Not planned in 2014 | UAB | UAB |
| Publications | 19 | Publications | Number of publications 1/year/academic partner (mainly UAB, UPM) | 4 scientific publications (1 book and 3 articles by UAB, of which 1 article by HC/UAB) | 6 scientific articles: UAB, TXT, UPM and IRT | UAB: 5 IRT: 3 UPM: 3 |
| | 20 | Slide-Shows for Consortium presentations | Adaptable presentation (PPT) for the partners These are | Available for partners 31 slide presentations | Available for partners 31 slide presentations | Available for partners 31 slide presentations |

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|------------------------|----|-------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------|------------------------------------------------------------------------|
| | | | presentations that usually describe the overall project's concept and achievements. | | | |
| | 21 | White Paper production | 1 (Month 18) | - | Under way | Publication (ongoing) |
| | 22 | HBB4All guidelines as user tests advances | 1 | - | Published in 2016 | 100% |
| Project Advisory Board | 23 | Invitation acceptance rate | % Number (Percentage of contacted candidates that accept the invitation) | 100 % | 100% | 100% |
| | 24 | Number of members | 5/6 confirmed advisors + 5-10 observers (Guests) | 6 Advisors 3 observers | 6 Advisors 12 observers/guests | 6 Advisors 4 observers |
| | 25 | Coverage of stakeholder groups | % Number (Percentage of stakeholder groups which are represented in the board 5/6+) | 100% | 100% | 100% |
| | 26 | Number of AB meetings | 3 | 1 | 1 | 1 |
| | 27 | Number of concrete recommendations | Number (Number of (atomic) recommendations provided by PAB members) | < too early to say> | 2 HBB4ALL video Website accessibility | See AB conclusions and the qualitative events feedback by the partners |
| | 28 | Number of agreed recommendations | Number | < too early to say> | 2 HBB4ALL video Website | Qualitative results (website accessibility ongoing, events |

| Tool | N° | Success Indicators | Target Objectives (Remarks) | Achieved Results 2014 | Achieved Results 2015 | Achieved Results 2016 |
|-------------------------|----|---------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| | | tions | | | accessibility | participation, standardization activities participation) 100% of recommendations were followed and applied (See AB conclusions) |
| | 29 | Number of filled questionnaires | Number of filled questionnaires (5), one per Pilot (4) and (1) for dissemination contribution. | - | See D 2.4.3 | See D 2.4.3 |
| Standardization | 30 | Get surrounded by standardisation advisors | 1 to 3 | 1, others may join punctually | ITU and EBU are relays in the AB | ITU and EBU are relays in the AB |
| | 31 | Presence of HBB4ALL partners in standardisation organisations | Create awareness for the project and accessibility issues in the connected TV environment | EBU, ITU; AENOR | ITU, EBU, ISO, AENOR, IEC UAB: 7 IRT: 8 RBB: 3 | ITU, EBU, ISO, AENOR, IEC UAB: 4 IRT: 8 UPM: 1 |
| Dissemination Barometer | 32 | Feedback and outlook from all partners | Quarterly | Barometer operational | Monthly | Monthly |

Table 8. Detailed performance for HBB4ALL dissemination 2016

(*) Evaluation of HBB4ALL dissemination performance indicators: we can count the number of flyers distributed, times the poster/kakemono has been used, but these would not be effective indicators.

5.2. Online presence after the project time

After the end of the project, HC will publish the deliverables 2016, the HBB4ALL White Paper, and continue the communication process until January 2017, as long as UAB ensures the website's hosting. A further rubric "available resources" or similar could be created on the HBB4ALL website to orient future visitors to available HBB4ALL tools and contact persons.



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If the online project information is expected to be maintained after the project end (during the year 2017), the technical maintenance and CMS (WordPress) need to be regularly updated by the host (UAB). Otherwise all the website content will become obsolete.

ANNEX: Tables of events and standardization activities

The annexe includes all the events & the standardisation activities for year 3 from December 2015 to November 2016

1. The events dissemination activities: 37 participations

| N° | Event(s) | Date | Location | Authors | Part- ner | Category | Title* |
|----|---------------------------------------------------------------------------------------|----------------------------|---------------------|-------------------------------------------------|--------------|------------------------|---------------------------------------------------------------------------------------------------------------|
| 1 | Media Accessibility in the Digital Age | 22 December 2015 | Warsaw, Poland | Agnieszka Walczak, Agnieszka Szarkowska | UAB | Workshop / seminar | Audio Description reception in different cultures |
| 2 | Audio-visual Media Accessibility | 07 December 2015 | Ljubljana, Slovenia | Pilar Orero | UAB | Workshop / round table | Accessible Services over HBBtB: HBB4ALLUAB |
| 3 | Meeting of Access Service officers in the ARD | 18.-19 January 2016 | Hamburg, Germany | Andreas Tai | IRT | Meeting | Video explaining usage of subtitles in digital TV to end users (for Teletext, DVB as well as HbbTV Subtitles) |
| 4 | BaseX User Meeting | 10.-11 February 2016 | Prague | Andreas Tai | IRT | Meeting | BaseX – A Swiss Army Knife for Broadcast Subtitles |
| 5 | Plaine Innovation Meetings | 16 February 2016 | Paris, France | Hadmut Holken, Nada El Haouaji | HC | Paris, France | Poster / Kakemono / Leaflet HBB4ALL video Project Presentation |
| 6 | HBB4ALL Workshop | 26 February 2016 | Lisbon, Portugal | The consortium | RTP | Workshop | Poster / Kakemono Demonstrations |
| 7 | Annual meeting between RBB Director General and state commissioners for accessibility | 3 rd March 2016 | RBB Berlin | Bettina Heidkamp | RBB | Meeting | Discussions about accessibility and inclusion in the media |
| 8 | DAGA Conference ("42. Jahrestagung für Akustik") | 14-17 March 2016 | Aachen, Germany | Theresa Liebl, Michael Weitnauer, Michael Meier | IRT | Conference | Evaluierung eines Ansatzes zur Verbesserung der Sprachverständlichkeit von Stereosignalen im Rundfunk |

| N° | Event(s) | Date | Location | Authors | Partner | Category | Title* |
|----|--------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|------------------------------------------------------------|-------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9 | VDT Magazin, issue 1, 2016 | March 2016 | Germany | Theresa Liebl, Michael Weitnauer | IRT | Article | Sprachverständlichkeit im Fernsehen |
| 10 | 3rd Advisory Board Meeting | 05 April 2016 | Geneva, Switzerland | The consortium | HC | Meeting | Poster / Kakemono Demonstrations |
| 11 | EBU BroadThinking 2016 | 06 - 07 April 2016 | Geneva, Switzerland | Annette Wilson, Ronald Mies, Francesc Mas, Hadmut Holken | RBB, TVC, IRT, HC | Conference | Presentation and a selection of demonstrations Poster / Kakemono |
| 12 | Intermedia Conference | 14-16 April 2016 | "Łódź, Poland | Iris Permuy, Olivia Gerber, Agnieszka Walczak | UAB | Conference | Cinema4All: audio description on smartphones; The evolution of clean audio as an accessibility service; Optimizing subtitle segmentation on smartphones |
| 13 | Meeting between RBB and representatives of regional user associations | 22 April 2016, | RBB Potsdam | Bettina Heidkamp, Annette Wilson | RBB | Meeting | HBB4ALL presentation |
| 14 | International Symposium on Accessible Live Events | 29 April 2016 | Antwerp, Belgium | Pablo Romero | UAB | Conference | PPT Presentation |
| 15 | international meeting of the psychomonic society | 05 - 08 May 2016 | Grenada, Spain | Judit Castellà, Andreu Oliver, Olivia Gerber, & Olga Soler | UAB | Meeting | Reading subtitles across screens |
| 16 | IEEE Broadband Multimedia Systems and Broadcasting BMSB | 01- 03 June 2016 | Nara, Japan | Swiss Txt | Swiss Txt | Swiss Txt | Swiss Txt |
| 17 | The 9th session of the Conference of States Parties (COSP) to the Convention on the Rights of Persons with Disabilities (CRPD) | 14 - 16 June 2016 | New York, USA | UAB | UAB | Conference | Presentation MOOC UAB |

| N° | Event(s) | Date | Location | Authors | Partner | Category | Title* |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------|----------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | IRT Symposium on barrier free access services: "Audiovisuelle Medien barrierefrei Besserer Zugang zu Bild, Ton und Informationen für alle Menschen" | 29 - 30 June 2016 | Munich, Germany | Theresa Liebl, Andreas Tai (IRT) Bettina Heidkamp (RBB) | IRT, RBB | Presentation | Untertitel für PC, Smartphone und SmartTV HbbTV/HbbTV2.0 - Tests und Trends Bessere Sprachverständlichkeit im Fernsehen - speziell für Hörgeschädigte |
| 19 | VSX | 05 July 2016 | Frankfurt, Germany | Volker Hahn | VSX | Exhibition | Online Marketing day |
| 20 | IRT Open Lab Day | 14 July 2016 | Munich, Germany | Andreas Tai, Stefan Pöschl, Peter tho Pesch, Theresa Liebl, Ronald Mies | IRT | Exhibition | Various demonstrations of HBB4ALL results |
| 21 | 4 th HBB4ALL Consortium meeting | 18 - 19 July 2016 | Netherlands, Amsterdam | Consortium | PPG UAB | Meeting | Posters |
| 22 | ICCHP, 15th International Conference on Computers Helping People with Special Needs | 13-15, July Pre-Conference 11-12 July, 2016 | Linz, Austria. | H. Holken | HC | Conference Exhibition | Project presentation |
| 23 | Exhibition in the Spanish National Museum for Science and Technology (MUNCYT) about the societal importance of research in universities | Autumn 2016 - autumn 2017 | Alcobendas (Madrid, Spain) and La Coruña (Spain) | Carlos Alberto Martín, José Manuel Menéndez, Juan Pedro López, Guillermo Cisneros | UPM | Exhibition | Specific materials designed by UPM |
| 24 | Balisage: The Markup Conference | 02 - 05 August 2016 | Maryland, USA | Andreas Tai | IRT | Conference | XML in the air - How TTML can change the workflows for broadcast subtitles |
| 25 | IFA 2016 | 02 - 07 September 2016 | Berlin, Germany | Annette Wilson | RBB | Exhibition | - |

| Nº | Event(s) | Date | Location | Authors | Partner | Category | Title* |
|----|---------------------------------------------------------------------------------------------|------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------|------------|----------------------------------------------------------------------------|
| 26 | IBC 2016 | 09 - 13 September 2016 | Amsterdam, Netherlands | John Birch Andreas Tai Francesc Mas | IRT, Screen, TVC | Exhibition | cross-industry meeting on subtitling formats |
| 27 | 28th BEREC Plenary Meeting / Accessibility Workshop | 05 October 2016 | Vilnius, Lithuania | Andreas Tai | IRT | Meeting | Accessibility services for connected TV's - Results of the HBB4ALL Project |
| 28 | Spanish National Museum of Science and Technology "Live campus: research in the university" | 21 October 2016 | Madrid, Spain | Carlos Alberto | UPM | Exhibition | - |
| 29 | Meeting between RBB and representatives of regional user associations | 30 October 2016 | RBB Berlin | Bettina Heidkamp, Annette Wilson | RBB | Meeting | HBB4ALL presentation |
| 30 | 3 rd HBB4ALL Workshop | 02 November 2016 | Berlin, Germany | Consortium | RBB | Workshop | - |
| 31 | Eurovision Access Services Plenary 2016 | 02 November 2016 | Berlin, Germany | Annette Wilson | RBB | Meeting | Hbb4all: Hbbtv-Based Access Services And Lessons Learned |
| 32 | 4 th HBB4ALL Consortium meeting | 03 November 2016 | Berlin, Germany | Consortium | RBB | Meeting | - |
| 33 | Languages and the Media | 02 - 04 November 2016 | Berlin, Germany | Theresa Liebl, Ronald Mies, Alicia Rodríguez, Volker Hahn, Iris C. Permuy, Carlos Alberto, Annette Wilson | IRT UAB VSX RBB UPM | Conference | Papers and panel Project presentations |
| | | | | Andreas Tai | IRT | Conference | Subtitles on Mobile Devices - Status Quo and Perspective |
| 34 | EDF & Disability Intergroup conference on the Accessibility Act | 08 November 2016 | Brussels, Belgium | Pilar Orero | UAB | Conference | HBB4ALL presentation |

| Nº | Event(s) | Date | Location | Authors | Part- ner | Category | Title* |
|----|-------------------------------------------------------------|-----------------------------|--------------------|---------------|--------------|------------|-------------------------------------------------------------------------------------------------------|
| 35 | Tonmeistertagung | 17 - 20 November 2016 | Köln, Germany | Theresa Liebl | IRT | Conference | Paper: Improved speech intelligibility in television sound for hearing impaired people |
| 36 | NEM Summit | 23 - 25 November 2016 | Porto, Portugal | H. Holken | HC | Conference | Round table discussion Posters/Kakemono |
| 37 | II Jornadas De Divulgación Inclusiva De La Ciencia | 28 – 29 2016 | Granada, Spain | Pilar Orero | UAB | Conference | Project presentation |

Table 9. HBB4ALL Events. (*) Title of the contribution (or Dissemination material used respectively).

2. The standardisation activities from mid-November 2015 to November 2016

| N° | Event(s) | Date | Location | Authors | Partner | Topic(s) |
|----|-----------------------------------------------------------------------------------|----------------------|------------------|----------------------------------|-------------|---------------------------------------------------------------------------------------------------|
| 1 | Participation in Standardisation in the context of Connected TV (SMART 2014/0055) | 17 December | Brussels | Pilar Orero | UAB | JTC1 ISO/IEC 20071-25 JTC1 ISO/IEC 20071-23 |
| 2 | DVB TM Subs Biweekly telcos | 2016 | - | Andreas Tai, Stefan Pöschl | IRT | Subtitles in DVB TS; investigate subtitles for current and future DVB services (including UHD TV) |
| 3 | EBU XML Subs WG meeting | 12-13 January 2016 | Munich | Andreas Tai, Stefan Pöschl (IRT) | IRT | EBU-TT |
| 4 | ISO/IEC JTC1 SC35 - Working Group 6 meetings | 17-18 February 2016 | Rome | Pilar Orero, Anna Matamala | UAB | Audio description, audio subtitles |
| 5 | EBU XML Subs WG meeting | 5-6 July 2016 | Berlin | Andreas Tai | IRT | EBU-TT |
| 6 | EBU XML Subs WG meeting | 11-12 April 2016 | London | Andreas Tai, John Birch | IRT, Screen | EBU-TT |
| 7 | MPEG Ad-Hoc WG meeting | 13 April 2016 | Paris | Andreas Tai | IRT | CMAF |
| 8 | IEC TC 100 | 23-25 May 2016 | Vienna | Andreas Tai | IRT | all HBB4ALL results |
| 9 | TPAC W3C Meeting | 19-23 September 2016 | Lisbon, Portugal | Andreas Tai | IRT | TTML, EBU-TT |
| 10 | bi-weekly EBU XML Subs WG Webex conferences | 2016 | - | Andreas Tai | IRT | EBU-TT |
| 11 | Weekly Telcos W3C TTWG | 2016 | - | Andreas Tai | IRT | TTML |
| 12 | DVB TM Subs | 14/15 November 2016 | Genf | Stefan Pöschl | IRT | Subtitles in DVB TS; investigate subtitles for current and future DVB services (including UHD TV) |
| 13 | EBU XML Subs WG meeting | 23-24 November 2016 | Geneva | Andreas Tai | IRT | EBU-TT |

Table 10. HBB4ALL standardization activities