HBB✓4all

Connected TV Accessibility

TV Content Delivery to PC, Tablet, Smartphone

From the Accessibility Vision into Market Reality

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HBB4ALL
(Hybrid Broadcast Broadband for All)

7 Keys to understand

the European co-funded project

1. A user-centered project

- **HBB4All** addresses **media accessibility for** *all* **citizens** in the connected TV environment.
- Builds on HbbTV (Hybrid Broadcast Broadband TV), a European standard increasingly adopted by European broadcasters.
  - → Considers the production and service side;
  - → Combines Broadcast and Broadband content plus interactive applications;
- Challenges for broadcasters in the coming years:
  - → Delivery of multi-platform audiovisual content (anytime, anywhere, any device),
  - → Making this content accessible for all.
- The elderly and people with various disabilities rely on:
  - → Subtitles, audiodescription or sign language.
  - → Customizing accessibility services through options for personal preferences is only one example of future possibilities
- Co-funded by the European Commission under the *Competitiveness and Innovation Framework Programme (CIP).*
- Project running time: 3 years (December 2013 – December 2016).

2. Main Objectives

- ➔ Advance solutions for improved accessibility to media, both utilizing and supporting the successful uptake of HbbTV throughout Europe;
- ➔ Deploy pilot services and validate these in at least 3 European countries in the context of four different thematic pilots;
- ➔ Perform expert testing of novel workflows or components thereof for the production of accessibility services at European broadcasters;
- ➔ Evaluate interoperability in a multi-platform environment including also multilingual aspects to test easy solutions for media accessibility;
- ➔ Benchmark the quality of access services from a user-centric approach and promote accessibility as an added value for education and social inclusion.

3. Methodology

- Test access services in various pilot implementations and user feedback gathering.

Multi-device	Accessibility
	Subtitling
	Clean audio **Sign language**
	Customizable Features

**Universal Accessibility:** mono-, bi-, multilingual

User tests

4. Target groups

- **HBB4ALL** addresses the needs of all citizens, but especially those users with sensorial impairments, the aged, and people with mild cognitive impairments such as dyslexia and aphasia for whom the services hitherto have not been sufficient. In addition it will also address:

  → Professionals in education and healthcare who assist citizens who come to terms with their impairments from the normal process of ageing, after accident or illness (also watching television) – key stakeholders who communicate with such individuals;

  → Bodies/associations representing persons with impairments;

  → Research groups working on the user experience of access services;

  → Bodies working directly on standardization and its implementation at global, regional and national levels: ITU, EBU, AENOR (NorDig, DTG, ISO, ETSI, DIN, OFCOM,etc.

  → Governments active in implementing media accessibility policies.

5. Four interlinked sub-pilots will be implemented
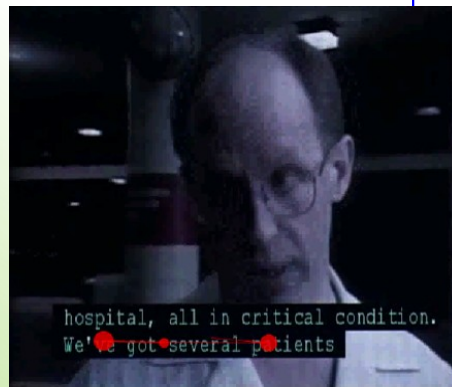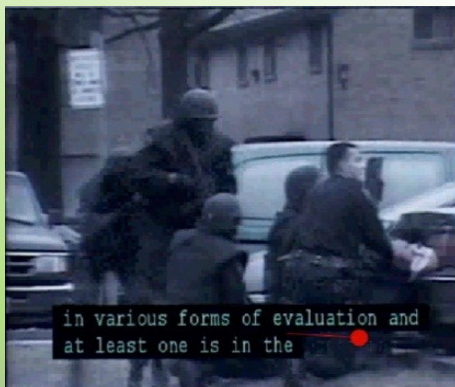

- **Pilot A: Multi-platform subtitle workflow chain**
  - ➔ Across Europe, provide subtitles on multiple platforms for individuals who are deaf and hard-of-hearing, or do not have sufficient language skills to understand the content without textual support either in the original or foreign languages
  - ➔ **Main challenge**: provide pilot several new access services in the course of 2015, including tests **of** new subtitling technology tailored to the specific needs of the end-users:
    - ✓ HbbTV-based VoD services allowing users to customize subtitles;
    - ✓ An HbbtV-based news service with ~~automatically translated~~ live subtitles.

Four interlinked sub-pilots will be implemented

EXTRA AUDIO WORKFLOW
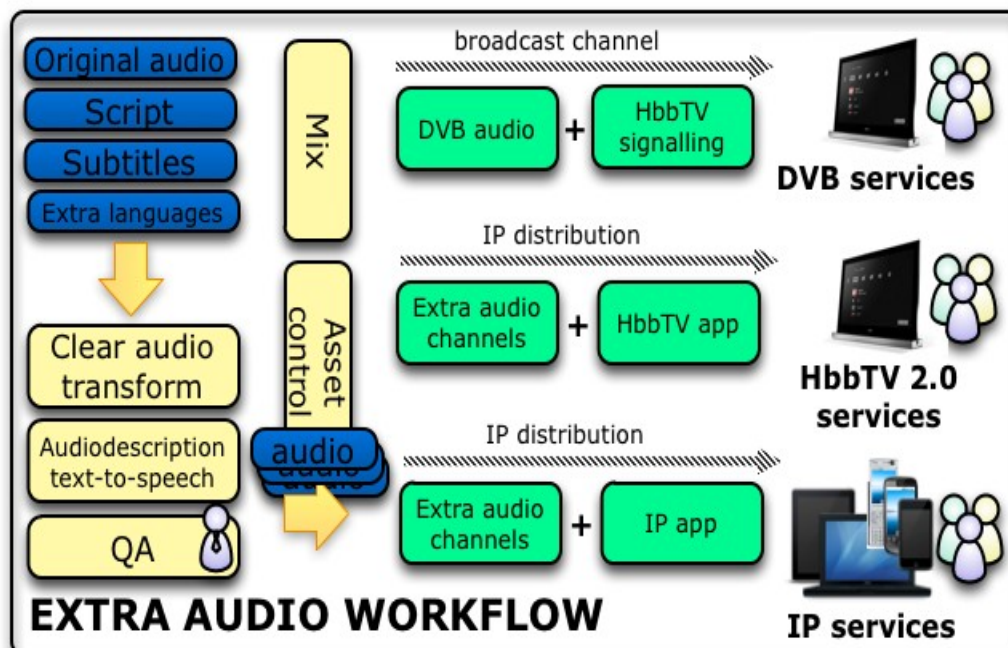
- **Pilot B: Alternative audio production and distribution**
  - ➜ Given EU citizen mobility, TV content is not only seen by nationals, but also by large communities living away from home.
  - ➜ Therefore broadcast the same content in different languages synchronically (e.g., Swiss TV or Brussels TV) but the content is not the same across languages.

- Pilot-B objectives:
  - ➜ The three core objectives of this sub-pilot respond to the above chances and challenges, which will be tackled in large scale trials in Germany and Spain.
  - ➜ Personalized Clean Audio service via IP for certain groups (specifically hard of hearing).
  - ➜ Automatically generated speech synthesis of audio description and spoken subtitles.
  - ➜ Additional audio channels via IP as resources for multi-language transmission as well as language learning and acquisition.
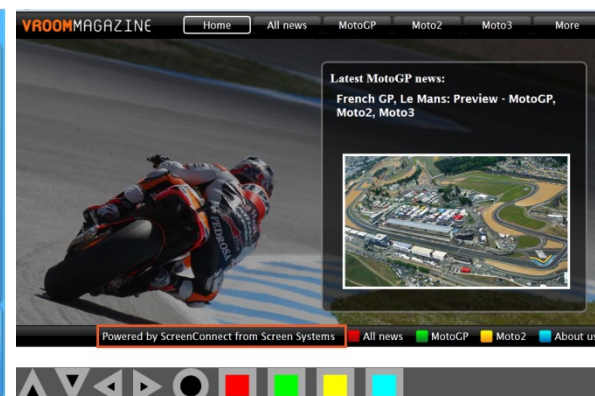
Four interlinked sub-pilots will be implemented

- **Pilot C: Automatic UI adaptation – accessible Smart TV applications**
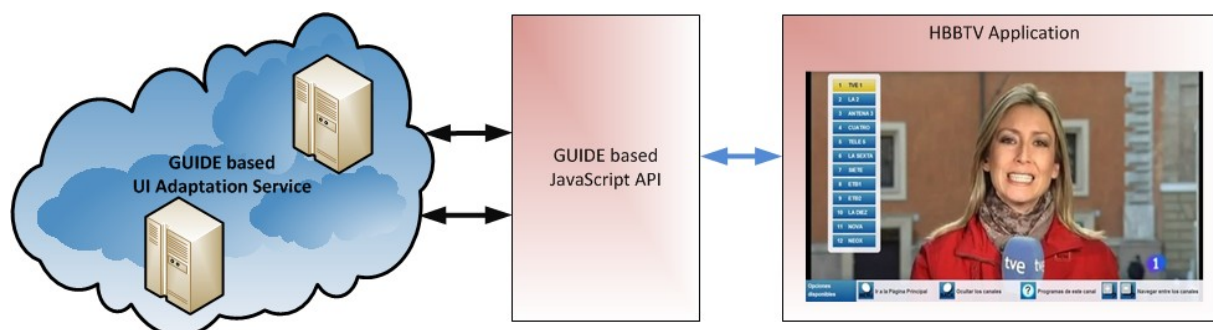
→ During the last years digital TV as a media platform has increasingly turned from a simple receiver and presenter of broadcast signals to an interactive and personalised media terminal with access to traditional broadcast as well as web-based services.

→ The accessibility features of such a service will make use of the UI adaptation framework that was developed within the European project GUIDE (Gentle user interfaces for elderly people).

Targeted SmartTV services including accessibility features provided by UI adaptation service

Four interlinked sub-pilots will be implemented

Signing in Belgium

Signing in Portugal

- **Pilot D: Sign-language translation service**

  ➔ Visual signing for audiovisual media makes such content accessible to individuals whose mother tongue is a sign language and not an oral language.

  ➔ Users of sign language are often born deaf. In many European countries, constitutional and legal provisions assure the provision of sign language (estimated less than 1% of the population).

  ➔ Offering closed signing (where the viewer can choose to see or not to see the interpreter) requires much more bandwidth than closed subtitles or audiodescription. Signing is important not only for mainstream programming and TV programming specifically for the signing communities in Europe and elsewhere but also emergency alerts on TV.

6. Worldwide relevance

- Through standardization:
  - HbbTV is an ETSI standard,
  - It is linked to the DVB-system,
  - Can potentially be used in conjunction with any digital TV service:
    - ✓ DVB is widely used throughout all continents,
    - ✓ Completion from analogue-to-digital switch-over concerns all countries.
  - Publicising of standardization bodies such as the ITU and ISO on a world-wide level.

- Impact in close fields such as eHealth and eEducation
  - The results from the HBB4ALL project will have direct impact here.

- Promotion of the project results to raise raise awareness on:
  - the necessity of access and interaction services,
  - the technical solutions available with interoperability.

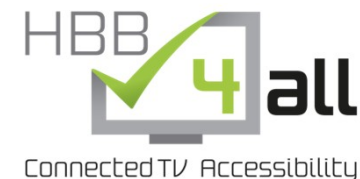# 7. Expected outcome: from specific user needs to universal accessibility

→ Elaborate pertinent guidelines of good practice, metrics, and recommendations.

→ Promote project results for awareness creation on:
- ✓ The necessity of access services
- ✓ The technical solutions available.

→ Results are expected to be of worldwide relevance
- ✓ Through standardization bodies (such as ITU),
- ✓ To be publicized on a world-wide level

→ Address all relevant stakeholders and components of the value chain **to turn the accessibility vision into reality.**

→ **Become a major platform/player**
- ✓ **in the e-Inclusion economy currently taking place,**
- ✓ **fostering the future market take-up of accessibility services**
- ✓ **satisfying the diverse interests of all societal groups.**

The consortium: 12 European partners

2 Academic Institutions	UAB Universitat Autònoma de Barcelona — ceiac — UNIVERSIDAD POLITÉCNICA DE MADRID
4 Public Broadcasters	rbb RUNDFUNK BERLIN-BRANDENBURG — RTP RADIOTELEVISÃO PORTUGUESA — 3 TELEVISIÓ DE CATALUNYA — SWISS TXT
2 Research Institutes	Institut für Rundfunktechnik IRT — vicomtech IK4 Research Alliance
4 SMEs	vsonix — PEOPLE'S PLAYGROUND — SCREEN SYSTEMS — Holken Consultants & Partners

Thank you !

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