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- Association of Barrier Free Access  
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Specification of  
symbols used on  
Audio-Tactile Maps  
for individuals with  
blindness

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Lifelong  
Learning  
Programme

Project No: 543316-LLP-1-2013-1-GR-KA3-KA3MP

## About ATMAPS

The ATMAPS Project "Specification of symbols used on Audio-Tactile Maps for individuals with blindness" (Project No. 543316-LLP-1-2013-1-GR-KA3-KA3MP) is a project financed under the Lifelong Learning Programme (LLP), Key Activity 3 – ICT Multilateral Projects.

## Abstract

Touch and hearing are the primary senses that individuals with blindness use in order to access written and graphical information and also to acquire knowledge about attributes of an environment and their surroundings. Until now tactile maps included raised graphic patterns that are recognizable only by touch. Information technology offers the possibility to convert the spatial information into audio, tactile or audio-tactile form. Therefore the benefits of tactile graphics can be combined with audio information with the use of special devices. Audio-touchpad devices are touch sensitive pads that can simultaneously provide users with tactile and audio information, while they explore tactile graphics by their fingers. In the case of Audio-Tactile Maps, information is represented by audio symbols, tactile symbols, audio-tactile symbols (combined) and Braille labels. Project ATMAPS envisages to specify audio, tactile and audio-tactile symbols to be used in Audio-Tactile Maps.

## Mission

The research based specification of audio, tactile and audio-tactile symbols to be applied on a wide spectrum of different types of maps, frequently used in education and training of individuals with blindness.



## Aims and Objectives

The ATMAPS Project brings basic educational and training needs as well as problems and challenges of individuals with blindness into focus.

The fundamental aim of the project is the specification of audio, tactile and audio-tactile symbols to be used in Audio-Tactile Maps for education and training of individuals with blindness.

In this project, the focus also lies on the training of teachers of individuals with blindness, rehabilitation specialists, orientation and mobility trainers as well as designers of orientation and mobility aids, on the construction of Audio-Tactile Maps and on the use of audio-touchpad devices.

Moreover, among the main objectives of the project is to train individuals with blindness on the use of Audio-Tactile Maps.

The objectives of the project are:

1. Derive a research-based, effect-assured, specification of audio-tactile symbols.
2. Promote the use of a specified unique "audio-tactile language" that will govern the construction of Audio-Tactile Maps.
3. Boost the systematic production of Audio-Tactile Maps that will address and satisfy specific needs of individuals with blindness.
4. Improve the curricula for individuals with blindness with the use of information technology and multimodal training material.
5. Promote multimodal education and training of individuals with blindness.
6. Develop new, pioneering orientation and mobility aids that will give rise to the prospects of the scientific field of orientation and mobility.
7. Provide specialized training of end users on the production and use of Audio-Tactile Maps and audio-touchpad devices.

## Implementation and Results

The project is divided into different phases:

-  **Phase 1:** Specification of user requirements and definition of which information should be represented, in audio, which in tactile and which in audio-tactile form.
-  **Phase 2:** Development of audio-tactile symbols, production of pilot Audio-Tactile Maps, testing of audio-tactile symbols and audio-tactile symbol specification activities. The results will be presented at the project's multi-lingual website.
-  **Phase 3:** Production of audio-tactile material to be freely available on project's website. Development of a web-based electronic library of audio-tactile symbols and construction of a political-physical audio-tactile atlas.
-  **Phase 4:** Production of training material for end-users to enable them to produce Audio-Tactile Maps for individuals with blindness.
-  **Phase 5:** Implementation of a series of seminars for end-users on the construction of Audio-Tactile Maps and on the use of audio-touchpad devices.

