Interreg

Co-funded by the European Union

Estonia – Latvia

Creating hiking routes and audio guides for people with visual impairments

BALTIC COASTAL HIKING

BALTIC FOREST HIKING

https://baltictrails.eu/lv

Project: **“ Forest and Coastal Hiking Trail’s accessibility improvement for different social groups”** (EE-LV0013), 01.07.2023. – 30.06.2026.

Project partners:

Latvian Rural Tourism Association “Lauku ceļotājs”

Kurzeme Planning Region

Vidzeme Planning Region

Movement Spontaneous, Latvia

Riga Planning Region

MTÜ Maaturism, Estonian Rural Tourism Association

Pärnu Bay Rotari Club

The Municipality of Häädemeeste, Estonia

Setomaa Municipality, Estonia

NGO “Peipsimaa tourism”, Estonia

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KULDĪGA EXAMPLE

Specific target group: People with visual impairments.

Non-specific target group (who may adopt the experience): Municipalities, managers of protected nature areas, and NGOs seeking to develop services for people with visual impairments by creating user-friendly audio guides.

Social expert organizations consulted during the development of the solution: Social enterprise "Socintegra darbnīca" and the Riga Association of the Visually Impaired and Blind "Redzi mani" (See Me).

Solution implementer: Latvian Rural Tourism association "Lauku ceļotājs'.

1. Objective

This guideline describes how to develop hiking routes with audio guides that are accessible to people with visual impairments, based on the direct involvement of the target group in planning and testing. It provides practical recommendations on audio guide content, safe and accessible route infrastructure, tactile information, and environmental adaptations, as well as on the testing process with people with different levels of visual impairment and guide dogs.

2. Route Design or Adaptation of Existing Routes

For this purpose, a section of Forest Trail #92, passing through the town of Kuldīga, was used. In developing hiking routes and audio guides for people with visual impairments, it is crucial to involve the target audience (Figure 1). From the outset of the route planning process, consultation with blind and partially sighted individuals is essential to determine the most suitable route, the content and format of the audio guide's descriptions, and the best way to describe the path. Once the route has been created, it must undergo testing and adjustments. It is important to consider the wide range of variations in vision impairment, both in terms of degree and type.

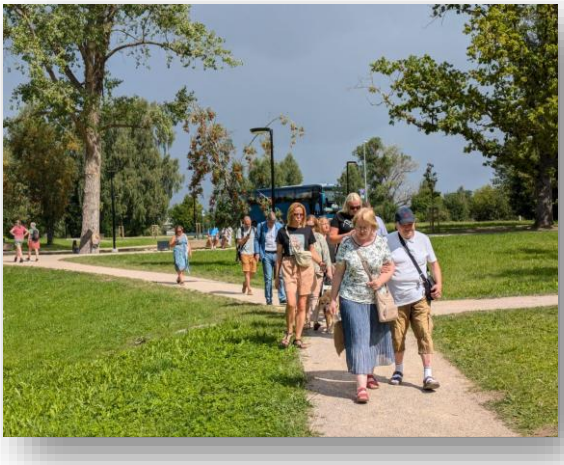


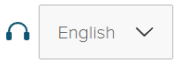
Figure 1. Pilot test of the accessible audio guide "Through Kuldīga Along the Forest Trail" with representatives from the Riga Association of Partially Sighted and Blind People "Redzi Mani" (*"See Me"*).

3. Recomendations

3.1. About the Audio Guide's Format and Content

- The audio guide should contain a detailed description of the route and its characteristics: what the surface is like (asphalt, paving, path, dirt road, gravel, cobblestones, wooden walkways, etc.), any notable features of the terrain (ditches, ascents, descents, slopes), human-made obstacles (steps, stairs, railings, bridges, curbs, stones, poles, dangerous areas) so that the person following the route can be informed

and, depending on the situation, decide whether to proceed with the route or choose an alternative.

- The descriptions of objects in the audio guide should include detailed accounts of their appearance, including what they look like and what surrounds them, as individuals with visual impairments cannot see them.
- The audio guide can be professionally produced by a company specialising in audio guide creation, including studio recording, translation, and integration into a mobile application, such as the izi.TRAVEL platform.
- The accessible audio guide in English 

"Through Kuldīga Along the Forest Trail" (referred to as audio guide in this text) is available at (Figure 2):
Accessible Audio Guide Through Kuldiga Along the Forest Trail | IZI Travel
The audio guide is also available in Latvian language Pa Mežtaku cauri Kuldīgai cilvēkiem ar redzes traucējumiem | IZI

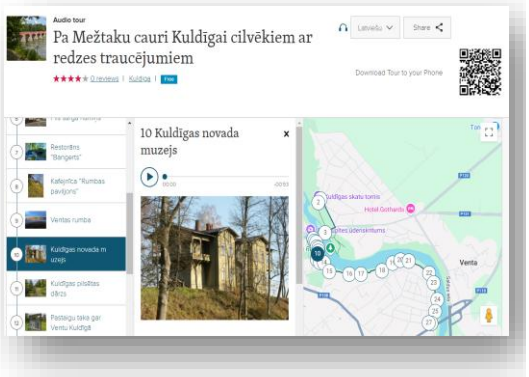


Figure 2. Screenshot of the audio guide on the izi.Travel app

3.2. About the Infrastructure Along the Route

- An information sign for the audio guide should be installed on-site (see Figure 3), positioned at the start of the route. It may be affixed to an existing information board or another suitable structure (see Figure 4). The placement of the sign must be formally approved in writing by the local authority and/or the owner of the existing board.

Figure 3. Information sign in Braille about the accessible audio guide

Figure 4. Information sign in Braille about the accessible audio guide at the Kuldīga Observation Tower

The information sign must include:

- The route name displayed in Braille (see Figure 3) in the language of the audio guide. Raised lettering can also be used. Consultation with relevant experts is essential to ensure the correct Braille format, content, and surface.
- A tactile earphone symbol to indicate the availability of the audio guide.
- A tactile QR code (at least 3x3 cm) enabling users to download the audio

guide application and access the route information.

- The sign should be positioned at a height (see Figure 4) that enables individuals to approach it comfortably, read it, or touch it. Its size should be at least A4.
- If a site has restrictions or specific instructions (e.g., a viewing tower), these should be provided in Braille, tactile pictograms, or as audio information in the guide.
- Text, drawings, images, or pictograms should not be printed on shiny metal surfaces, films, or materials that reflect light at various angles, as this can hinder visibility for partially sighted individuals.

- If the route is not too long, a tactile map of the route can be created.
- The path should be wide enough (see Figure 1) so that two people, such as a visually impaired person with a guide dog or a companion, can walk side by side.
- If the route has stairs:
    - they should have railings (see Figure 5);
    - the stairs and edges should not have protrusions that could cause a fall.
- If there are thresholds along the route, it is preferable to have them lowered or replaced with a continuous transition (see Figure 6).
- The route should not include any dangerous objects or areas where one could fall off or into (e.g., steep riverbanks, cliffs, ponds, ditches, marshes) or become trapped. If such areas are unavoidable, railings or barriers should be installed to ensure safety.
- Depending on the length of the route, there should be rest areas along the way (see Figure 7).
- Ideally, part of the route should have tactile guidance lines, and water should be available for guide dogs (e.g., from a tap, shop, or catering business).

Figure 5. Stairs with railings are safer and easier to use. Using vision simulation glasses

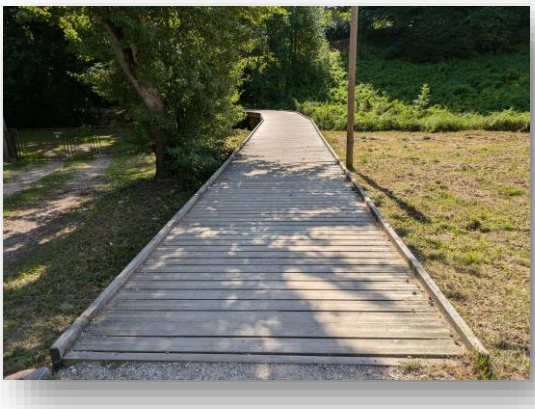


Figure 6. Path with a gravel surface transitioning seamlessly (no threshold) to a wooden walkway

Figure 7. A rest area constructed during the development of the Forest Trail along the Venta Riverbank

3.3. Practical Example: Testing the Accessible Audio Guide "Through Kuldīga Along the Forest Trail"

- It is important that the testing of the route and audio guide involves people with various types and degrees of visual impairments.
- The audio guide was tested by three participants with limited vision: one person with myopia (nearsightedness), one with functional blindness (able to distinguish light and silhouettes), and one completely blind person (unable to see anything).
- The test also involved a guide dog (see Figure 8). During testing, the dog should be provided with drinking water.
- To experience the route from the perspective of someone with visual impairments, it is recommended that during testing, individuals without visual impairments wear vision simulation glasses on specific sections of the route (e.g., narrow paths, stairs, steps, obstacles, changes in terrain) (see Figure 5).
- It is recommended to invite local municipal representatives from tourism information centres, construction, development, and environmental departments, as well as relevant local NGOs, to participate in the test.
- During the route test, it is useful to use local services and assess their accessibility for people with visual impairments and guide dogs. The testing group made use of the services at the local café "Marmelāde" and the restaurant "Jēkaba Sēta" (see Figure 9) during the testing. At both locations, the group was warmly welcomed, and water was provided for the guide dog.
- The test should be recorded in video and audio formats to make it easier to collect feedback and prepare educational or promotional materials.
- After the test, based on the suggestions, improvements or changes should be made to the route, infrastructure, audio guide content, and format. For example, if the route contains difficult or dangerous areas, the path should be changed, or information about these areas should be included in the audio guide. For example, it could alert users to a metal grid floor on a viewing tower that may hurt a guide dog's paws or a wooden bridge that lacks railings.

Figure 8. A visually impaired hiker using a guide dog during the audio guide test

Figure 9. A meal during the audio guide testing at a restaurant that is friendly to visually impaired clients and their guide dogs

4. Project Partners Involved

Kurzeme Planning Region (Latvia), Riga Planning Region (Latvia), Latvian Country Tourism Association, Häädemeeste Municipality (Estonia), Setomaa Municipality (Estonia), and the Peipsimaa Regional Tourism NGO (Estonia).

5. Training video

The pilot test of the accessible audio guide “Through Kuldīga Along the Forest Trail” was documented in a training video (05:05 min). Watch it here (in Latvian with English subtitles):

https://www.youtube.com/watch?v=Vd8F0CfzVZQ

6. Useful Sources

- Braille alphabet in Latvian: https://neredzigobiblioteka.lv/konsultacijas/par-braila-rakstu-latviesu-valoda/;
- A company in Latvia that provides specialised aids for people with visual impairments, https://exceed.lv/index.php/lv/ ;
- izi.TRAVEL Audio guide production and playback app, https://izi.travel/en ;
- Latvian National Library Audio Guide, https://gids.lnb.lv/karte ;
- Latvian Library for the Blind, https://neredzigobiblioteka.lv/;
- Riga Association of Partially Sighted and Blind People "Redzi Mani" (“*See Me”*), https://redzimani.mozello.lv/ ;
- Social integration of people with visual impairments, https://www.socintegra.lv/ .

Thank you to Kuldīga Municipality for its involvement during the pilot event and for implementing infrastructure improvements before and after the pilot test.

JŪRMALA EXAMPLE

Specific target group: People with visual impairments.

Non-specific target group (who may adopt the experience): Municipalities, managers of protected nature areas, and NGOs seeking to develop services for people with visual impairments by creating user-friendly audio guides.

Social expert organization that was consulted during development of solution: Association of People with Disabilities and Their Friends "Apeirons" and social enterprise "Socintegra darbnīca".

Solution implementer: Riga Planning Region.

1. Objective

There are approximately 12 000 people with various visual impairments in Latvia. As part of the project, the Riga Planning Region developed an accessibility solution for section 21 of the Baltic Coastal Hiking Trail – the Jūrmala Wellness Nature Trail (Figure 10). This included the creation of an audio guide and tactile maps (Figures 10, 11 and 12) placed along the trail. The Wellness Nature Trail was established in 2022 as an initiative of Jūrmala Municipality. The trail is 2 km long and features three types of information boards, several rest areas, a barefoot walking section, multiple outdoor exercise stations, and directional signage.

Within the project, an audio guide was developed to make the information on the existing boards available in audio format. Tactile maps and QR codes (Figures 13 and 14) were also added to the existing information boards.

Figure 10. Information board added during the project (bottom)

Figure 11. Tactile map with QR codes

Figure 12. Testing of the tactile map

Figure 13. QR codes

Figure 14. QR codes along the trail route

2. Selecting the Necessary Adaptation Elements

Association of People with Disabilities and Their Friends "Apeirons" were consulted before choosing the specific elements that could help people with visual impairments to enjoy the hike along the trail. Staff from the Riga Planning Region, together with an accessibility expert, visited the trail and received recommendations that were implemented in the development of:

- 3 tactile maps, added to the existing information boards;
- small QR code plaques, installed on the wooden elements of the existing small and medium-sized information boards to lead to the audio guide;
- an audio guide – to duplicate the information on the existing info stands into audio format;
- a tactile map of the toilet facilities, enabling people with visual impairments to understand the layout and use the facilities independently, without assistance.

2.1. Tactile Maps

The social enterprise "Socintegra Darbnīca" designed, produced and installed the maps. The maps were mounted onto existing information boards at a 30° angle, with the lower edge positioned 85 cm above ground level. Ideally, the tactile maps should be oriented to match the direction of the trail route. However, this was not fully possible in this case, as the decision was made to use the existing information boards.

Each map has:

- the trail route with street names in Braille;
- a 'You are here' point indicating the location of each information board and the user's current position;
- QR code to the audio guide;
- information in Braille (with a nature photo in the background);
- legend in Braille, with explanations of symbols representing toilets, rest areas, exercise equipment, and other route features;
- Interreg Est-Lat programme and implementing partner logos.

2.2. QR Code Plaques

Each plaque has:

- headphones symbol;

- language symbol indicating that the audio guide is available in two languages – Latvian and English;
- QR code – unique on each plaque, linking to the relevant audio guide story;
- Project information in Latvian and English.

2.3. Tactile Map of the Toilet Facilities Layout

The map was placed at the entrance so that people with visual impairments can understand the layout (Figure 15) and use the facilities independently, without assistance.

15. attēls. Tactile information at the toilet facilities

2.4. Audio guide

The izi.TRAVEL platform was chosen for preparing the audio guide because it is free, easy to use, and allows organisations to create location-based audio tours without programming skills or specialised technical infrastructure. The platform works both as a web-based content management system for creators and as a mobile app (iOS and Android) for end users.

3. Creation of Audio Guide Content on the IZI.TRAVEL Platform

3.1. Account Setup and Route Preparation

- the municipality or organization creates a free account on the izi.TRAVEL platform;
- a new “tour” or route is created;
- the route is displayed on a digital map where the creator can add individual “stops” or points of interest along the trail.

3.2. Adding Stops and Content

For each stop point, the creator can:

- mark the exact GPS location on the map;
- add a title and description;
- upload audio files (recorded in a studio or created independently);
- include additional text information that can be read in the app;
- optionally add images (although these are not accessible for screen readers).

Each stop point functions as an independent audio story linked to a specific physical location along the trail.

3.3. Multilingual Content

Izi.TRAVEL allows content to be uploaded in multiple languages. In this project, separate Latvian and English versions of all texts were created and recorded, ensuring equal access for both language groups.

3.4. Texts and Audio Production

For this project, the earlier prepared texts, printed on the existing information stands along the trail were used. To create the English version, all texts were professionally translated before audio recording.

To make the audio guide more useful for people with visual impairments, additional practical information was integrated into the audio scripts, including:

- directions and distances from the beginning and to the end of the route;
- references to nearby streets to support spatial orientation;
- the location of toilets and exercise equipment.

The final audio files were recorded in professional studios by trained actors to ensure clear pronunciation, good sound quality, and an engaging listening experience.

3.5. QR Codes and User Access

Once a stop is added to the route in izi.TRAVEL, the platform automatically generates a unique QR code for that specific location.

These QR codes were printed on small plaques attached to the existing information stands. When scanned with a smartphone camera:

- The user is directed to the corresponding audio story in the izi.TRAVEL app.
- On newer smartphone models, scanning the first QR code at the start of the trail enables automatic playback of subsequent stories as the user approaches each location (based on GPS).
- On older smartphone models, users may need to scan each QR code separately or manually select the next stop in the app.

4. How the User Experiences the Audio Guide

From the user's perspective, the process is as follows:

- The user scans a QR code on the trail.
- The izi.TRAVEL app opens and loads the relevant audio story.
- The user listens to the audio description while moving along the trail.
- If GPS-based autoplay is enabled and supported by the device, the next audio story starts automatically when approaching the next point.

To ensure proper functioning of the app, users are advised to:

- switch off battery-saving mode on their smartphones;
- ensure that location services (GPS) are enabled;
- have mobile data or internet access available along the trail.

The audio guide created within this project is available here:

https://izi.travel/en/f682-wellness-nature-trail/en - English

https://izi.travel/en/f682-labsajutas-daba-taka/lv - Latvian.

5. Recommendations and Conclusions

- During the pilot test, all participants positively evaluated the tactile maps (Figures 11-12, 16-17), as even those who do not read Braille were able to

easily understand the route of the trail and identify their position along it.

- Access to the audio guide was somewhat more complex. It was found that the app works most effectively on newer smartphone models: by scanning the QR code at the start of the trail, all subsequent audio stories are played automatically when approaching the relevant point of interest. On older smartphone models, it was necessary to scan the QR code at each information board or manually select the next point within the app.
- Although the trail is not fully adapted for independent use by a completely blind person, walking it with a guide who helps locate the information along the trail allows the project-created solutions to provide additional opportunities for people with visual impairments.
- It is important to disable battery-saving mode on the smartphone, as it may affect the performance of the app.
- **Very important**: all instructions and guidance on using the app are provided in text format (not as photos or images), as most assistive technologies used by people with visual impairments can only read text and cannot interpret photographs, maps, or illustrations.

6. Project Partners Involved

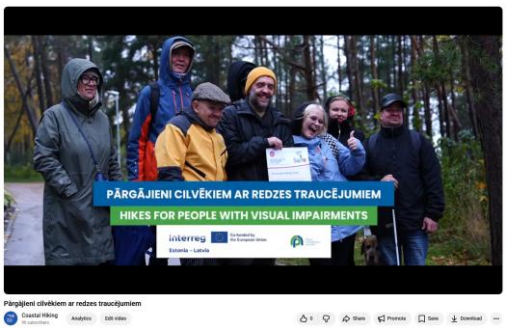
Riga Planning Region (Latvia), Kurzeme Planning Region (Latvia), Latvian Country Tourism Association, Häädemeeste Municipality (Estonia), Setomaa Municipality (Estonia), and the Peipsimaa Regional Tourism NGO (Estonia).

16. attēls. Testing of tactile information at the toilet facilities

17. attēls. Pilot test participants

7. Training Video

The pilot test was documented in a training video (06:28 min). Watch it here: https://www.youtube.com/watch?v=v-FE0Wd779A



KURZEMES COASTLINE EXAMPLE

Specific Target Audience: People with visual impairments.

Non-Specific Target Audience (Who May Replicate the Approach): Municipalities or organisations seeking to develop services for people with visual impairments and to create user-friendly audio guides.

Social Expert Organisation Consulted During Development: Association of People with Disabilities and Their Friends "Apeirons".

Solution implementer: Kurzeme Planning Region.

1. Objective

This section of the guidelines describes an approach to developing hiking routes with audio guides for people with visual impairments (without total loss of vision), based on involving the target audience in the planning and testing process. It provides practical recommendations for creating audio guide content, ensuring accessibility in natural environments, and using physical information carriers – information plaques with QR codes – as the main access solution to the audio guide.

Given limited internet availability and possible connection interruptions, GPX track lines or continuous digital navigation were not used. Instead, a combination of solutions was applied, based on information placed in the field and the user's ability to navigate spatially.

The testing process is also described, involving people with different levels of visual impairment to assess the clarity, safety, and practical usability of the solutions in real conditions.

2. Route Development or Adaptation of Existing Routes

Within the project, existing hiking routes – the Forest Trail and the Baltic Coastal Hiking Trail in the Kurzeme region of Latvia – were used and adapted for people with visual impairments. Audio materials were developed for 13 sections of the Forest Trail and 21 sections of the Baltic Coastal Hiking Trail.

The audio guide content is based on existing route descriptions and includes information on distance, surface types, difficulty level, and points of interest. The texts were improved in cooperation with experts from "Apeirons" to make them suitable for people with visual impairments.

As the audio guide plaques were installed in natural environments on existing infrastructure (Figures 18–20) – such as information boards and signposts – and because the routes run through beaches and forested areas where wheelchair access is not possible, accessibility requirements for people with mobility impairments (such as mounting height and gradients) were not taken into account in this installation.

Figure 18. Audio guide plaque on a Baltic Coastal Hiking Trail information board

Figure 19. Audio guide plaque on a Forest Trail information board

Figure 20. Audio guide plaque combined with a protected area sign and wayfinding signs on the Forest Trail

3. Recommendations for Content Preparation

Recommendations were developed by the Association of People with Disabilities and Their Friends "Apeirons":

- Replace wording such as "you will see" with "you will encounter", and "it will be visible" with "you can visit", "explore", or "gain an impression of".
- Describe not what people will "see", but what is present and where it is located – "what can be found here?" and "what can be explored here?".
- Include descriptions of landscapes, explaining terrain, natural elements, colours, and changes in light during different times of day and seasons.
- Use questions that help listeners imagine the environment, for example: "Can you imagine what this manor looked like 300 years ago?"
- Include short stories or historical references to make places more engaging, for example: "Legend says that this lake was formed…".
- Provide detailed descriptions of birds and animals, including size, colour, key features, and behaviour.
- Replace the call to "be careful" with "be observant" to encourage attention to the surroundings. In addition, safety instructions should be described precisely, for example: "Here the path becomes steeper, so proceed with caution and hold on to the handrail on the right-hand side."
- Indicate cardinal directions (north, south, east, west) to support orientation.
- Provide clear instructions, for example not just "go straight", but "walk 200 metres straight, then turn left".
- Describe distances not only in kilometres but also in approximate walking time, for example: "After five kilometres, or about a 30-minute walk, you will reach the bridge."

- If referencing online resources or websites, state them clearly and understandably.
- Explain abbreviations and acronyms, for example not only “national park” but also that it is a protected natural area.
- Definitions should be explained in simple language – for example, if a traditional local fence-making system is mentioned, describe what it consists of and how these fences are built, so that the system can be understood.
- Include dimensions of objects where possible (height, width, length in metres).
- Describe the appearance of buildings and objects, including colour, architectural features, number of floors, and differences from surrounding structures.

4. Audio Guide Plaque Development

- The audio guide plaques were made from aluminium composite material, which is resistant to vandalism, as it cannot be broken and can be bent and returned to its original shape.
- The plaques have UV and anti-graffiti coating to protect them from vandalism and to prevent fading from sunlight.
- Each plaque includes a tactile headphones symbol indicating the availability of the audio guide.
- A tactile QR code is also included; by feeling and scanning it, users can access the relevant audio content.
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5. Project Partners Involved

Riga Planning Region (Latvia), Kurzeme Planning Region (Latvia), Latvian Country Tourism Association, Häädemeeste Municipality (Estonia), Setomaa Municipality (Estonia), and the Peipsimaa Regional Tourism NGO (Estonia).

SETOMAA (ESTONIA) EXAMPLE

Specific Target Audience: People with visual impairments, preschool children, school-age youth.

Non-Specific Target Audience (Who May Replicate the Approach): Municipalities or organizations that want to develop services for people with visual impairments or create user-friendly audio guides.

Social Expert Organisation Consulted During Development: , Ligipääsuke OÜ expert Jakob Rosin, Elva Dissabled Association member of the board Anne Kähr-Haller, Tartu Centre for the Development of People with Visual Impairments.

Solution implementer: Setoma municipality.

1. Objective

This part of the guidelines describes how to supplement hiking routes with audio guides and augmented virtual reality solutions that are accessible to people with visual impairments, based on the participation of the target audience itself in the planning and testing process.

2. Creating

The forest trail (E11) in the Värska area near Lake Õrsava coincides with Põhja-Laager hiking trail. The trail is well-maintained and leads past the so-called Regi House, which is an important military heritage site and a tourist information center. Tourist information stands are located in the wider area of the site, where the so-called Northern Camp was located.

Figure 21. Bench next to the Forest Trail with a QR code for reading the audio guide link

Figure 22. Bench next to the Forest Trail with a QR code for reading the audio guide link

Figure 23. Covered bench with table next to the Forest Trail with QR code for reading the audio guide link

Five benches (Figures 21, 22) and one covered picnic bench with a table (Figure 23) were installed along the Forest Trail. The benches were equipped with four different audio guides and two visualizations with augmented virtual reality were created - in the form of 3D images (Figure 24), which are available on a phone or tablet using the square codes. The audio guide recordings are approximately one minute long and can be listened to in Estonian and English. Their content is related to the historical Northern Camp in the area and other historical events. The aim of all these improvements is to introduce hikers to the Northern Military Camp in the vicinity of Värska, which was established in 1926 by General Reek and where a cavalry regiment once trained.

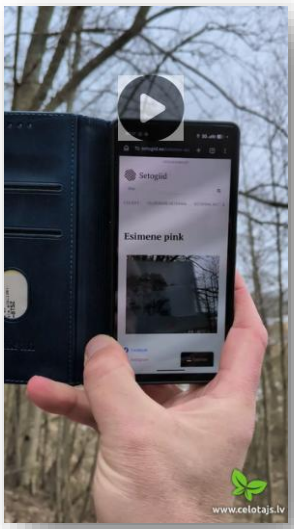


Figure 24. Historical visualizations displayed using augmented virtual reality

Accessibility expert Jakob Rosin, who is visually impaired, walked the mentioned section of the Forest Trail (Põhja-Laager Hiking Trail) on July 18, 2024 and prepared an informational material for people with visual impairments entitled "Recommendations for improving the accessibility of the Põhja-Laager Hiking Trail from the perspective of people with visual impairments."

The section of the trail, where audio guides and augmented virtual reality visualizations were created, was pilot-tested (Figure 25) on May 24, 2025 in cooperation with the NGO "Tartu Visual Impairment Development Center". The members of this organization actively go hiking every year, and in 2025 they chose to visit Setomaa. This shows that organizations representing people with various functional disabilities are active and that accessibility is an important topic for them.

Figure 25. Pilot test of a forest trail section with people with visual impairments

3. Recommendations and conclusions after testing with the target audience

• The audio guide should have content that describes the current and historical and visual appearance of buildings and landscapes;
• The audio guide should also describe the immediate surroundings of the information stand so that visitors with visual impairments can get a clearer spatial idea of the location and the surrounding environment;
• When creating an audio guide, it is recommended to use radio theatre elements, such as actor voices, sound effects and narration, to make the visit more lively, interactive and atmospheric;
• In addition, activities, tasks or games can be created along the trail to help visitors

notice and experience the surroundings. Examples could be a tug-of-war on a sports field or a shooting-related activity at a shooting range.

4. Who can take over this experience?

Other municipalities with hiking trails; museums with outdoor areas

5. Involved partners and other organizations

Setomaa Municipality, Kurzeme Planning Region, as well as Seto Institute, Setomaa Museums, NGO “Setomaa Tourism”, Riga Planning Region, Latvian Rural Tourism Association “Lauku ceļotājs”, Häädemeeste (Estonia) Municipality, Peipus Region Non-Governmental Tourism Organization.

6. Training Video

A video (02:48) was created during the pilot test, which can be viewed here:

https://www.youtube.com/watch?v=4PVYqmzcVoI

7. Useful sources

Recommendations for improving the accessibility of the Põhja-Laager hiking trail for people with visual impairments.

HÄÄDEMEESTE (ESTONIA) EXAMPLE

Specific target audience: People with visual impairments.

Non-specific target audience (experience can be transferred): Accessibility experts, Hädemöste Municipality, as well as people with visual impairments and their companions who participated in the pilot test.

Solution implementer: Hädemeeste Municipality.

1. Objectives

On 26 May 2026, a pilot event (Figure 26) was organised in Hädemäe Municipality to test the developed accessibility solutions for the Ikla–Kabli (Stage 31) Sea Trail on the Estonian coast. The event started at the Kabli Community Centre and continued as an organised walk to Kabli Beach. During the event, audio guides, accessible information solutions and mobility options for people with visual impairments on the nature trail were tested. The pilot event took place at a relaxed pace, providing a safe and supportive environment for the participants. The day ended with a joint discussion and exchange of experiences.

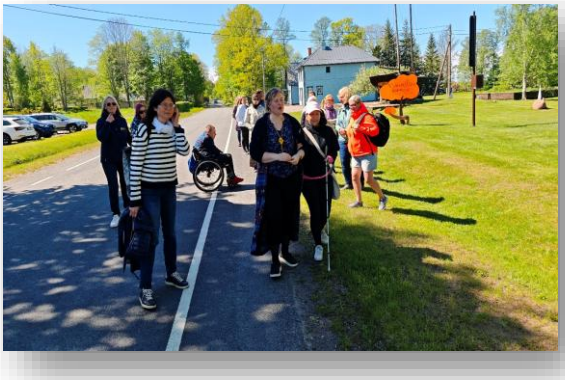


Figure 26. Audio guide and Baltic Coastal route pilot test

2. Required accessibility features

The pilot test focused on the following elements:

• Functionality and usability of the audio guide app;
• Accessibility information (descriptions, directions);
• Navigation along the trail;
• Usability of rest and stopping points;
• Accessibility of physical infrastructure (including wooden boardwalk to the beach (Figure 27, Appendix 8, Figure 30), information boards, etc.).

Figure 27. Wooden boardwalk installed during the project on Kabli Beach

The pilot test provided practical insight into which elements should be further developed, improved or supplemented.

2.1. Audio Guides

During the pilot test, the main focus was on testing the audio guides.

The following aspects were evaluated:

- The sound quality of the audio guides in outdoor conditions;
- Ease of use (including how easy it was to start and listen to the recordings);
- The suitability of the audio guide texts for the target group.

It is important to note that during the pilot testing, the audio guides did not contain navigation instructions or directional cues, but focused on descriptive and informative content.

2.2. Rest and stopover solutions

The following aspects were evaluated during the pilot test:

• Visibility and comfort of rest areas along the trail;
• Possibility of safe stopping;
• Logical planning and transparency of the environment.

2.3. Availability of infrastructure and information solutions

The pilot test evaluated the physical accessibility solutions installed on Kabli Beach. A wooden walkway was built on Kabli Beach to improve access for people with various functional disabilities.

The results of the pilot test showed that:

- It would be useful to add a low curb to the edges of the boardwalk, which would:
  - help visually impaired people to better identify the edge of the boardwalk using assistive devices;
  - increase safety for people in wheelchairs by reducing the risk of wheels slipping off the edge;
- Accessibility at the end of the ramp at the waterline would be improved by a smooth transition to the surrounding pavement.

When installing audio guide information stands (Figure 23), the following aspects were taken into account:

• The stands were equipped with a small sloping roof to protect against precipitation;
• The installation height (Figure 28, 29) was chosen so that it was comfortable for both people in wheelchairs and standing users;
• The stands were placed as close as possible to the edge of the boardwalk and hiking trail so that users would not have to deviate from the route.

Figure 28. Audio guide information stand and rest bench on Kabli Beach

Figure 29. Determining the height of audio guide information stands for large and small stands

During the pilot test, a proposal was made to install the stands at a slight angle to make Braille easier to read. However, based on the manufacturer's experience, this was not implemented because:

• Weather conditions, including rain, icing, and snow removal, can damage embossed elements (Braille);
• Vertically mounted signs are significantly more durable.

Therefore, based on the manufacturer's practical experience, it is recommended to install information boards vertically to ensure the longevity of the Braille.

3. Audio guide content development

The pilot test showed that the audio guide should include:

• Precise navigation instructions;
• Descriptions of distances and landmarks;
• Information about important points (e.g., rest areas, coastal meadows, trail edges).

It was also emphasized that the audio guide should be:

• Clearly structured;
• Sufficiently detailed;
• Easily distinguishable from natural background sounds.

Additional information obtained in collaboration with the target group indicated that:

- Texts should be:
  - Engaging and positively worded;
  - Vivid and descriptive of the local environment;
- The speech should be:
  - At a leisurely pace;
  - Clear and easy to understand;
- Content could be:
  - Longer and more informative, including stories about the local area;
  - Designed to allow for a deeper immersion in the environment and a leisurely experience.

4. User experience in the pilot event

Participants' feedback indicated that:

• Audio guides promote independence, but require precise timing;
• Guided walking creates a sense of security;
• Walking along a nature trail is possible if the information is sufficient and clear.

5. Pilot test conclusions

- Audio guides are a very important tool for improving the accessibility of the environment;
- Testing each solution in real conditions helps to identify problems that cannot be fully assessed theoretically. Each location and its unique environment require detailed practical testing to create effective and usable solutions;

- Safety and clear orientation in the environment are critical;
- Physical infrastructure (e.g. walkways and ramps) is an essential part of accessibility and requires user-involved testing;
- Fully independent use requires additional solutions (e.g. navigation information and directions);
- Participant feedback provides direct input into future development.

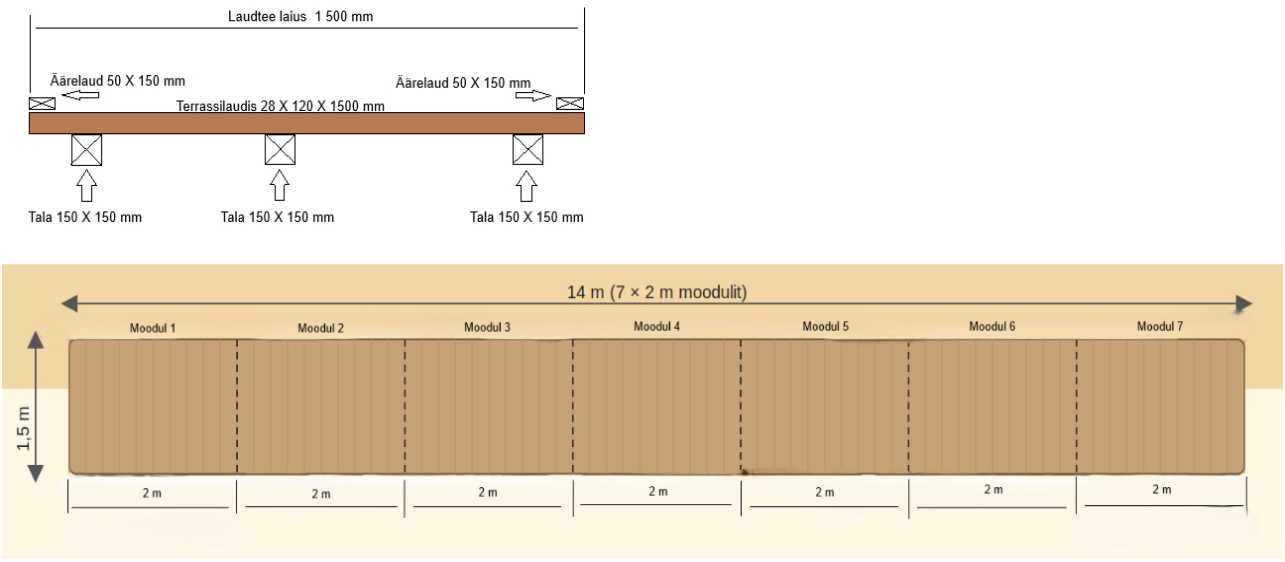
6. Recommendations

• It is necessary to supplement the content with more landmarks and descriptions of the surrounding environment;
• It is necessary to develop unified accessible information solutions;
• It is necessary to improve physical solutions (e.g., accessibility of sidewalks and ramps);
• It is necessary to involve users with different levels of experience in testing;
• It is necessary to continue organizing pilot events.

7. Partners involved

Setomaa Municipality, Kurzeme Planning Region, as well as Seto Institute, Setomaa Museums, NGO "Setomaa Tourism", Riga Planning Region, Latvian Rural Tourism Association "Lauku ceļotājs", Häädemeeste (Estonia) Municipality, Peipus Region Non-Governmental Tourism Organization.

8. Appendix



30. attēls. Drawing and cross-section of the cableway to the Kabli beach

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