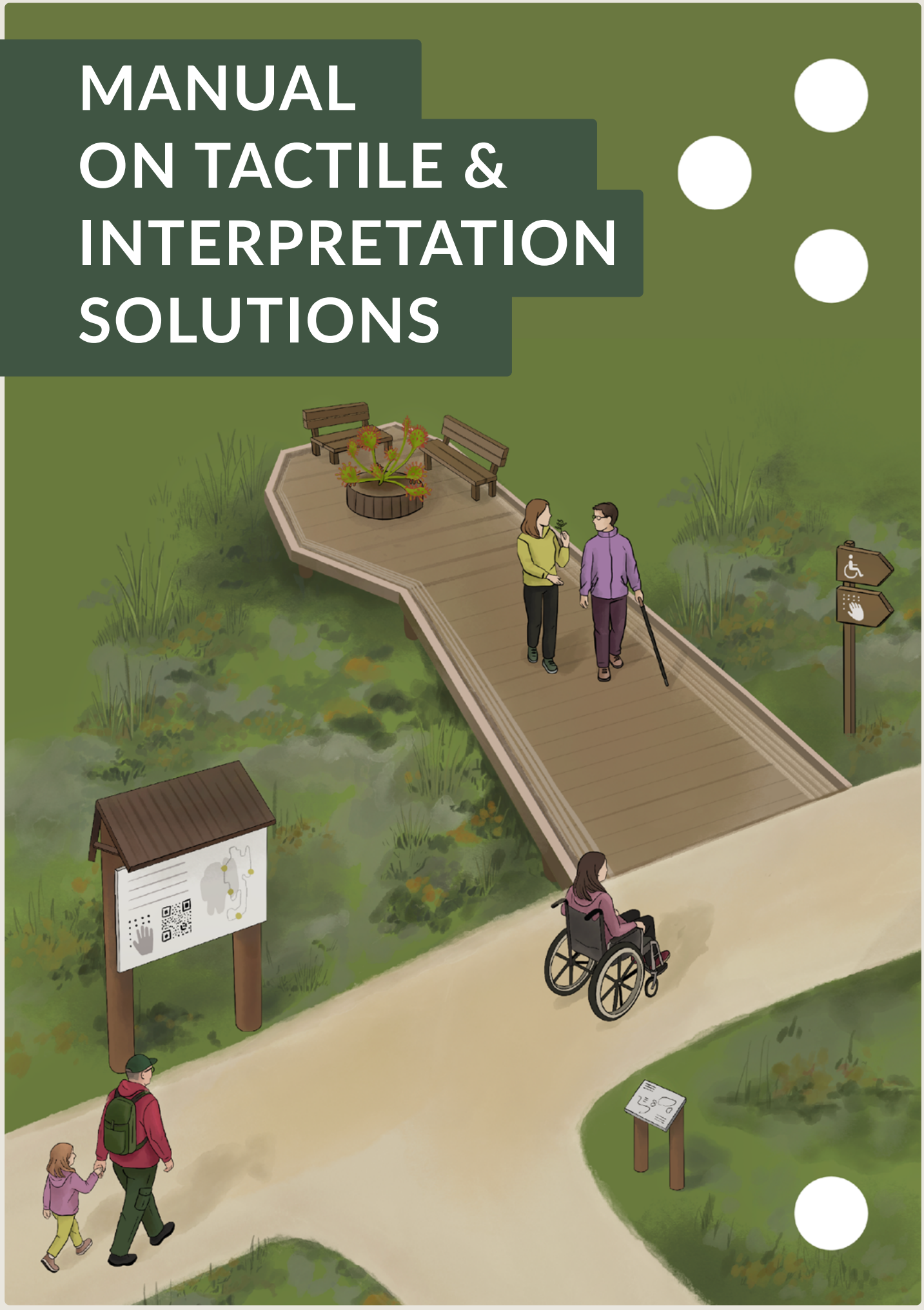
MANUAL ON TACTILE & INTERPRETATION SOLUTIONS



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INTRODUCTION

WHOM AND WHY SOLUTIONS ARE NEEDED FOR

Thanks to rapid advances in medicine, human life expectancy has increased significantly over the past fifty years, and people are also considerably more active in old age than they were several decades ago. However, aging inevitably brings functional impairments: vision becomes weaker and the mind is no longer as sharp as before.

In addition, the fact that demographic trends in developed countries are negative, forces us to increasingly consider how to provide environments, services, and products that are accessible to people with various kinds of functional impairments and to society as a whole.

Often, when people talk about individuals with functional impairments, the first image that comes to mind is a person using a wheelchair. However, people with visual impairments are frequently overlooked, and people with hearing and cognitive impairments are remembered even less often.



Visual impairments vary greatly and depending on whether a person has low vision or no residual vision at all, the way the environment is used and information is received differs significantly. People with low vision who retain, for example, 5–10% of vision can move independently without an assistant, but appropriate solutions are still required to be able to receive information and use the environment safely. In contrast, blind people with residual vision below 3% require tactile solutions, such as Braille text, tactile guidance systems, and audio information.



People with hearing disabilities can be divided into two groups: people with hearing loss, who may or may not use hearing aids, and people who hear very little or not at all, or who prefer to communicate in sign language, that is, sign-language-using Deaf people. Although hearing aids and assistive listening devices can improve hearing, good room acoustics remain essential for clear listening. Speech comprehension is affected by echo from hard surfaces, background noise such as ventilation, traffic or other people speaking, and speech culture, especially when several people talk at once.
It is also important to highlight that a person does not listen only with its ears - body language, facial expressions and lip movements are part of communication, therefore room lighting is important. Spoken information should also always be available in written form, e.g. videos with subtitles or speech-to-text interpreters for presentations to read the text on a screen.

Staff could be trained to communicate with sign-language-using Deaf people at ticket desks, in halls and in other spaces, for example by learning essential signs. Of course, paper and pen can also be used, but it should be remembered that for a sign-language-using Deaf person, Latvian, English or Estonian are foreign languages. When using paper and pen, the message should be written simply and clearly. Some Deaf people can read lips , but it is more common among people with hearing loss.



People with cognitive impairments are divided into several groups. First, in old age, all people experience mild cognitive impairments, such as reduced memory. When referring specifically to disability, people with cognitive impairments can be classified into those with mental illnesses and those with intellectual developmental disabilities.
For people with mental illnesses, intellectual capacity is most often not impaired; examples include depression and schizophrenia.
In contrast, for people with intellectual developmental disabilities, understanding of social norms, the environment, and the meaning of words may correspond, for example, to the level up to 12-13 of age.
But it is important to remember, even so, people have life experience, and adults with intellectual disabilities should not be spoken to as if they were children. Texts intended for children are also not appropriate. Adults with intellectual disabilities are supported by summaries in easy-to-read language, which often present more complex topics in a simplified and accessible form.
Contrary to common societal stereotypes, people in this group are very rarely aggressive or uncontrollable.

This Manual gives practical, simple recommendations and examples on how to develop tactile solutions, interpretation solutions and solutions for cognitive and psychosocial accessibility that can be used by national, regional and local authorities, nature, museum and visitor centre specialists, tourism entrepreneurs to assist and guide on making the products and services accessible to all.



TACTILE SOLUTIONS

INFO STANDS

are one of the most frequently used and easiest ways to provide information about the site/trail/object etc. Here are some tips to take into account for stand constructions and info plates.

STAND CONSTRUCTIONS

can be vertical or inclined. In both cases, correct placement of the info plate is important in terms of its:

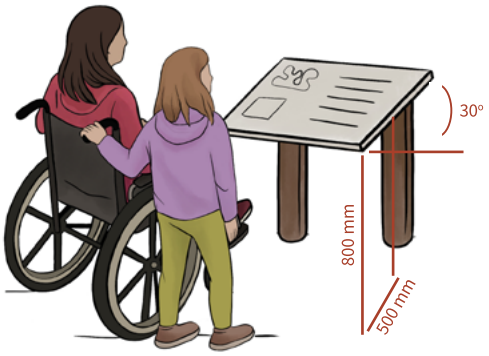
- height to ensure easy reading of the text and possibility to touch the tactile elements, such as text in Braille or tangible lines;
- location to depict the actual situation - info plate should be looking in the same direction as the information presented on the plate (e.g. the trail can not be behind you if it is drawn in front of you on the plate).

General sizes

VERTICAL



INCLINED



This type of stand is recommended for tactile information, however, on the vertical stand you can also provide info in Braille and other tactile elements.

MOST USED MATERIALS FOR INFO PLATES

- ***Aluminum Composite*** (Dibond, Neobond): Most used standard economical solution. 3-4 mm composite panel, flat and stiff without being heavy, excellent for direct UV printing and vinyl.
- ***Solid aluminium:*** 2-4 mm thick, medium-heavy, impact resistant, direct print and vinyl, slightly more expensive than aluminium composite. Best use for high-strength metal signage.
- ***High-Pressure Laminate*** (HPL): Most resistant, strongest all-year-round option, but most expensive. Best use for premium, permanent nature interpretation panels. 6-10 mm thick, heavy, direct digital print and vinyl.
- ***Polycarbonate Covers***: Often used as a clear protective shield over a printed map “shatter-proof” against vandalism.
- ***Steel plates*** (galvanised, stainless or enamelled): Strong, durable and vandal-resistant, suitable for long-term outdoor use, but relatively expensive and heavy and some types reuire protective coatings to prevent corrosion.

PRINTING

UV PRINTING:

On aluminium, Dibond/Neobond, organic glass, any other firm and even, strong material. To highlight tactile lines and surfaces, transparent colour or lacquer can be coated on top of existing UV print.

UV print shall stay in good condition on the plate for about 2 years. To prolong the lifetime, no special coating is usually put on, as it might hinder the tactile function, as an option a sprayable lacquer can be put on.

EXAMPLES:



Ķemeri Resort Park

3D PRINTING FORMS:

Filament: Possible to print in multiple colours, depending on the printer. Common materials include PLA for indoors and PETG or ASA for outdoor use. Typical print size is around 20 × 20 × 20 cm, with larger formats such as 35 × 35 × 35 cm and 80 × 80 × 80 cm also available. Relatively inexpensive and suitable for detailed small to medium objects.

Concrete/cement-based mixtures: Suitable for larger architectural, landscape and sculptural elements with lower fine detail. Cement based materials can also be pigmented. In Latvia, objects up to approximately 2 × 3 m can currently be printed. Globally, concrete printing systems can exceed 10 × 10 m and reach substantially larger dimensions. Better suited to large objects, furniture and architectural elements than detailed information plates.

Pellets/granules: More limited colour options, with wood filled and other fibre filled materials available. Suitable for large format 3D printing, for example 1 × 1 × 1 m or larger. Can use virgin, recycled and fibre filled materials. Often lower material cost than filament, but with less fine detail.

Resin: Liquid photopolymer hardened by light. Provides very high detail and accuracy. Good for models, miniatures and small detailed objects. Requires washing and post curing and can become relatively expensive for larger parts.

TIPS: the initial data (area map, sizes, objects, symbols etc.) is important to more quickly and accurately produce the 3D file (suggested formats: obj, stl)

EXAMPLES:



Daugava Museum,
Dole island, Riga region

Polymer powder - usually nylon-based, produces strong, complex parts without conventional support structures, but more expensive than filament.

Metal powder - produces strong, complex parts, but expensive.

Clay/ceramic - clay or ceramic paste, normally dried and fired afterwards. Suitable for decorative details, but brittle and requires additional processing.

VISUAL CONTRAST ON INFO PLATES

as well as on signs and surface is important to:

- help distinguish objects from their background;
- support orientation and navigation;
- reduce the risk of tripping, disorientation or misinterpretation.

For people with visual impairments, contrast is often more important than colour or aesthetic design.

The LRV (Light Reflectance Value) System – A Methodical Approach to Contrast

LRV is a numerical value ranging from 0 to 100 that describes how much light a surface reflects:

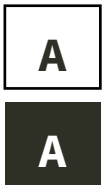
- 0 = completely black (reflects no light),
- 100 = completely white (reflects almost all light).

LRV is not a color name, but a measurable value used to objectively determine visual contrast.

People with Low Vision

- Perceive brightness and tonal differences, rather than precise colours
- Colours with similar LRV values may visually merge, even if the colours differ (e.g. black and red)





How to roughly and easily understand if the contrast is enough?
- make a photo in negative (black and white) mode and check if the contrast is visible (e.g. red and green has no contrast in negative).

QR code / NFC: recommended, should be tactile or at least placed in a rectangle with a tactile line, placed on the right or left corner on the lower side of the plate. Should be amended with a braille text “QR code” or other relevant text and language designation. Should include short audio description in plain language. Ideally, should also include the sign language.

EXAMPLES:

NFC



Mālkalns park in Tukums

QR CODE



Ciecere nature path in Saldus

Bluetooth signalling for nearby tactiles often involves Bluetooth Low Energy (BLE) beacons, which also can be used as part of stands. These small, battery-powered devices continuously broadcast signals, allowing nearby smartphones or wearable devices to detect them, determine proximity, and trigger actions, such as haptic (vibration) feedback or audio alerts for visually impaired users.

BRAILLE TEXT ON INFO PLATES

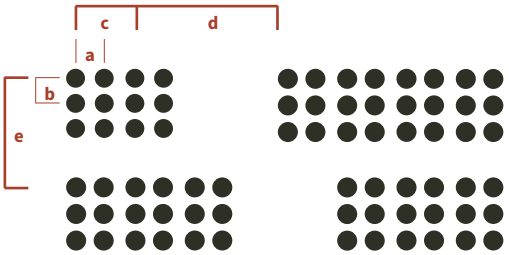
Braille has defined dimensions and principles according to which text in this writing system is created. It must be understood that any deviation from these standards may affect the perception of the written text when it is read with the fingers.

Braille can be compared to text written in grid cells (one symbol per cell). It must neither be enlarged nor reduced. When creating text in Braille, the following technical parameters must be observed:

- the dot **diameter is 1.6 mm**;
- the relief **height** of the dot for books must be not less than **0.6 mm** (except for inscriptions made of rigid materials, such as plastic or metal, where the optimal relief height is 0.3–0.6 mm).

The raised dot must be rounded rather than square → 

Braille buttons can be UV printed or metal ones shot into the surface with a special machine which can be attached to the printer. To correctly print and convert the text into Braille, Braille software should be used and the text need to be checked by an expert.



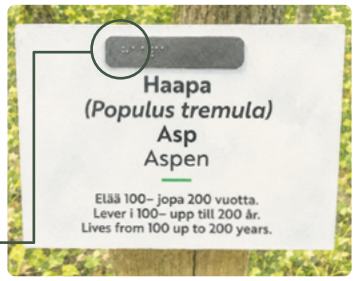
Where:

a. 2.5 mm (from dot center to dot center);
b. 2.5 mm;
c. 6.0 mm (between characters);
d. 12.0 mm (between words);
e. 10.0 mm (between lines).

EXAMPLES:

CORRECT BRAILLE BUTTONS' SIZE & PLACEMENT

Metal Braille buttons shot into the plate





Kurjenrahka park Finland

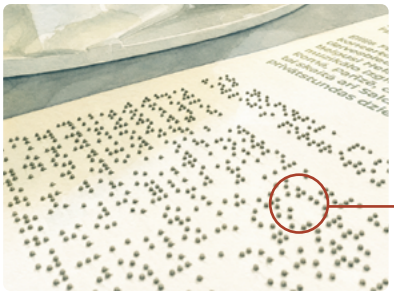


Transparent coating with Braille script

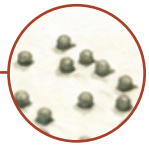


Mālkalns Park, Tukums

INCORRECT BRAILLE BUTTONS' SIZE & PLACEMENT



Sharp as needles and too high in size



Text readers vs Braille - several apps are available, such as e.g. Envision, which allows to get the audio description of the scene in front. Yet, seniors with long-term visual impairment after the age of 60 rarely use smartphones, therefore use of short Braille text is still recommended.

Tactile letters - good option to provide tangible text. Recommended size of letter height on info plates is 3 cm.

OTHER TACTILE ELEMENTS ON INFO PLATES

such as 3D printed elements, elements cut from organic glass, made of metal, wood and other materials. Can be printed directly on the plate (UV multi-layer printing, lacquer coating) or produced separately and attached to the plate. Height of elements - at least 0,5 - 0,8 mm.

Presentation of elements, use different surfaces for e.g. water, bushes etc. and different heights or placement levels to facilitate distinguishing between the elements. Number of tactile levels depends on the complexity of the object.

Testing, tactile plates should be tested by an accessibility expert during the design phase (to review the correct placement, size and other features) and during the production phase (to physically test the tactile function).

ORGANIC GLASS ELEMENTS

EXAMPLES:



Būšnieki nature trail, Ventspils

UV PRINTED ELEMENTS

EXAMPLES:



Brocēni Forest Park

3D PRINTED ELEMENTS

EXAMPLES:



Elkrags wooden boardwalk, Usma

OBJECTS & FIGURES

Tactile objects and three-dimensional figures well supplement the nature trail or any other site, by helping to better present what is specific about the place and by simply making the place more attractive and interesting. They also serve as an important source of information for visually impaired visitors and allow everyone, including kids, to explore the shape, proportions and characteristic features of an object through touch.

Tactile objects and figures can be made from different materials - wood, 3D-printed materials, metal, concrete or a combination of materials, depending on the location, level of detail and required durability. For outdoor use, the objects should be robust, safe to touch and resistant to damage and weather conditions, while fragile or protruding parts should be avoided or additionally reinforced.

DRIED SOLID WOOD (SEAMLESS, UNGLUED) FIGURES

EXAMPLES:







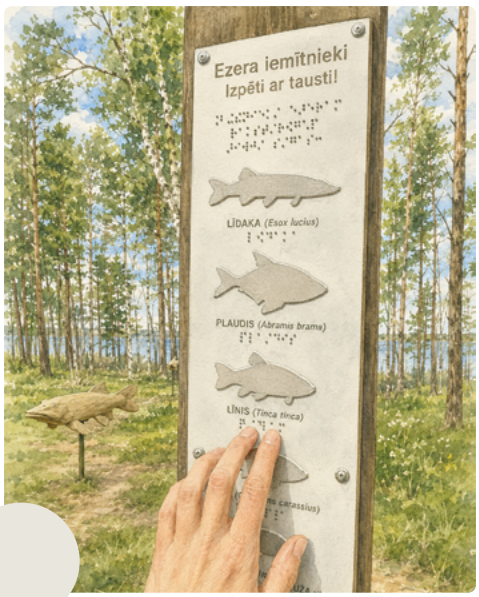
"Mazātak" loop of Alsunga nature path

Kalēti forest park



Lake Būšnieki trail in Ventspils

Fish figures amended with UV printed tactile fish plate

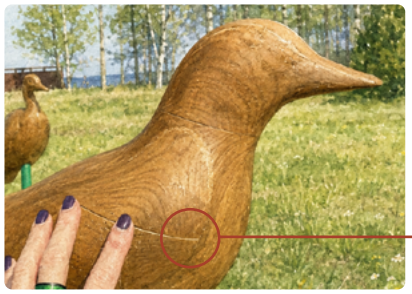


GLUED WOODEN BEAM FIGURES

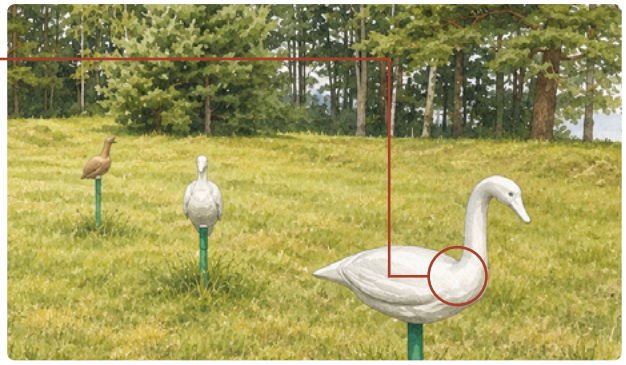
EXAMPLES:

Lake Būšnieki trail in Ventspils

Original figures



Original figures re-made due to cracks as the wood dries and covered with fiberglass mush, painted with polyurethane paint to prevent further cracks and ensure resistance to weather conditions



Note: Specific objects, like birds (with long necks or thin legs etc.) - if made of wood, must be additionally reinforced with a metal rod





Bird figures amended with UV printed tactile bird plate and QRs with bird voices

3D PRINTED FIGURES

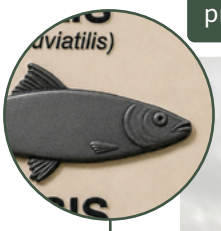
EXAMPLES:

Lake Usma Elkrags path



3D printed with epoxy cover, coloured by hand, amended with fish tactile plate

Fish figures ammended with UV printed tactile fish plate



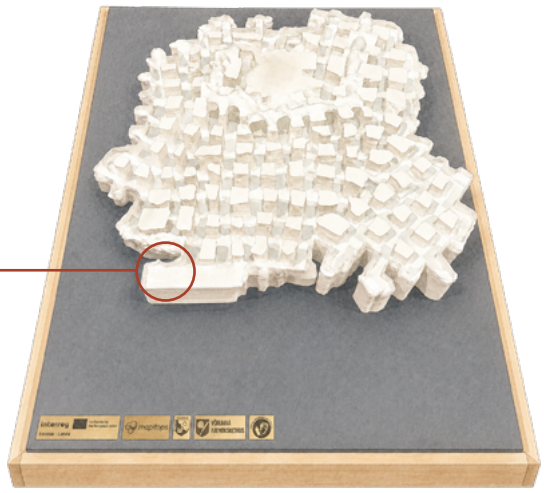


3D PRINTED OBJECTS IN RESIN

EXAMPLES:

Piusa caves

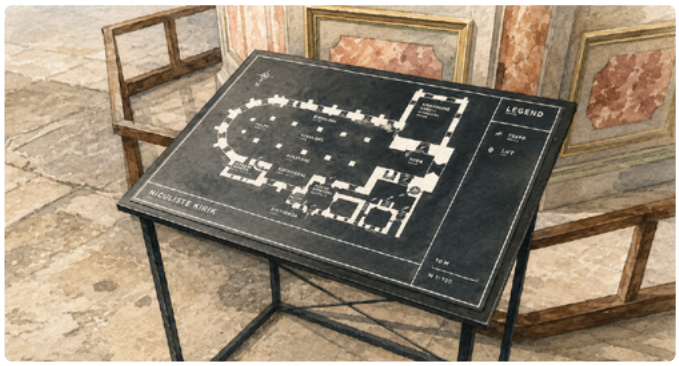
50x50cm, 3D print, coated with a fine layer of sand to create a more authentic tactile experience

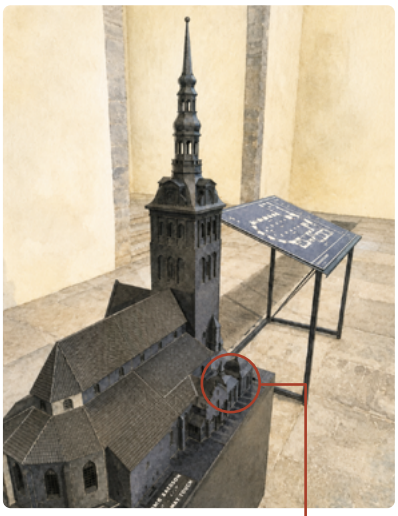




20cm, 3D printed in elastic resin, based on detailed sculpture from silicone, which has been laser scanned and 3D topology corrected before resin printing. After coated with UV print, painted and finished with protective varnish coating.

St. Nicholas church & Museum in Tallinn





3D printed in plastic

USE OF MILLLING TOGETHER WITH OTHER ELEMENTS

EXAMPLES:

Zeltini Former Military Base



Thick aluminium composite as base. Plate surface - 3D milled monolithic plastic material with some of the tactile elements (buildings) attached separately.

Ciecere nature trail in Saldus

Outdoor paintings – 3 mm thick aluminium composite (Dibond or Neobond) as base. Painting plate surface - 3D milled monolithic plastic material, additionally processed and fine-tuned manually by hand with UV printed colours added on top.
Features to take into account - painting's elements printed at several height levels, different textures used to distinguish between the elements, only the most significant elements made tactile to make it more usable and not to confuse the user by mixing up a variety of different small details.
Outdoor paintings accompanied with audio description in plain language.







CONCRETE CAST OBJECTS

EXAMPLES:

Grobiņa centre



Concrete casting of the hillfort and city central area (based on 3D file negative print-out form)

Path along the River Venta in Skrunda



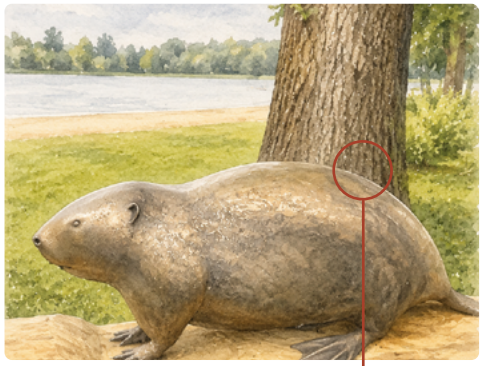
Concrete cast of hillfort and area

METAL FIGURES

EXAMPLES:

Lake Lielezers trail

Original 3D printed beaver figure with thin metal powder cover





Original figure re-made due to shrinkage/ deformation process of the internal base material and covered with stainless steel welded nuts, attaching bronze teeth

COMBINATION OF MATERIALS FOR OBJECTS

EXAMPLES:

Lake Bilska path

Real tree with wooden bird cages and 3D printed bird figures, coloured by hand. Amended with UV printed tactile bird plates and solar panels to provide electricity for sound (bird voices) and light (by pressing the button, the respective cage is lightened up).



Note: solar panels do not get charged when temperature goes under 0^{C} or when there are several cloudy days in a row, which means that buttons might not always be functioning

CAST POLYMER CONCRETE OBJECTS

EXAMPLES:

Gulbene Railway Station



Metal plate base with cast polymer concrete top (based on 3D file negative print-out form)

SOUND PRODUCING OBJECTS

EXAMPLES:

Valga Music School



Sound tube and hand drum, metal



INTERPRETATION SOLUTIONS

Exploring nature, history, culture and other objects or processes through different means to provide equal access for all.

HOW TO INTERPRET NATURE

Nature interpretation is a process in which natural phenomena, environmental importance, and the relationship between humans and nature is being explained in an understandable, interesting, and engaging way. Its purpose is to promote environmental awareness, develop respect for nature, and encourage a responsible attitude toward natural resources.

Nature interpretation includes learning about different elements of nature, like plants, animals, land, soil, and water. It helps people understand how natural processes are interconnected and how human activity affects the environment.
Nature interpretation helps people to understand the environment and its importance better through everyday life. By using varied materials and practical activities, it is possible to create an engaging and educational experience, as well as care for nature conservation for future generations.

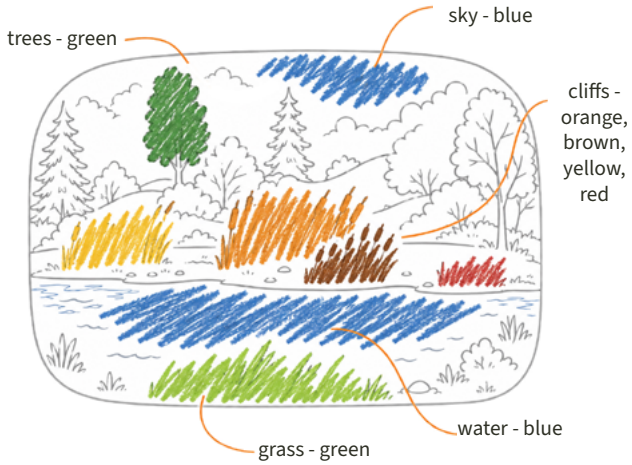
Natural Materials stones, sand, pinecones, leaves, flowers, herbariums, footprint samples, feathers, shells; food samples, branches, moss, clay.





These materials help create a natural atmosphere and allow visitors to directly experience elements from the nature.

Printed and Informational Materials informational boards, maps, brochures, posters, worksheets, illustrations, and photographs.



These materials help provide structured information and assist visitors in exploring natural sites.

Digital Materials

tablets, mobile applications, audio guides, video materials, interactive screens, QR codes etc.

Digital solutions make nature interpretation more modern and accessible to a wider audience.

Creative and Practical Materials

paints, paper, cardboard, glue, ropes, fabrics, recycled materials.

These materials are especially useful for educational activities for children and practical workshops.

The Access Routes project created three senses' kits designed to help explore nature. In 2025, the theme in Latvia was "the edge." Therefore, sensory kits were created to explore riverbanks, lakeshores, and seashores.

Nature exploration kits containing information, tasks, and the materials needed to complete them.

Audio in Latvian and English for each page.





THREE KITS ARE AVAILABLE FOR EXPLORING RIVERBANKS, LAKESHORES, AND SEASHORES.

RIVERBANK



SEASHORE



LAKESHORE





The bags are lightweight and made of durable fabric.
Pages with descriptions and tasks are laminated, interchangeable, and expandable.
Descriptions and tasks are written in simple language.
The bag has pockets containing the materials needed to complete the tasks.

Each bag includes reminders about caring for nature and a small bag for collecting trash.

TOUCH

Branch flexibility.

- See willows branches are flexible and unbreakable.
- Pine branches are relatively stiffer.
- The toy is made of willow and pine branches.
- Tree trunk with a bark pattern that is tactile.









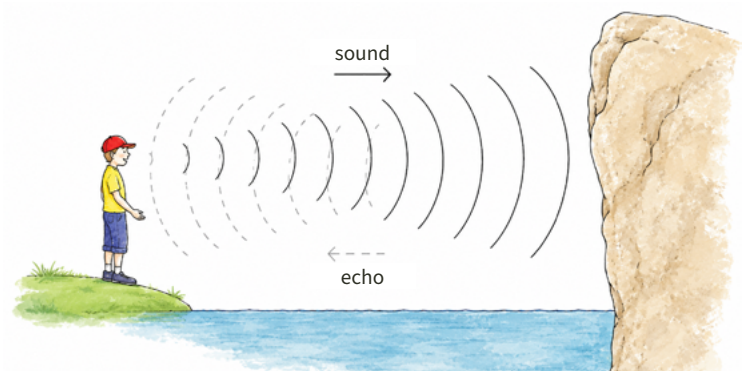
TASTE

Sea water salinity.
Stir the prepared amount of salt into a glass of water to create saltwater just like the sea.





SOUND



MULTISENSORY EXPERIENCE

SEA BREEZE



RIVER SPEED



INTERACTIVE MATERIALS

Games and activities

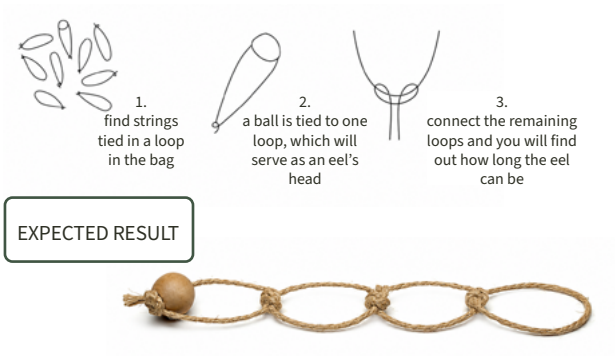
STRING OF LEAVES



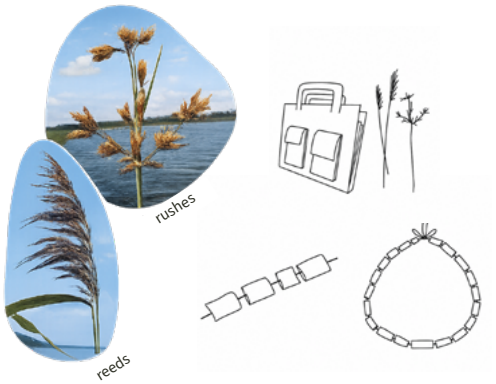
NATURE'S CAKE



LENGTH OF EEL



NECKLACE OR BRACELET MADE OF BULRUSH



NATURAL MATERIALS EMBEDDED IN EPOXY RESIN



IMPRINTS IN SAND AND CLAY

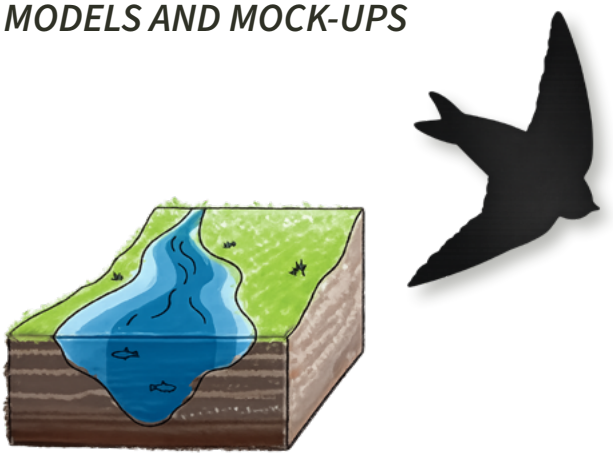


SENSORY ACTIVITIES

(“find it by smell,” “identify it by touch”)



MODELS AND MOCK-UPS

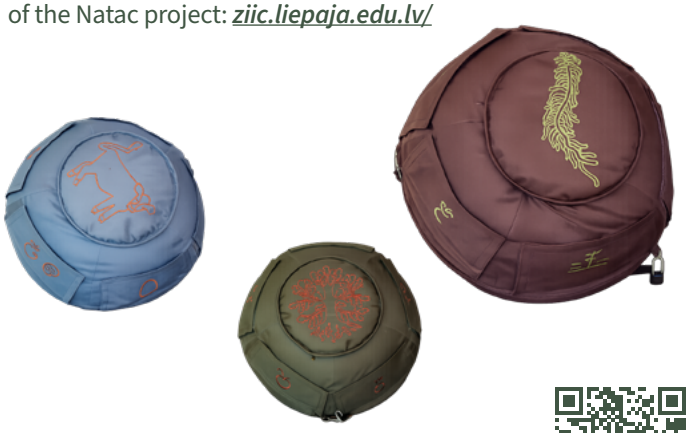


USEFUL INSTRUMENTS AND TOOLS FOR EXPLORING NATURE



An additional good example of nature interpretation tool is available at the Liepāja Nature House in Lake Liepāja Zirgu island and visitors centres of Estonian Environmental Service, with 3 types of the “chests of senses” (one for forest interpretation, one for bog interpretation and one for the interpretation of the coastal ecosystem) produced as part of the Natac project: ***ziic.liepaja.edu.lv/***

Link to a more detailed info on the chests of senses









Video on the chest of senses:
www.youtube.com/watch?v=lRQX7pYdCZg

HOW TO INTERPRET MUSEUM CONTENT

Museum interpretation is a process in which museums communicate with their visitors to make collections and their meanings accessible, engaging, and relevant. It involves translating information about heritage, art, or science into stories and experiences that foster understanding and personal connections. It involves diverse methods, using varied techniques such as audios, guided tours, interactive digital tools, replications, and accessible formats etc.

THE TRAVELLING MUSEUM CHEST

Interpretation solution developed by a team of museum specialists from Kurzeme as part of the Access Routes project aimed to allow every visitor to engage into and get better access to and understanding of the museum content.

It is kind of a miniature museum, where each compartment of the chest contains a specific miniature item to take out and thoroughly explore to help find out what is specific to the region in question and what is presented in the museum in question. It allows you to touch miniature replicas of historical objects, which are often not to be touched due to their historical value. The objects are also accompanied with simple text, tasks, tactile cards and QR codes to provide the opportunity to use different senses (sight, hearing, touch, smell), allowing the traveling museum chest to be freely used and accessible to any museum visitor, including people with visual impairment.





All items inside the chest are tactile to be readable for people with visual impairment and have been structured into two types: similar items that can be used by all museums and unique items specific to a certain museum. Context-specific solutions should be implemented at all times, makind it possible to connect history, nature and specialist knowledge with accessibility and a multisensory experience.

A SMALL WOODEN CHEST WITH SMALL COMPARTMENTS INSIDE

An example with Latvian patterns. Each pattern has a symbolic meaning that is important in Latvian culture. In each compartment, each museum can put in some items specific to the region/museum thematics - ancient coins etc. From time to time, chest contents can change as well. To see the exact item description, visitors are asked to read the additionally inserted leaflet in the instructions.



2D PUZZLE – KURZEME REGION MAP

The Region map has a task to assemble the different pieces of Kurzeme. By correctly assembling all the pieces, you will get the map, which was created around 1696 by Justus Dankert in Amsterdam.



MAGNIFYING GLASS WITH LIGHT



With the help of a magnifying glass, you can see not only various items, but also the assembled puzzle of the Kurzeme map, so that you can better read individual place names from the 17th century.

INSTRUCTION BOOKLET

The booklet contains simple instructions both for museum specialists and the visitors with short descriptions of items inside the chest, tasks and hints to solve them.

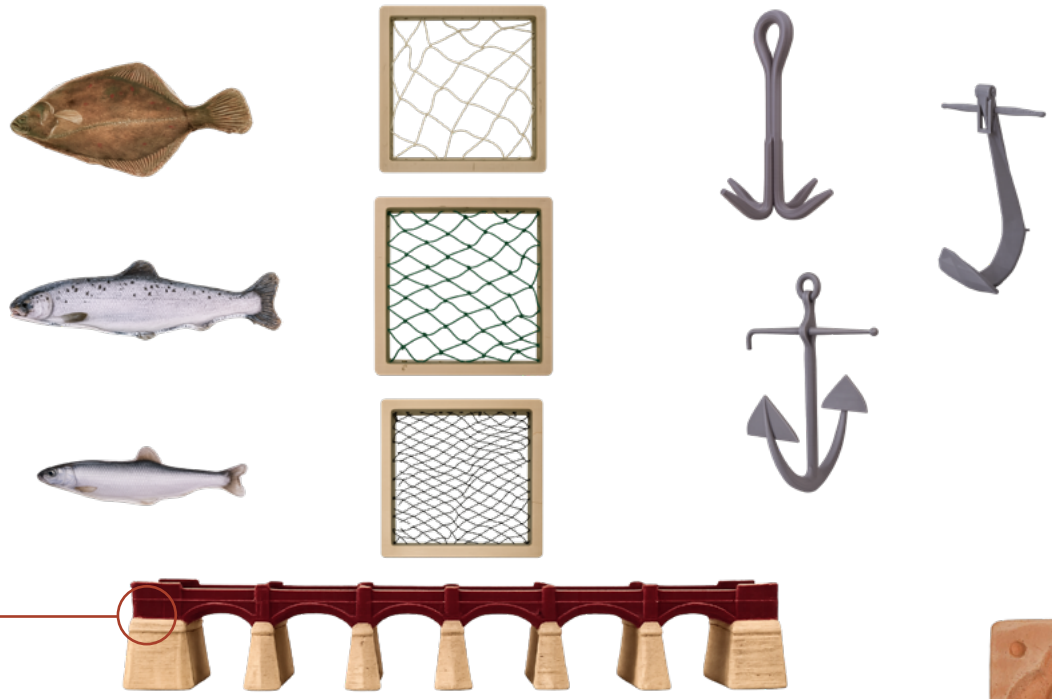
3D PUZZLE

A type of item specific to the region/museum thematics with a task to assemble it and find out what item that is. In Kurzeme, for example, as being a coastal region, there were fish. The task contains a simple visual instruction on how to assemble the puzzle. Audio text recommended as well.



3D OBJECTS

Several types of items specific to the region/museum thematics. Can be 3D printed, made of wood/metal etc. In Kurzeme, being a coastal region, 3 species of most common fish have been made for some of the chests - salmon, Baltic herring, flounder have been made in fabric, as well as several anchor types 3D printed plastic and 3 wooden net types used for fish catching in the past.



3D items allow reproducing huge objects that people with visual impairment can't otherwise touch. For example, in Kurzeme case - the old wooden brick bridge in Kuldīga or a terracotta sculpture replica from Tartu's Gothic-style St. John's Church's building top.

TACTILE CARDS

During the Access Routes project 9 two-sided cards were made, each telling the story of one of the 9 museums, where the Travelling museum chests have been produced. The front side has a large tactile picture - e.g. photo of the museum or of an item specific to the region/museum thematics. The other side contains a short description of the museum or of the front side picture with a QR to find out more information.



Some cards, in addition, have a QR code with a sound animation. Three sound animations were made - the sound of an old town, a small train with a whistle and a swallow song with enchanting visualisation added as a sound interpretation. The idea was to give an example what would the sound look like if it was drawn. This solution attracted people with cognitive impairment.



SCAN AND SEE 3 SOUND ANIMATIONS

Small train with a whistle

Swallow song

Old town

SENSORY PLATES

Latvian cuisine mainly includes fish, rye, potatoes, wheat, barley, cabbage, onions, eggs and pork, milk, cottage cheese, sour cream, cheese and other local agricultural products. An old Latvian dish is boiled peas with fried bacon and onions. Sensory plates allow to see and touch various products used in Latvian cuisine and guess what they are.





SILICON FORMS





Any specific item can come with a silicone mold for making a plaster cast. So that everyone can make their own, e.g. brooch etc. By making a cast, visitors can also learn about the history of the item – when and where it was found, for what purposes it was used, etc.

TRANSPARENT PLASTIC CONTAINERS

Transparent plastic containers consist of different products to smell and guess and use to prepare smth - e.g. tea etc. In Kurzeme case, one container contained unpeeled, dried acorns. The second - the kernels of already peeled acorns, which are the main and only raw material for coffee. And the third - ground acorn coffee, ready for use. Accompanied with a small grinding machine to prepare coffee.





These chests are available at the following museums:

IN KURZEME:
- Durbe Castle
- Kuldīga Museum
- Kandava Museum
- Roja Museum
- Talsi Museum
- Ventspils Open-air Museum

IN ESTONIA:
- Ice Age Centre
- Tartu City Museum
- The Estonian National Museum

HOW TO USE INTERPRETATION AT VISITOR CENTRES

The Piusa Visitor Centre is visited by many student groups who are guided by local tour guides. As part of the Access Routes project, custom-made educational material chests were created both, for the guides' and visitors' use. The chests are made from moisture-resistant plywood.





These chests contain various drawers and a divider panel that allows materials related to local nature to be placed inside. There are jars with different types of sand, various mosses, pine cones, and a model demonstrating frog development from tadpole to frog. It also contains two 3D-printed cave sections and a piece of melted glass sand. It is possible to add different additional items as needed - e.g. tree barks.
Important factor is the context where solutions are created and what sort of problem is being solved to make the experience as inclusive as possible. As new ideas emerge, it is possible to continue improving the educational cases. All exhibits inside the chest can be handled by visitors.

The most important characters in the chest are the pair of great crested newts. Great crested newts are protected in Estonia, and one of their habitats is located in Piusa. The completed newt models were made as realistically as possible, both in size and detail: the female newt is 20 cm long and the male is 19 cm long. The models were created based on photographs, and the process was preceded by extensive preparatory work to define the differences between male and female great crested newts, f.e. their appearance and habitats etc.



SOLUTIONS FOR COGNITIVE AND PSYCHOSOCIAL ACCESSIBILITY

Cognitive and psychosocial accessibility means making the visitor experience easier to understand, easier to follow, less stressful and more predictable. It includes solutions that help people find information, understand where they are, know what to do next, ask for help, and participate in a way that feels safe and respectful. In this sense, these solutions do not only support people with cognitive or psychosocial access needs - they make the environment more welcoming, understandable and usable for everyone.

EASY-TO-READ LANGUAGE

Accessible EU's guide General Approach to Cognitive Accessibility distinguishes between plain language and easy-to-read language: plain language is aimed at a broader audience, while easy-to-read language is intended for people who have difficulties with reading and comprehension. However, it is evident that for example in Estonia easy-to-read is used by migrants, deaf people and everyone else who is looking for a simple and short summary of complex information.

Easy-to-read and plain language should not only explain information, but also help the visitor to act. A visitor should understand where they are, what they can do, what will happen next and where they can get help. Easy-to-read information is always tested with the target group. It is not enough that the author or designer thinks the text is clear, but there is a need to validate comprehensibility.

Easy-to-read language is simple, but not childish. It should respect the visitor as an adult and avoid patronising tone. The aim is to remove barriers, not to reduce the value of the content or the person.

Different organisations offer editing texts and information into easy-to-read and testing with target groups. Around the world, easy-to-read language is often developed by organisations working with people with intellectual disabilities. In Latvia, easy-to-read translation services are offered, for example, by NGO Vieglās valoda aģentūra. In Estonia, easy-to-read translation services are offered, for example, by NGO Vaimupuu.

Cognitive and psychosocial accessibility is created through clarity, consistency, predictability and support.

All of the information provided should also be easy to find, easy to understand and easy to use. Visitors should not have to guess, remember too much or feel afraid of making mistakes. The aim is to create a visitor experience where people can understand, choose, participate, but also rest and ask for help when needed.

SOUND & ACTION INTERPRETATION

Important information, such as safety instructions, route changes or exits, should also be available in visual and tactile formats, not only in the audio guide. This may include signs, marking, printed materials, tactile maps, tactile plans, pictograms or clearly and contrastively marked physical routes.

Sign language interpreters can also interpret music. In this case, interpretation does not only translate lyrics, but can also convey rhythm, tempo, mood, intensity and emotional expression through movement, facial expression and body language. This is also important in operas, ballets, concerts and other sound-based performances, where the meaning is carried not only by words but also by music and atmosphere.

For sound and action interpretation, it is important to:

- explain where the sound comes from
- explain what the visitor can do
- give one action at a time
- use real objects, tactile materials, smells, sounds or movement
- avoid situations where the visitor has to guess the purpose of the activity
- make the beginning and the end of the activity clear
- avoid testing the visitor's knowledge
- create an experience instead of an exam
- make sure there is no fear of giving a "wrong" answer
- allow the visitor to participate at their own pace
- offer the possibility to only observe and not take part
- use calm, respectful and concrete language.

AUDIO GUIDES can support cognitive accessibility when they are clearly connected to the physical route. The same stop number should be used on the sign, map and audio guide. This helps visitors understand that they are in the right place and reduces the need to remember information.

Audio guides can also include audio description for blind and partially sighted visitors. Audio description mediates visual information through words. It helps to create a mental image of a visual object, space, artwork, exhibition item or action etc. In museums, nature trails and visitor centres, audio description can describe static objects, such as photographs, paintings, sculptures, tactile models or museum exhibits. It can also describe dynamic situations, such as movement, changes in the environment, actions, events or demonstrations.

Audio description works best when it is supported by tactile materials, such as models, sculptures, relief plans, 3D maps, tactile drawings or other objects that can be touched. This combination helps visitors connect spoken information with concrete sensory experience (Source: Estonian Blind Union).

NAVIGATION

PICTOGRAMS are simple graphic symbols or pictures that help to navigate and preceive information.
In terms of accessibility, they can be placed on maps, direction signs, entrance doors, toilets etc.



It is recommended to follow the ISO 7001 - an international standard that defines a standardized set of graphical symbols and pictograms for public information.

EXAMPLES:

Navigation examples





Signs with accessibility pictograms,
at Būšnieku lake trail and Saldus Ciecere path

EXAMPLES:

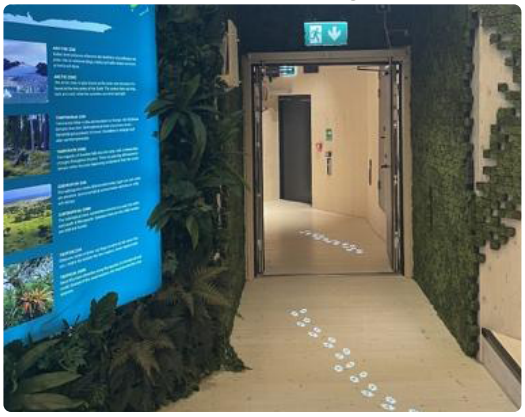
Guiding line for the blind in Jonkoping, Sweden





Lightened up in the dark, incorporated in the city design, replicating the matchbox brim invented in this city

Walking direction marks, Universeum, Gothenburg





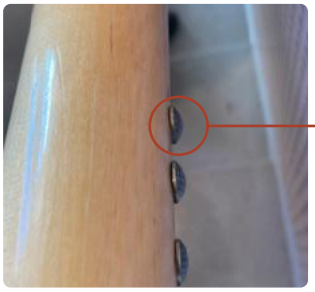
Lightened up row numbers to see in dark



Guiding line for the blind in Rouge, Estonia



Buttons on the side of the stair handle on both ends of the handle to understand the floor to be approaching for the blind visitors



The Manual has been made with the support of the Interreg Estonia-Latvia Programme 2021-2027 under the Project No.EE-LV00043 “Development of Accessible Tourism Routes” (Access Routes).

The aim of the project is the development of touristic routes in Latvia and Estonia accessible to people with disabilities. The project is implemented by the Kurzeme Planning Region in cooperation with the Vidzeme Planning Region, Estonian Chamber of People with Disabilities, Development Centre of Võru County, Tartu County Tourism Foundation – Lõuna-Eesti DMO.

In addition to this Manual, over the 3 years’ project period, Best Practice Guidelines in Tourism and Culture were developed, accessibility inspections for nature trails, cultural heritage and other objects carried out, events promoting accessibility (Access Days, digital marketing and influencer campaigns) in Latvia and Estonia organised, accessible local and cross-border (Estonia – Latvia) routes developed and physical accessibility of objects (5 in Kurzeme, 7 in Vidzeme and 9 in Estonia) improved – by creating innovative tactile and interpretation solutions for people with disabilities. Most of the project results are available on ***www.mapeirons.eu***, together with a large database of accessible sites and routes in Latvia and Estonia.

More about the project: ***www.kurzemesregions.lv/projects/***

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KURZEME PLANNING REGION

VIDZEME CEĻŠ VED AUGŠUP!

VÕRUMAA ARENDUSKESKUS

EESTI PUUETEGA INIMESTE KODA
ESTONIAN CHAMBER OF PEOPLE WITH DISABILITIES

Project partners and NGO Apeirons are fully responsible for the content of the Manual, and under no circumstances can it be considered the official position of the European Union.

2026