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Use of Specialised Wheelchairs in Outdoor Activities



<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



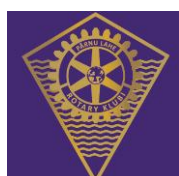
Movement Spontaneous, Latvia



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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CARNIKAVA EXAMPLE

Specific target group: People using wheelchairs, individuals with reduced mobility, disabilities, or mobility difficulties, including seniors and people recovering from injuries.

Non-specific target group (who may adopt the experience): Municipalities or organisations seeking to develop services for people with reduced mobility.

Social expert organisation consulted during the development of the solution: The Association of People with Disabilities and Their Friends “Apeirons”.

Solution implementer: Riga Planning Region.

1. Objective

Within the project “Accessible Hiking Trails”, the Riga Planning Region implemented an accessibility solution along a section of the Baltic Coastal Hiking Trail in Carnikava, Ādaži Municipality, by purchasing two specialised wheelchairs suitable for hiking and outdoor activities: the **Van Raam VeloPlus**, a wheelchair transport bicycle with a front platform ((Figure 1, left; Figure 2), and the **Joëlette Finisher**, an all-terrain wheelchair designed for hiking and sporting activities (Figure 1, right; Figure 3).

2. The solution development process

2.1. Choosing the manager of the equipment



Figure 1. **Van Raam Velo Plus**, a wheelchair transport bicycle with a platform (left), and the **Joëlette Finisher** off-road wheelchair (right).



Figure 2. **Van Raam Velo Plus**, a wheelchair transport bicycle with a platform.

The first thing to consider is deciding who will manage the equipment. In this case, Riga Planning Region made an agreement with the Local History Center of Ādaži municipality which is located closest to the route of the section 25 Vecāķi – Carnikava of the Baltic Coastal Hiking Trail. The Local History Center is part of the municipality's tourism infrastructure, there are three members of staff permanently

working at the center and the center is open to visitors also on weekends.



Figure 3. **Joëlette Finisher all-terrain wheelchair** in the territory of the Carnikava Regional Research Center

2.2. Selection of Equipment

The Association of People with Disabilities and Their Friends “Apeirons” was consulted before choosing the specific models of the wheelchairs. Together with their experts, a site visit was carried out at the location where the wheelchairs were intended to be used. During the site assessment, the road and paths surface conditions along the route and in the nearest surroundings were evaluated, and potential routes in adjacent areas were also reviewed. “Apeirons” suggested choosing two types of the wheelchairs in order to give customers a choice that would best suit their condition and needs. **Van Raam Velo Plus**, the wheelchair transport bicycle, is better suitable for people who can’t be moved from their everyday wheelchair and is better used on even, paved surfaces. The model selected is also equipped with an electric battery to allow the driver use very little effort to pedal the bike as the load of a passenger and a wheelchair on the platform

can be quite heavy. Whereas **Joëlette Finisher** is equipped with a large front wheel, making it suitable for use on uneven terrain, such as forest trails where the surface is often irregular, with roots, bumps or sand.

VAN RAM VELO PLUS BIKE:

- The wheelchair transport bicycle is designed for transporting people while allowing them to remain seated in their own wheelchair.
- Passengers do not need to be transferred from their wheelchair to the bicycle.
- The system enables the passenger to be easily pushed onto the bicycle platform without lifting.
- A drop-down ramp facilitates wheelchair access, after which the wheelchair is securely fastened using a locking mechanism and safety belts.



Figure 4. Van Raam Velo Plus pilot test at Carnikava Promenade (Baltic Coastal Hiking trail, E9).

Key features:

- Stable and comfortable ride
- Accommodates almost any wheelchair
- Effortless boarding
- Comfortable
- Safe
- Good contact with passenger

- Effortless pedalling - electric battery

Specification:

- Weight: 64 kg
- Max. weight of the driver: 110 kg
- Max. weight of the passenger (incl. wheelchair): 140 kg
- Length: 253 cm
- Width: 110 cm

A few cons:

- Quite heavy
- Requires an assistant to drive it
- Does not fold and requires a large storage space
- High price (EUR 11,095)

JOELETTE FINISHER

Key features:

- Suitable also for seniors
- Suitable for different paths and surfaces – good for hiking in forest
- Simple to assemble
- Reduced effort to push it
- Compact for storage
- Lightweight

Specification:

- Passive wheelchair
- Weight: 19 kg
- The Joëlette Finisher can support weights of 100 kilos in seat size 48cm and 80kg in seat size 42cm
- Price EUR 5213.89 (48cm)

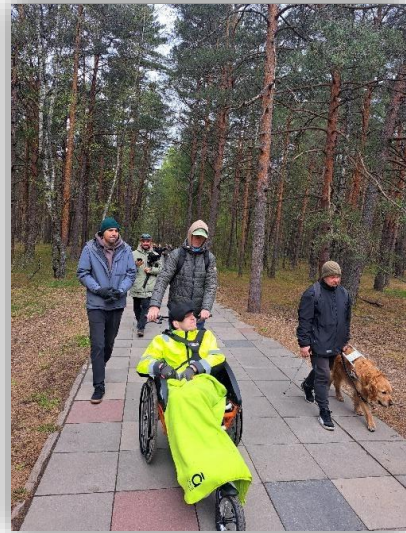


Figure 5. Joëlette Finisher pilot test at Carnikava Promenade (Baltic Coastal Hiking Trail, E9)

2.3. Equipment Storage

It was important to make sure that there are adequate possibilities for safe storage, given the size of the wheelchairs. The Van Raam Velo Plus, the wheelchair transport bicycle, is 253 cm long and 110 cm wide and can't be disassembled for storage. For this reason, a dedicated storage area was established within the Carnikava Local History Centre to accommodate both wheelchairs. The building is equipped with secure locking systems and video surveillance.

2.4. Safety While in Use

In order to eliminate the risks of intentional damage or theft of the equipment it was decided to equip both wheelchairs with GPS trackers. The model used was the NEW TKStar 5000+ (<https://e-dog.lv/jaun%C4%81kais-gps-trekeris-new-tkstar-5000b/>) that can be registered and activated via <https://mytkstar.net/Login.aspx> where one can follow the location and route of the equipment. Full functionality of the GPS devices requires a data-enabled SIM card, as well as a small monthly fee payable to the mobile service provider.

Installation of the GPS trackers also acts as psychological deterrence and deter users from unwanted behavior. Use of GPS tracker also provides the ability to assist, if a user is lost or requires assistance in route as well as assist to track and recover, in the unlikely event if the equipment is stolen. As an additional safeguard, insurance cover was purchased; however, it only covers losses that may occur on-site while the equipment is in storage, not during its use.

2.5. Accessories and Add-ons

Following testing of the wheelchairs with representatives of the target group, a number of additional accessories were identified as necessary:

- **Tyre pump** – recommended for checking tyre pressure prior to each use;
- **Security lock** – to enable users to safely secure the equipment when temporarily unattended, for example when using toilet facilities;
- **High-visibility reflective vests** – both for the driver and passenger.

2.6. Operating Procedures for Users

Since the equipment is managed by a municipality which is a public institution, it was necessary to develop internal rules for the usage of equipment and operating procedures for customers to set the practical order of booking, usage and liability.

The internal rules “Short-term Unpaid Usage Procedure for the Joëlette Finisher Hiking Wheelchair and the Van Raam Velo Plus Wheelchair Transport Bicycle” developed by Ādaži municipality is available [here: https://www.adazunovads.lv/lv/media/47072/download](https://www.adazunovads.lv/lv/media/47072/download). It also contains the document – “Handover and Acceptance Agreement” that users who want to use the wheelchairs need to sign and agree to prior to usage.

3. Recommendations

- Both wheelchairs are of high quality and provide excellent possibilities for people with disabilities to enjoy new experiences;
- All target group members were excited after the test hike and were eager to come again and do more;
- Operating staff must have a thorough understanding of all equipment functions and be able to adjust it to each user’s needs, including head and foot supports, handlebar and grip height, and other settings.
- Route guidance recommendations are required, particularly for non-local users. This may include providing printed maps that take into account trail surface conditions and the capabilities of each type of wheelchair.
- Information is required on how to reach the starting point of the hike by public transport.
- User guidance materials should be developed, including pre-trip instructions such as checking weather conditions, and a recommended checklist of items to bring, for example a water bottle and sun protection such as a hat or sunscreen.
- It is important that accessible toilet facilities are available at the starting point of the hike, and ideally also at other points along potential routes.

4. Adaptation and Dissemination in Future

This solution can be adopted by municipal social services, NGOs, social care institutions such as residential care homes and centres supporting people with mobility impairments or seniors.

5. Project Partners Involved

Riga Planning Region, Kurzeme Planning Region, Pärnu Bay Rotary Club.

6. Training Video

A video was produced during the pilot testing (04:23 min) and is available here:

https://youtu.be/sS7l6av_AGk?si=zAPJpXxYfVfzNlla



7. Useful Sources:

1. <https://www.vanraam.com/en-gb/our-bikes/wheelchair-bikes/veloplus>
2. <https://www.joeletteandco.com/en/project/joelette-finisher-an/>

APŠUCIEMA EXAMPLE

Specific target group: People using wheelchairs; individuals with reduced mobility, disabilities, or mobility difficulties, including seniors and people recovering from injuries.

Non-specific target group (who may adopt the experience): Municipalities or organisations seeking to develop services for people with reduced mobility.

Social expert organisations consulted during the development of the solution: The Association of People with Disabilities and Their Friends “Apeirons”, and the Latvian Paralympic Committee.

Solution implementer: Kurzeme Planning Region.

1. Objective

Environmental accessibility means that everyone, regardless of physical ability, can enjoy being by the sea and taking part in water activities. Beach wheelchairs are a solution that enables people with mobility impairments—many for the first time in their lives—to enter the sea safely and experience swimming.

This section of the guidelines provides practical recommendations on the purchase and use of beach wheelchairs, helping to ensure a safe, comfortable, and inclusive environment for all coastal visitors. With assistance, these wheelchairs can also be used for short walks along the shoreline in areas where the sand is sufficiently firm and not too steep in relation to sea level.

2. The Solution Development Process

2.1. Selection of Equipment

Before selecting specific beach wheelchair models, consultations were held with the Association of People with Disabilities and Their Friends “Apeirons”, as well as representatives of the Latvian Paralympic Committee. The aim of the project was to purchase beach wheelchairs suitable for movement on both sand and in water.

The most appropriate option identified was the floating wheelchair – **WaterWheels** (Figure 6). The same type of floating wheelchair was also purchased by the project’s Estonian partner, the Pärnu Bay Rotary Club.

Following a price survey, one wheelchair was purchased for EUR 1,500.00, plus

EUR 50 for delivery from a company in France.



Figure 6. Floating wheelchairs – WaterWheels

Characteristics of WaterWheels

- In terms of safety, they are among the best on the market.
 - The beach wheelchairs have five buoyant support points – three wheels and two arm supports – which makes them stable even in water.
 - The design has no sharp parts, all edges are rounded. This is important when transferring a person from their standard wheelchair to the beach wheelchair.
 - They have strong, stainless-steel axles and are made of lightweight materials (27 kg).
 - They include safety straps for securing the user.
- Wide tyres make movement on beach sand easier.
- The semi-reclined seating position helps balance the user's weight, making movement on loose sand easier.
- They are easy to fold without any additional tools, which simplifies transport and reduces storage space.
- Dimensions: length 1.52 m, height 1.27 m.

In addition, life jackets were purchased for safety purposes (Figure 7). These can also

be useful if a person feels confident enough to leave the floating wheelchair during swimming and swim independently. Several features were considered when selecting the life jackets to ensure additional safety for people with mobility impairments:

- They include a support collar.
- The jacket is fitted with a whistle, which can be used to attract attention if needed. The cost of such life jackets in Latvia ranges from EUR 30 to EUR 50.
- They have straps that secure the jacket around the body, helping to ensure that the person does not slip out of it.



Figure 7. Life jackets

If a person exits the beach wheelchair in the water, two assistants (Figure 8) are recommended to help them get back into it. One assistant submerges the wheelchair, while the other helps the swimmer return into it. This is because the wheelchair itself is relatively light, but its buoyant components are designed to support a person weighing up to 115 kg above the water. Once the user has got out of the wheelchair, it behaves like a floating object and may drift and move with the waves. A stronger swimmer may manage with one assistant. However, for a person with functional limitations in arm movement, this procedure may be more challenging.



Figure 8. Two assistants with a client in wheelchairs

2.2. Testing with the Target Group

The beach wheelchairs were tested (Figures 9–11) during the opening event of the new facilities in Apšuciems, where “Apeirons” provided participants from the target group. Other visitors to the event also had the opportunity to try the beach wheelchairs. A second round of testing took place on Apšuciems beach, combined with the recording of pilot testing videos. “Apeirons” provided three participants from the target group.

To enable the use of the beach wheelchairs, a wooden deck (Figures 9–10) and a wooden access ramp (Figure 10) were built on Apšuciems beach. The wheelchairs were tested at different water depths (Figure 11). Technical drawings of the deck and ramp are included in the annex at the end of the section (Figures 12–14).



Figure 9. The wooden deck in Apšuciems



Figure 10. Access ramp from the deck in Apšuciems



Figure 11. Testing the swimming wheelchair at different water depths

3. Recommendations

- Seating such as deck chairs or loungers should be installed on the wooden platform. These would be useful not only for people with disabilities but also for companions.

- Ideally, a movable sunshade should also be available on the platform, providing shelter from the sun on hot days.
- On the right-hand side of the access ramp leading to the boardwalk, handrails at different heights should be installed. This would allow a person arriving without an assistant to safely and independently move between the beach and the car park with less effort.
- The changing cabin should have an additional sign indicating that it is a changing facility. At present, an information board about beach safety and a photo of floating wheelchairs has led some visitors to believe it is a wheelchair storage area.
- The toilet facilities need improvement: the access ramp should be levelled and vegetation removed. The platform at the entrance should be widened and additional barriers installed to prevent wheelchair users from rolling backwards. The toilet seat should be replaced, as the current metal seat becomes uncomfortably cold in low temperatures and is not suitable for people who cannot stand. A bench or chair should also be installed inside the toilet to provide a place for users to place their belongings.
- More suitable seating should be installed along the beach. The current benches are uncomfortable and do not have right position backrests, making them unsuitable for people who require back support.

<https://www.youtube.com/watch?v=nDdYOxkF2H4>



4. Project Partners Involved

Riga Planning Region, Kurzeme Planning Region, Pärnu Bay Rotary Club.

5. Training Video

A video was produced during the pilot phase (04:04 min) and is available here:

6. Annex



Figure 12. Access to the sea in Apšuciems, where a wooden boardwalk and beach access ramp were installed in 2025.

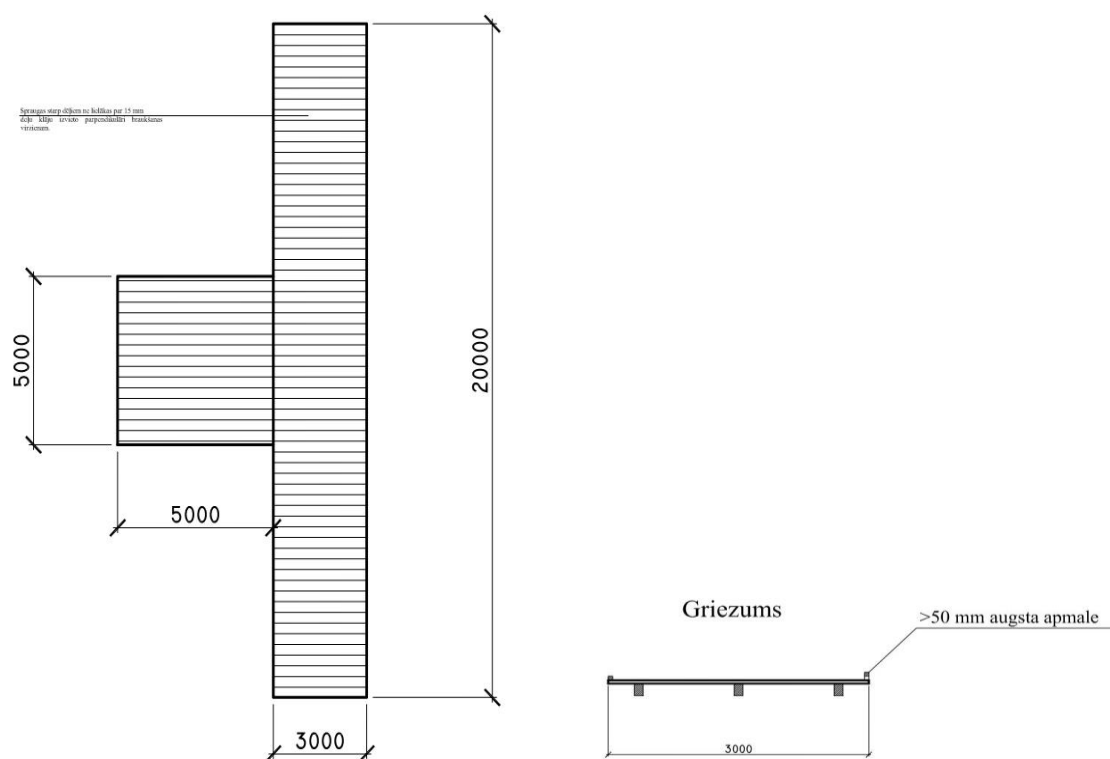


Figure 13. Technical drawing of the wooden deck and access ramp Figure 14. Technical drawing of the access ramp

PÄRNU EXAMPLE

Specific target group: People using wheelchairs; individuals with reduced mobility, disabilities, or mobility difficulties, including seniors and people recovering from injuries.

Non-specific target group (why may adopt the experience): Municipalities and organisations seeking to develop services for people with reduced mobility.

Social expert organisations consulted during the development of the solution: The Pärnu Chamber of Persons with Disabilities and the Haapsalu Rehabilitation Centre, as well as staff from the Invabeach sites in Barcelona, Nice, and Pirita.

Solution implementer: Pärnu Bay Rotary Club.

1. Objective

This solution was implemented to provide an accessible and safe beach and sea experience for people who use wheelchairs. As a result, an inclusive environment was created on Pärnu beach, where everyone can enjoy the beach using specially adapted equipment and services – beach wheelchairs. The experience is described below.

2. The Solution Development Process

2.1. Site Selection and Construction Planning

The selection of the site was carried out in close cooperation with the project team, partner organisations, and the City of Pärnu Municipality to identify the most suitable location for the building (Figure 15) on Pärnu beach. The city administration decided to allocate a plot of land for construction and to establish a terrace with an access ramp across the beach sand (Figure 16).



Figure 15. Building on Pärnu beach



Figure 16. Access ramp

In cooperation with an architectural firm, the external design of the building, the terrace area, and the equipment were agreed, and the search for a suitable detailed spatial plan provider was initiated.

Construction project details were discussed with the municipality and the rescue service, and a free-of-charge land use agreement was signed with the municipality.

It was established that no permit from the Health Protection Authority was required for the implementation of the project. A building permit was then issued. Together with the Pärnu Chamber of Persons with Disabilities and the Haapsalu Rehabilitation Centre, functional solutions for the technical rooms were developed, while the architectural firm prepared final 3D visualisations as well as detailed descriptions and plans.

2.2. Equipment Selection

Together with experts from the Pärnu Chamber of Persons with Disabilities and the Haapsalu Rehabilitation Centre, it was decided what type of beach wheelchairs, transfer mats, and other equipment were required. Requests for quotations were sent to companies in Spain, France, and Estonia. After analysing the received offers together with project partners, a decision was made to purchase wheelchairs, a wooden deck, a beach access ramp leading to the sea, and a lift (Figure 17).

Two types of floating beach wheelchairs were identified as the most suitable: **WaterWheels** and **Tiralo** (Figure 18).



Figure 17. Lift for transferring a user from a wheelchair to a beach wheelchair

2.3. Pilot Testing with the Target Group

The implementation of the project was also supported by the Estonian Wounded Warriors Association “Anname AU” and the “Sinilill” campaign, as well as individual supporters and companies. Before the official opening of the site, a pilot test (Figure 17.,18.) was carried out with the target group and project partners. The pilot test took place on 19.06.2025 from 10:00 to 13:00 and involved 36 participants. Its aim was to:

- test the suitability of the service, including the operation of the accessible bathing area designed for people with mobility impairments (changing facilities, wheelchair lift, beach wheelchair rental, etc.), used together with a personal assistant;
- provide training in the use of the wheelchair lift (assisting a person with a disability to transfer from a wheelchair to a beach wheelchair using the lift).



Figure 18. Pilot testing of the Tiralo beach wheelchair with the target group



During the project, the Pärnu Invarand (Pärnu accessible beach) was created. Service development and improvement are still ongoing. A user guide and other informational

materials (see Annex) have been developed to introduce the service.

In the summer of 2025, Pärnu Invarand became a popular place for people with disabilities to meet, socialise, and use the services provided. The pavilion was open every day from 01.07 to 31.08, between 12:00 and 18:00. In good weather conditions, when the green flag was displayed on the coastal watchtower, visitors were able to use floating wheelchairs, sun loungers, and, if needed, a wheelchair lift free of charge.

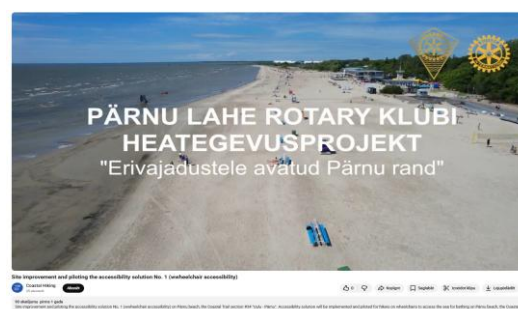
At the end of the summer, the visual identity of the Pärnu Invarand logo was updated to better reflect the architect's concept. In autumn, the City of Pärnu approved the detailed spatial plan for the Pärnu Invarand site, with ownership of the buildings and infrastructure scheduled to be transferred to the city from 2027. The development of the Pärnu Invarand beach service continues, along with cooperation with project partners to identify the best possible solutions for all users.

3. Project Partners Involved

Riga Planning Region, Kurzeme Planning Region, Pärnu Bay Rotary Club.

4. Training Video

A video was produced during the pilot test (04:04 min) and is available here: <https://www.youtube.com/watch?v=K31VV02nLME>



5. Useful Sources

Pärnu invarand,
<https://www.laherotary.com/invarand/>

6. Annex

BEACH WHEELCHAIR ACCESS TO THE SEE

Dear visitor! We invite you to enjoy the sea in the Gulf of Pärnu.

The Pärnu Bay Rotary Club has created an opportunity to access the sea using beach wheelchairs. A spacious changing room with lockable lockers is available, where a specially designed lift assists with transfers into the beach wheelchair. A designated terrace area is provided on the beach, where you can relax in adapted lounge chairs.

Please note:

- Beach wheelchairs, as well as the lockers and terrace, may only be used by persons with mobility impairments together with a personal assistant.
- The service facility is open from 1 July to 31 August, 12:00–18:00.
- Beach wheelchairs may only be used when a green flag is displayed at the lifeguard tower.
- Transfers to and from the beach wheelchair must be assisted by a personal assistant.
- If needed, local volunteers provide guidance on the use of the lift.
- Life jackets provided from the service facility must be worn at all times.
- The service is free of charge.

If several people with mobility impairments wish to use the service, beach wheelchairs may be used for up to one hour, and users are served on a first-come, first-served basis.



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The publication reflects the views of the author. The managing authority of the programme is not liable for how this information may be used.