



TESTING ACTION BROCHURE

a
stream
of
cooperation



Interreg



Danube Transnational Programme

DANOVA

TESTING ACTION BROCHURE

Testing Action Brochure summarizes all solutions tested during the implementation of the Interreg project DANOVA – Innovative Transportation Services for Blind and Partially-Sighted Passengers in Danube Region.

In this brochure, each DANOVA partner representing transport mode (airport, seaport, urban public transport) has performed infrastructure and web page accessibility audit in order to identify measures to be implemented with the aim to make improvements in accessibility for blind and partially sighted passengers, demonstrating generated impacts/benefits on each test site.



DUBROVNIK AIRPORT

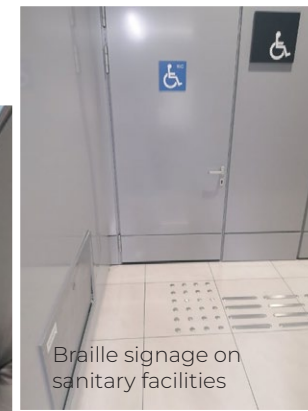
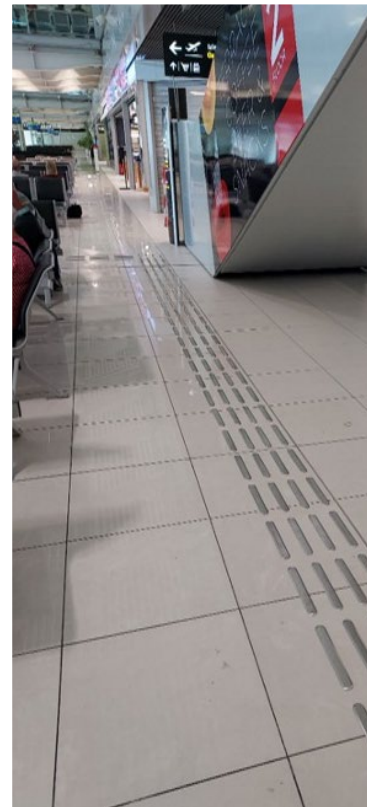
Pilot Action Summary

Dubrovnik Airport (LP-ZLD) has installed a total of 387 outdoor and indoor meters of TWSIs, 55 tactile warning fields, 6 orientation plans and signage in Braille on sanitary facilities. Additionally, LP has performed webpage accessibility audit and consequently introduced recommended improvements in order to be fully accessible for blind and partially sighted passengers.

Total value of pilot action implemented amounts to 47.118,00 EUR, out of which 40.050,00 EUR are ERDF's contribution.

The implementation of TWSIs has significantly improved accessibility for blind and partially sighted passengers at Dubrovnik Airport. This, in combination with training of its employees, has significantly risen the level of service that LP provides to blind and partially sighted passengers.

Indoor TWSIs



Braille signage on sanitary facilities

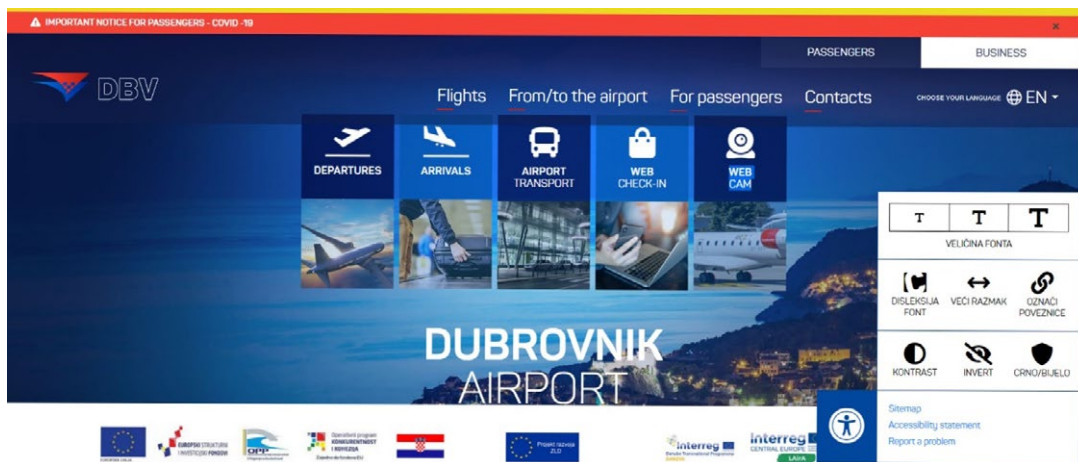


Outdoor TWSIs



Tactile orientation plans
(in front of and inside the terminal)

Webpage



PORT OF KOTOR

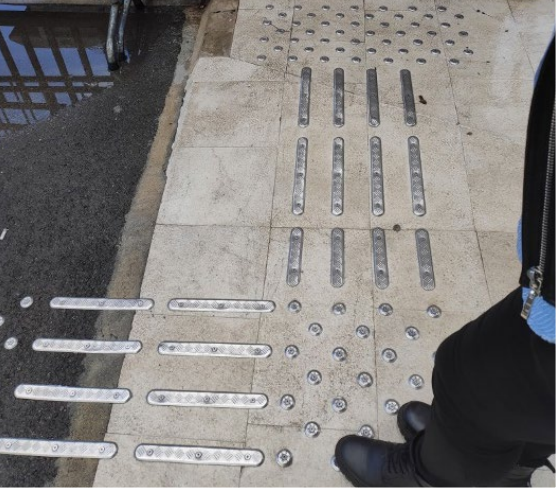
Pilot Action Summary

As the most critical intervention, Port of Kotor (IPA PP2-POK) has installed TWSIs in total length of 410 m (360 m outdoor and 50 m indoor), 70 m of tactile warning fields (40 m outdoor and 30 m indoor) and 2 tactile orientation plans with Braille legend. The pilot action plan also included Braille signage (indoor) on sanitary facilities, the police and customs front desk, the entrance and exit from the terminal building, and for the employees' offices (15 in total). Moreover, PP2-POK has organized local trainings for its staff working with blind and partially sighted passengers, as well as website accessibility audit to make it accessible to partially sighted passengers.

The implementation of TWSIs has substantially improved accessibility of infrastructure and facilities to blind and partially sighted passengers at the Port of Kotor.

Total value of pilot action implemented is 43.640,00 EUR.

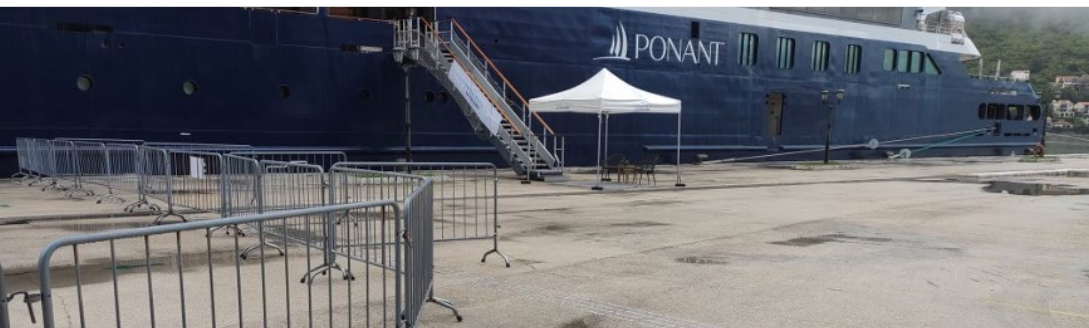




Approach from public bus stop and entrance to site



Entrance to terminal and indoor TWSIs guiding to sanitary facilities



TWSIs in front of the passenger terminal



Indoor tactile orientation plan and Braille signage



BUDAPEST AIRPORT

Pilot Action Summary

Budapest Airport (ERDF PP3-BUD) has implemented the BindiMaps indoor navigation software and mobile application that provides voice and speech-based navigation for blind and partially sighted passengers in the terminal's landside passenger areas. New beacon technology and infrastructure - deployed in terminal landside area - enabled a positioning accuracy of 2-4 cm.

Furthermore, Budapest Airport has conducted web page accessibility audit together with the IT Foundation for the Visually Impaired. According to the audit results, the site fails to meet 21 criteria at level A, and 13 criteria at level AA. Altogether, it constitutes 68 percent of the success criteria.

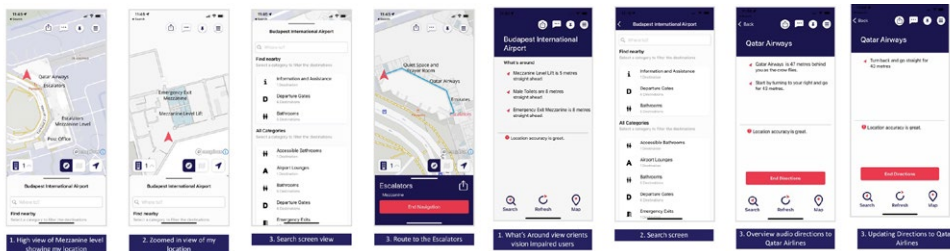
Total value of pilot action implemented amounts to 71.140,00 EUR, out of which 60.469,00 EUR are ERDF's contribution.

The implementation of the BindiMaps indoor navigation software has largely improved accessibility for blind and partially sighted passengers at Budapest Airport. This, in combination with training of its employees, has significantly risen level of service that this project partner provides to blind and partially sighted passengers.

The new website will be operative as of 2023, and the recommendations of the website accessibility audit will be taken into account during its implementation.



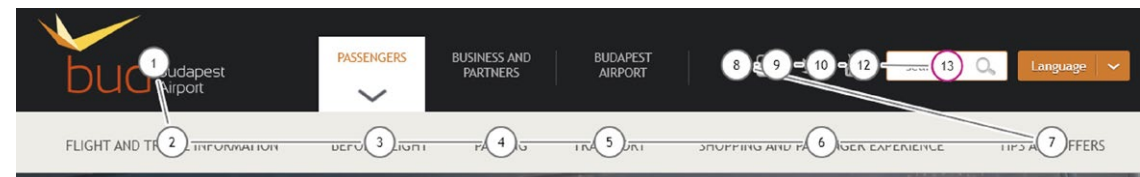
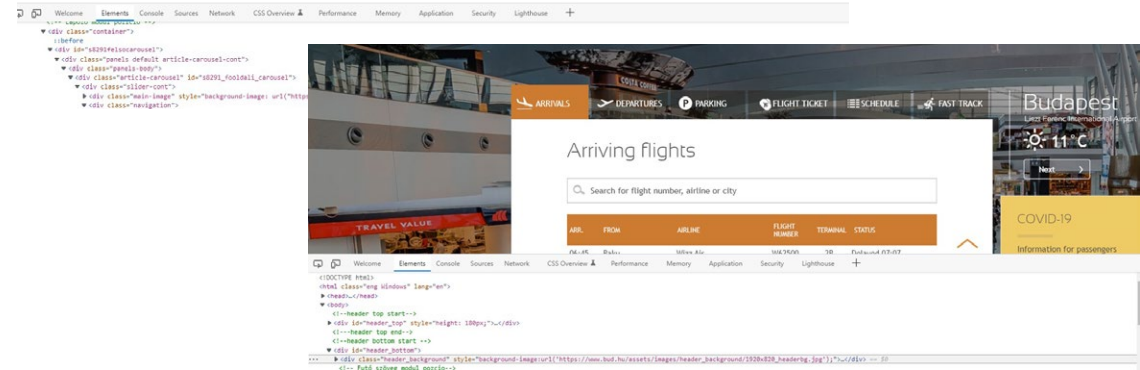
BindiMaps indoor navigation software and mobile application



Webpage accessibility audit



Key information



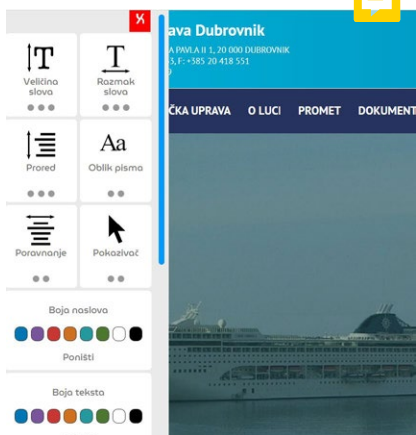
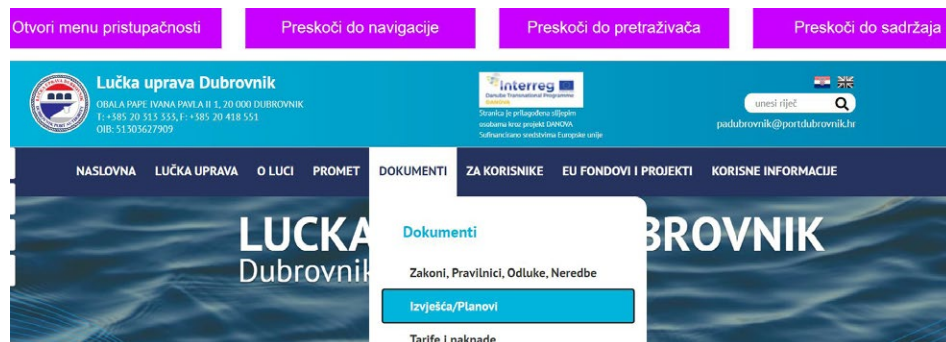
DUBROVNIK PORT AUTHORITY

Pilot Action Summary

Dubrovnik Port Authority (ERDF PP9-LUD) has installed software to improve webpage accessibility for blind and partially sighted persons.

PP9-LUD also installed high contrast labels for partially sighted persons, as well as Braille labels for blind persons. The labels have largely improved accessibility for blind and partially sighted passengers in Dubrovnik Port Authority passenger terminal. This, in combination with training of its employees, has significantly raised the level of service that the project partner provides to blind and partially sighted passengers.

Total value of pilot action implemented amounts to 25.876,97 EUR, out of which 21.955,42 EUR are ERDF's contribution.



AIRPORTS OF MONTENEGRO

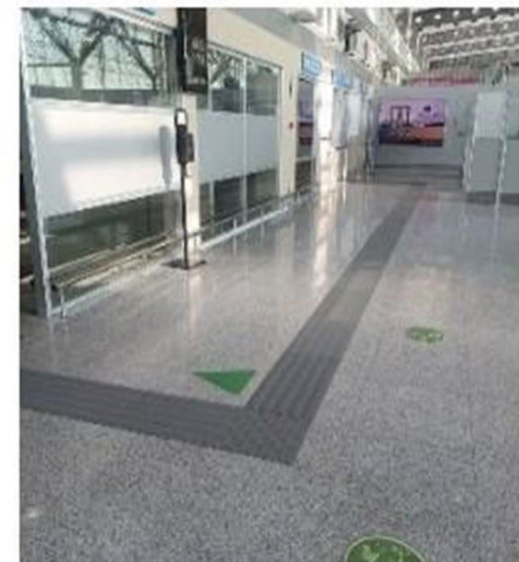
Pilot Action Summary

As the most critical intervention, Airports of Montenegro (IPA PPI-ACG) has installed TWSIs in total length of 213 m (45 m outdoor and 178 m indoor), 57 m of tactile warning fields (23 m outdoor and 34 m indoor) and one tactile orientation plan with Braille legend. The pilot action plan also included marking of accessible toilets and counters with Braille labels, marking toilet walls with contrasting tape, replacement of gate numbers with large size number markers, equipping all counters with local microphones and installation of a video wall at the central hall of the passenger terminal at Podgorica Airport. Moreover, PPI-ACG has made its website accessible to blind and partially sighted passengers.

Total value of pilot action implemented is 50.365,01 EUR.

The implementation of TWSIs has substantially improved accessibility of infrastructure and facilities to blind and partially sighted passengers at Podgorica Airport. These improvements were accompanied with staff training of both Podgorica and Tivat Airport personnel, which altogether resulted in a more accommodating airport environment, as well as enhanced level of service to blind and partially sighted passengers.

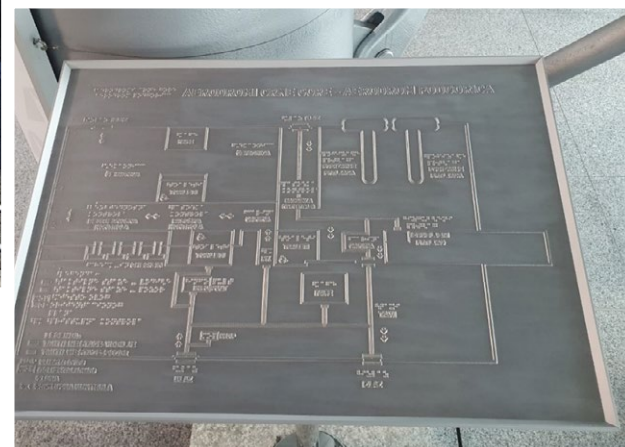
Indoor TWSI's



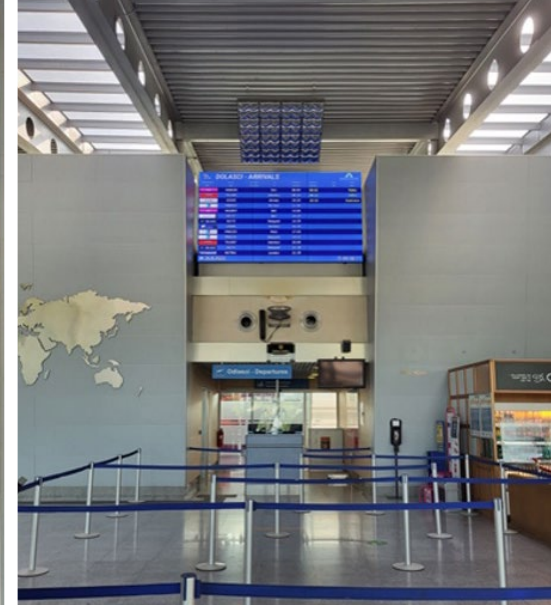


Outdoor TWSIs

Tactile orientation plan with Braille legend



Local microphones



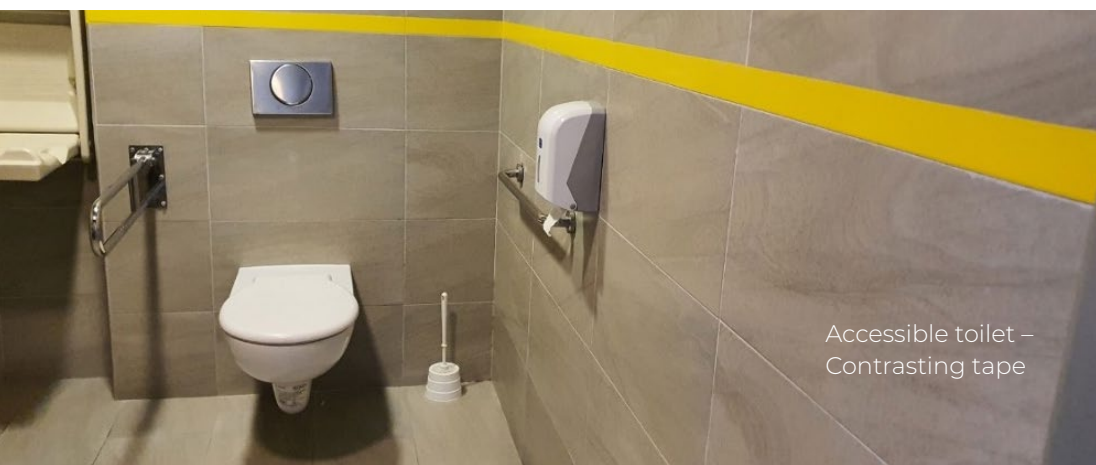
Video wall



Braille labels

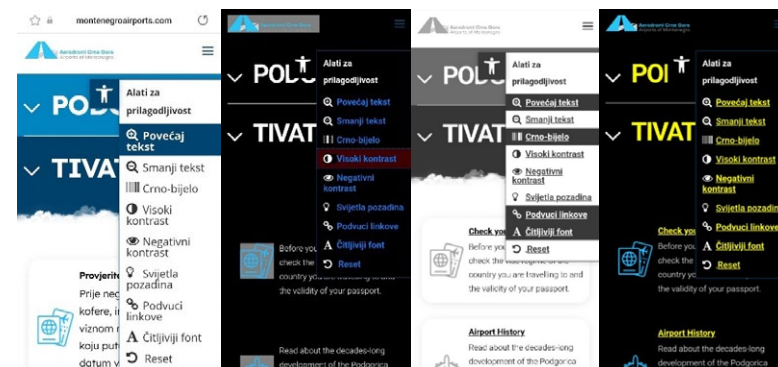


Gate number labels



Accessible toilet – Contrasting tape

Website accessibility



CENTRE FOR BUDAPEST TRANSPORT

Pilot Action Summary

The DANOVA project has given an opportunity to ERDF PP4-BKK, the municipality-owned mobility manager in Budapest, to analyse the BKK services at the corridor between Budapest city centre and Budapest Airport (customer service centres, stops, and digital services such as webpages and apps) and public space in terms of suitability for the blind and partially sighted. BKK involved local stakeholders and blind and visually impaired associations during the pilot preparation and implementation.

PP4-BKK performed an accessibility audit of its www.bkk.hu webpage and consequent accessibility improvement based on audit to reach WCAG 2.0 level. Following the IT intervention, BKK supervised the accessibility audit of BudapestGO journey planner website (go.bkk.hu) and applications (BudapestGO on Android and iOS).

PP3-BUD and PP4-BKK jointly developed a PRM corridor between the Budapest city centre and Budapest Airport, connected through Budapest Airport indoor navigation software via audio-visual elements at the 100E airport shuttle bus and 200E bus services.

PP4-BKK carried out a survey and on its basis developed a database of accessible pedestrian surfaces in the Budapest city centre, including the 100E shuttle bus stops, to provide a route planner for blind and partially sighted users for its integration into BudapestGO.

These interventions, along with stakeholder forums with local partners and accessibility training of BKK employees have helped to raise the public transport service level for blind and partially sighted passengers.



BKK webpages and BudapestGO journey planners and audit reports

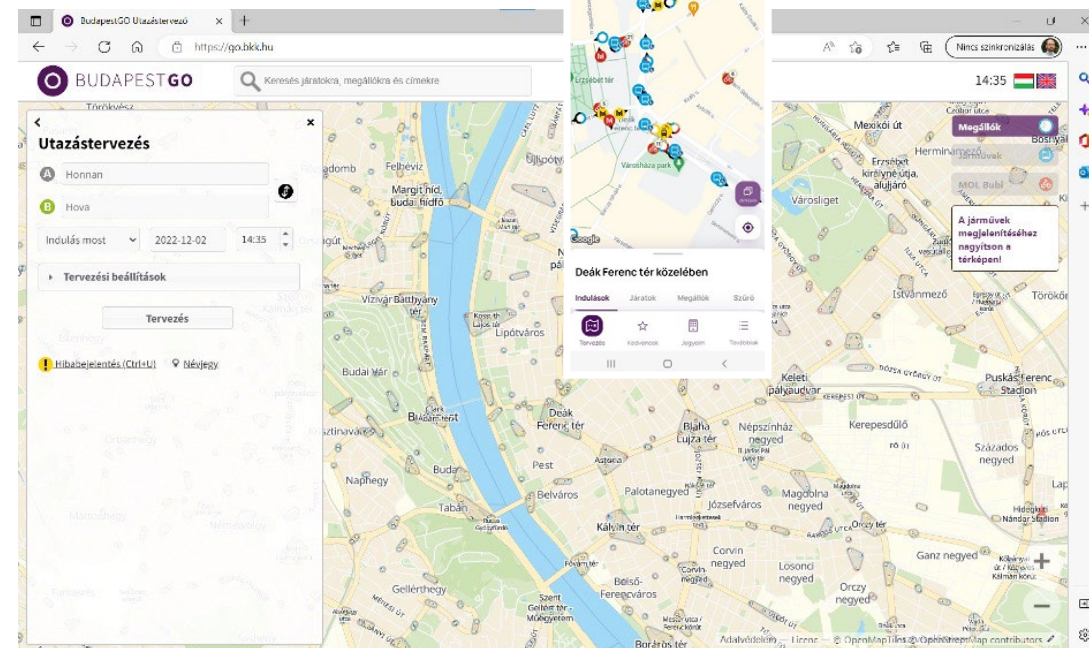
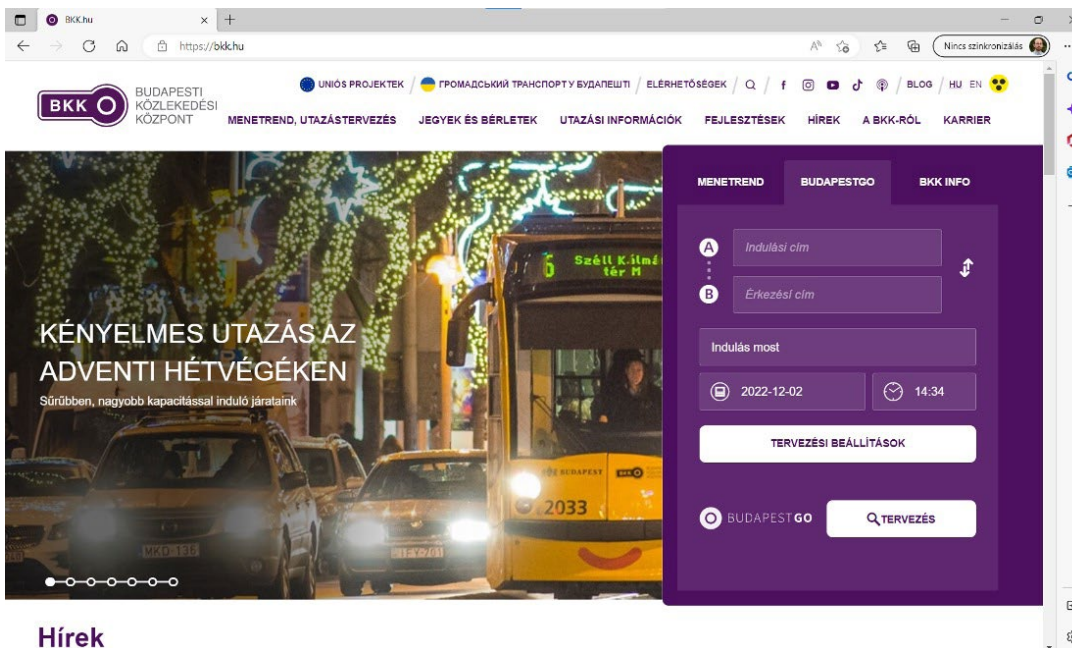




Photo from
100E shuttle bus



ŽILINA AIRPORT

Pilot Action Summary

As the highest priority, Žilina Airport (ERDF PP11-ILZ) has implemented 132,4 m of TWSIs (2,4 m outdoor and 130 m indoor), 1 outdoor tactile warning field, 9 indoor tactile warning fields, 1 tactile relief orientation plan with Braille signage, and 23 doors were marked with Braille signage.

Entrances from landside and from apron are equipped with ZOM03S orientation beacons often used in Czech and Slovak Region, i.e. local Blind and partially sighted people are used to them.

Additionally, PP11-ILZ has performed the website accessibility audit and the recommendations will be implemented very soon.

Total cost of Pilot actions implementation was 38.496,00 EUR.

The above-mentioned pilot actions significantly improved accessibility for blind and partially sighted, making PP11-ILZ one of the most accessible transportation facilities in Žilina Region.

Outdoor TWSIs





Doors with Braille signage

ZOM03S orientation beacon



Website accessibility audit

Letisko Žilina - Základný audit prístupnosti webového sídla pre ľudí so zdravotným postihnutím

URL: <http://www.airport.sk/>
 Vypracoval: Peter Tanský, UNIS
 Dátum: 23.10.2022

Zhrnutie
 Na webovom sídle Letiska Žilina bolo zistených viacero porušení pravidiel prístupnosti pre ľudí so zdravotným postihnutím. V záhlaví sa nachádzajú problémy so štruktúrou zoznamu odkazov, ktoré nie sú správne označené. Neuspokojivé je aj nastavenie kontrastu farieb. Na webovom sídle Letiska Žilina bolo zistených viacero porušení pravidiel prístupnosti pre ľudí so zdravotným postihnutím. V záhlaví sa nachádzajú problémy so štruktúrou zoznamu odkazov, ktoré nie sú správne označené. Neuspokojivé je aj nastavenie kontrastu farieb. Na webovom sídle Letiska Žilina bolo zistených viacero porušení pravidiel prístupnosti pre ľudí so zdravotným postihnutím. V záhlaví sa nachádzajú problémy so štruktúrou zoznamu odkazov, ktoré nie sú správne označené. Neuspokojivé je aj nastavenie kontrastu farieb.

Technická špecifikácia: Windows 11 Pro, Google Chrome: 106.0.5249.119, Mozilla Firefox: 105.0.8, NVDA: 2022.2

Neodstatčný kontrast (2.4.3 Kontrast (minimálny))
 URL: <http://www.airport.sk/>

Neje obklopený kontrast farieb kontrastného písmo a jeho pozadia.
 URL: <http://www.airport.sk/>

Všetky tituly na obrázkoch majú problém s nedostatočným kontrastom textu voči pozadiu.
 Problémové detaily sú opísané.
 URL: <http://www.airport.sk/informacie/>

Neje obklopený kontrast farieb kontrastného písmo a jeho pozadia.
 URL: <http://www.airport.sk/>

Na webovom sídle Letiska Žilina bolo zistených viacero porušení pravidiel prístupnosti pre ľudí so zdravotným postihnutím. V záhlaví sa nachádzajú problémy so štruktúrou zoznamu odkazov, ktoré nie sú správne označené. Neuspokojivé je aj nastavenie kontrastu farieb. Na webovom sídle Letiska Žilina bolo zistených viacero porušení pravidiel prístupnosti pre ľudí so zdravotným postihnutím. V záhlaví sa nachádzajú problémy so štruktúrou zoznamu odkazov, ktoré nie sú správne označené. Neuspokojivé je aj nastavenie kontrastu farieb.

MUNICIPALITY OF MARIBOR

Pilot Action Summary

Municipality of Maribor (ERDF PPI0-MOM) cooperated with the University of Maribor (ERDF PP5-UM) and many other stakeholders such as the Association of Disabled Students of Slovenia, the Municipal council for people with disabilities and Marprom, the public transport operator, to improve the Maribor bus station for visually impaired passengers. Pilot consisted of the following critical interventions: two freestanding 55-inch monitors were installed to display the departure times of urban, suburban and international buses; a stylized map of the bus station was also created to help all passengers find their way around the station. In addition, existing timetables at the bus station were replaced with timetables printed in a larger format (A3). The online timetables for urban transport were converted into readable pdf formats so that they can be read by apps for smartphones used by blind people. The stairs at the station's main entrance were marked with high-contrast markings and audible traffic lights signals were installed at the surrounding intersections. Trainings were also provided to Marprom staff and employees on how to deal with visually impaired and blind passengers.

Total value of pilot action implemented amounts to 34.060 EUR, out of which 28.951 EUR ERDF's contribution.

The implementation of all measures at the bus station has significantly improved accessibility of the infrastructure and facilities, in particular for blind and partially sighted passengers, but in a long term, also for all other passengers. The measures implemented together with the trainings of personnel resulted in friendlier and more accommodating environment at the main bus station and an improved level of service for the blind and partially sighted passengers.

A map with important information on exits, platforms, information and sanitary facilities placed in main station and on the website



Two large freestanding indoor bus timetable displays



MARPROM
MARIBORSKI POTNIŠKI PROMET

MLINSKA ULICA 1
2000 Maribor

+386 (0)59 180 482
info@marprom.si

6.00–22.00 (pon.–p)
8.00–20.00 (sob.–n)

DOMOV VOZNI REDI CENIKI IN VOZOVNICE NAKUP VOZOVNIC JAVNA PARKIRIŠČA RAZPISI IN OBJAVE KONTAKT O PODJETJU

AVTOBUSNA POSTAJA MARIBOR

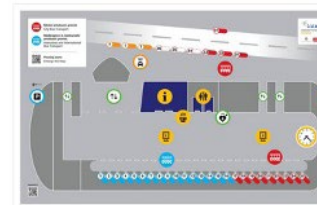
Domov / O podjetju / Avtobusna postaja Ma

Sedanji objekt mariborske glavne avtobusne postaje je doživel uradno otvoritev 24. novembra 1989, tako da bo v letu 2019 dopolnil 30 let. Ob izgradnji je Avtobusna postaja (AP) Maribor predstavljala arhitekturni presežek ne samo v našem mestu, temveč je bila opredeljena kot ena od najlepših in najsodobnejših avtobusnih postaj v Evropi.

Marprom je v letu 2013 prevzel upravljanje s prometnim delom AP Maribor in si takrat za cilj zadal revitalizacijo objekta ter povrnitev njegovega nekdanjega slovesa. Tako so bila minula leta že opravljena različna obnovitvena dela, kot so pleskanje, obnova sanitarij, namestitve elektronskih prikazovalnikov vozni redov, sanacija strehe in ureditev povezave z železniško postajo.

Poleg mestnega potniškega prometa in medkrajevnega prometa ima na AP Maribor pomemben delež tudi mednarodni linijski promet. Sedaj namreč skorajda ni več države v Evropi, kamor ni mogoče potovati z avtobusom iz Maribora; zato lahko mariborsko glavno avtobusno postajo imenujemo tudi »kno v Evropo«.

Ob skupno 25 pokritih peronih za avtobuse in 16 odstavnih peronih AP Maribor razpolaga še s štirimi postajališči za avtodome. Ob tem so bile v preteklosti na njej nameščene tri polnitve postaje za električne avtomobile, ki so del projekta Car sharing. Ta obiskovalcem omogoča najem avtomobila na električni pogon.



- Karta Avtobusne postaje Maribor
- Cenik postajnih storitev Avtobusne postaje Maribor
- Splošni pogoji poslovanja Avtobusne postaje Maribor



Contrasting markings
– main entrance stairs



Bus lines and timetables on
East and on West platforms -
enlarging the size of letters for
bus timetables



Acoustic signals for traffic lights
at two pedestrian crossings at
the northern intersection of the
main bus station

SARAJEVO INTERNATIONAL AIRPORT

Pilot Action Summary

Sarajevo International Airport (IPA PP3-MAS) undertook a number of significant activities in an effort to support and facilitate the safe and independent mobility of blind and partially sighted passengers.

The scope of activities encompassed both tactile and visual information advancements, as follows: a total of 136 meters of indoor and outdoor TWSIs were installed, 500 meters of contrasting guiding lines, 75 tactile warning fields, 30 meters of contrasting warning bands on glass doors and contrasting pictograms with signage in Braille on all sanitary facilities.

Additionally, PP3-MAS has enhanced its official website by providing sufficient colour contrast, flexible font size adjustment and introducing a built-in screen reader for the blind and partially sighted users.

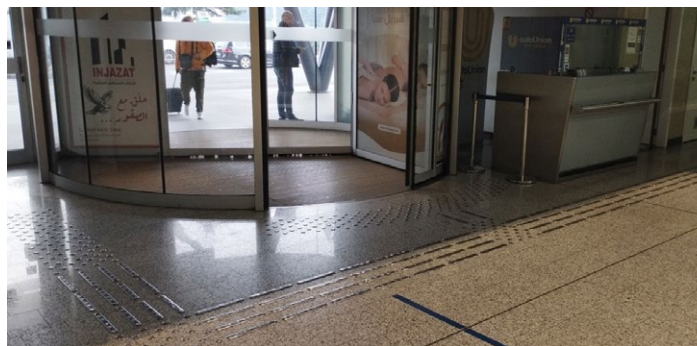
Total value of pilot action implemented amounts to 66.018,58 EUR.

The installation of TWSIs, implementation of contrasting guiding lines and bands, use of Braille signage, along with the update of the website have ensured that the blind and partially sighted passengers can obtain to maximum effect wayfinding information, allowing them to navigate safely and effectively through Sarajevo International Airport.

Outdoor TWSIs



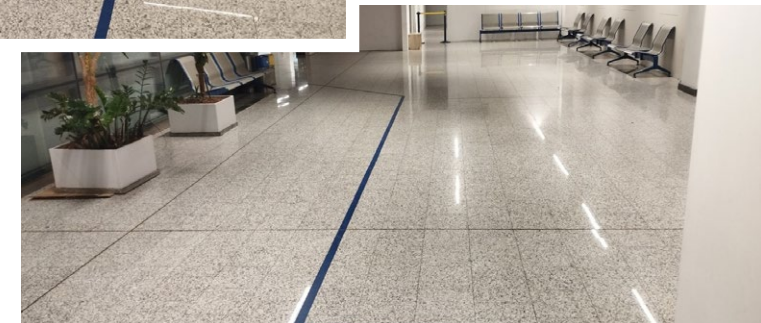
Warning TWSIs



Indoor TWSIs



Contrasting
guiding lines / paths

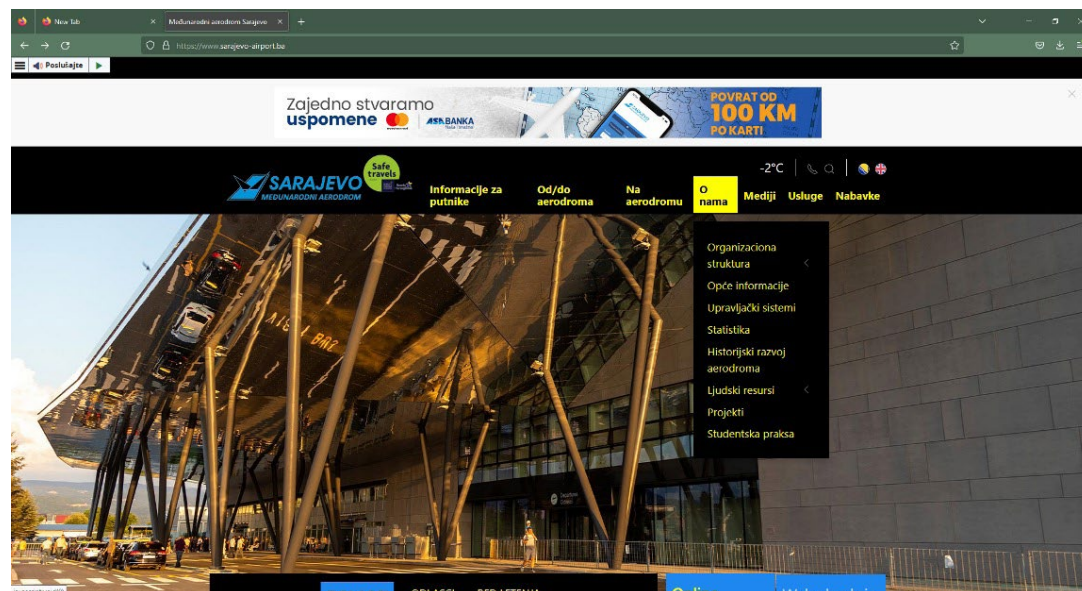




Contrasting bands on glass doors

Contrasting pictograms and Braille signage on sanitary facilities

Webpage





Danube Transnational Programme

Hrvoje Spremić
hrvoje.spremic@airport-dubrovnik.hr

Dubrovnik Airport Ltd
Dobrota 24, 20213 Čilipi, Croatia
tel.+385 20773222

www.airport-dubrovnik.hr

 <http://www.interreg-danube.eu/approved-projects/danova>

 www.facebook.com/Interreg-DANOVA-100215245178279/

 <https://www.instagram.com/interregdanova/>