



# UNIACCESS

## Design of Universal Accessibility Systems for Public Transport

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SIXTH FRAMEWORK PROGRAMME  
PRIORITY 6.2: Sustainable Surface Transport  
FP6-2003-Transport-3



# What is UNIACCESS?



- 2-year **Coordinated Action** to define concepts for universal accessibility in public transport, 6FP
- **Goal:** promote and support the networking coordination of research and innovation activities in the field of universal design of accessibility systems for public transport.
- **Partners: multi-sectoral** (GIAT, ENIL, AGE, SINTEF, CRF, COCEMFE, STS, POLIS, RATP)
- Group of **experts** (professionals & academics)



# Why Uniaccess?

## Society's commitment to equality of opportunity

*Yet, Public transport far from being accessible due to:*

- No accessibility provisions
- Discontinuity in accessibility provisions
- Accessible devices out of order
- Public and staff attitudes
- Lack of universal design principles adopted in transport sector in contrast to building sector



*Wheelchair user boarding a bus*

## *However*

- All passengers benefit
- Commercial issue: hidden group of potential public transport users
- Financial issue: reduced need for specialised transport



*Accessible bus, Norway*



*Accessible metro, Copenhagen*

# Main activities of Uniaccess

- To gather **state-of-the-art knowledge** on accessible systems for public transport.
- To produce a **roadmap of future R&D**
- To come up with **new R&D project proposals** → allows us to bridge the technology gaps.
- To define an improved **collaborative innovation process**
- To **raise awareness** of universal design

## State of the art – Infrastructure

- High cost of retrofitting older stops/stations
- Furniture installed by service providers is a major obstacle
- Verbal announcements are difficult to deliver
- Wide control gates encourage fraud.
- Illegal parking at bus stops



*Adjusting old building, Zagreb*



*Bus stop in Malmö*

## State of the art – vehicles

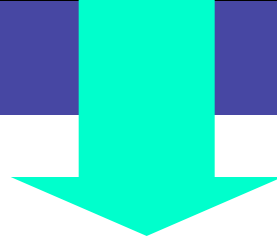
- Costly retrofitting of vehicles
- Life of certain vehicles very long
- Boarding/alighting is still a challenge
- Time lost due to opening/closing ramps
- ‘Irresponsible’ driving
- Wheelchair users take more place in vehicles than other users and their evacuation can take longer.



*Manual ramp, Norway*



*Manual ramp, Metro Paris*



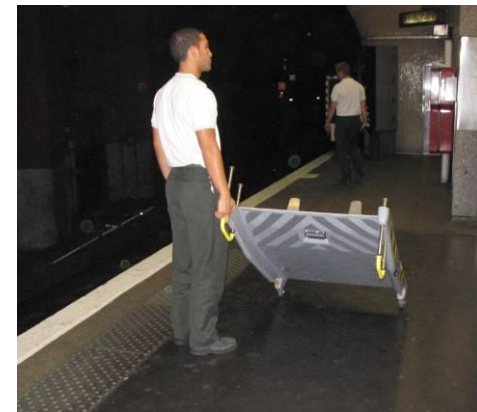
## State of the art – legislation & standards

- Legislation on public transport accessibility in Europe varies widely in scope and structure.
- Where legislation exists, it is not always adequately implemented due to lack of guidance, funding and enforcement.
- Absence of public transport accessibility standards – industry is asking for standards.
- Legislation & standards alone will not deliver full accessibility. Policy and societal actions have a role to play.

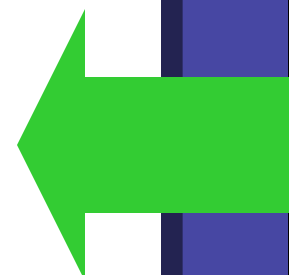
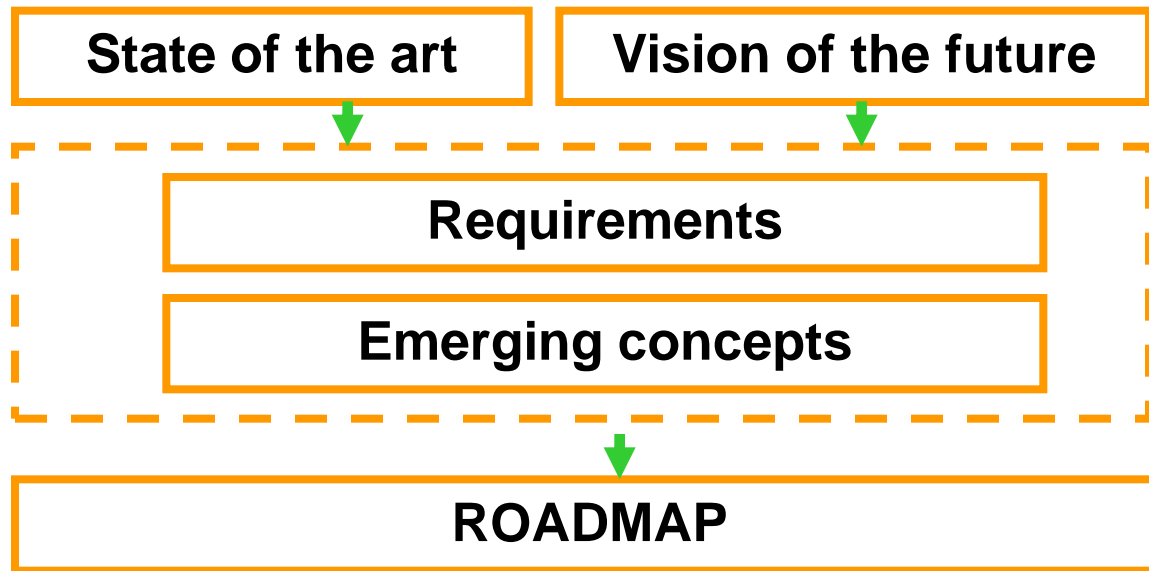


# State of the art – society

- Lack of societal awareness about human diversity.
- Staff attitudes towards people with reduced mobility
- Private cars and specialised transport (taxis, community buses, etc) constitute a significant cost (environmental & financial) for society



# Methodology for preparing the roadmap for future R&D



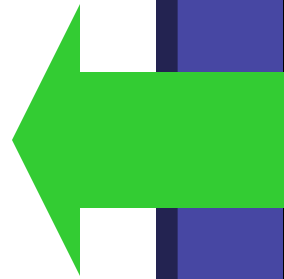
# Preparing the roadmap for future R&D

## Step 1. State of the art

- An overview of the current public transport system, from the point of view of different stakeholders

## Step 2. Vision of the future

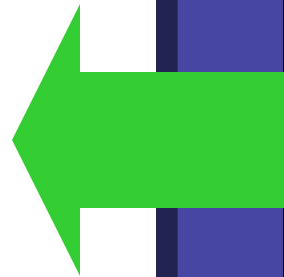
- Set of scenarios involving travelers with different needs undertaking an intermodal journey from door to door (full journey chain)



# Preparing the roadmap for future R&D

## Step 3. Requirements

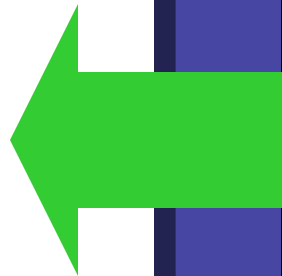
- Analysis of scenarios to identify requirements (technological, political, societal, etc) needed to make scenarios a reality.
- 59 requirements were identified for all steps of the journey:
  - To the terminal/bus stop: 9 requirements
  - At the terminal/platform/bus stop: 15 requirements
  - Boarding & alighting: 3 requirements
  - During the journey: 15 requirements
  - Information (horizontal): 15 requirements
  - Booking & paying at home: 2 requirements
- Simple, straightforward requirements, eg
  1. Ticket machine area should be accessible to all
  2. Autonomous trip planning



# Preparing the roadmap for future R&D

## Step 4. Emerging concepts

- Analysis of requirements led to definition of specific solutions (emerging concepts) needed to fulfill requirement.
- Solution assessed as to whether it is 'universal', ie, meets needs of all passengers – 9 categories identified covering physical, sensorial & cognitive impairments.
- **Example 1: ticket machine area should be accessible to all – 3 solutions**
  - No steps around ticket area
  - Ticket area is obstacle free
  - Height of device should be adjustable

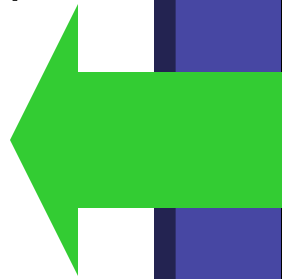


# Preparing the roadmap for future R&D

## Step 4. Emerging concepts

### ■ Example 2: Autonomous trip planning – 6 solutions

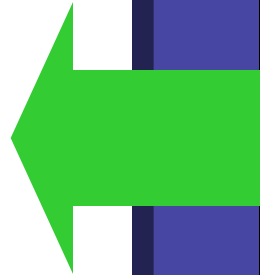
- EU standards on design of public transport information services
- Fully integrated, **real-time**, multi-modal information systems
- Textual & spoken information available on different media (website, PDA, mobile)
- Speech recognition devices
- Option of phone or web-cam communication with call-centre operator
- Choice of font characteristics of travel information



# Roadmap for future R&D - Mapping the challenges

## Step 5: Roadmap

- Takes forward those solutions deemed to have universal or broad application
- R&D challenges required to achieve a solution were identified – essentially output specifications
- Defines level of priority (Very important, important, less important, undefined)
- Planning horizon (short term 0-5 years, medium term 5-10 years, long term 10< years)
- Broken down by journey step: Before the journey, to the terminal, at the terminal/platform/stop, ticketing, boarding/alighting, during the journey, information



# Collaborative processes

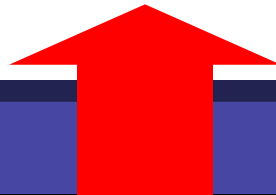
## *Goal:*

To establish a closer link between stakeholders and define a new improved collaborative innovation process.



## *How?*

- Examine current practice (how do designers, manufacturers, operators, authorities and end users currently interact).
- Identify good practice
- Prepare guidance for an enhanced 'collaboration'

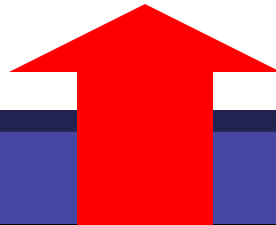




# R&D project proposals

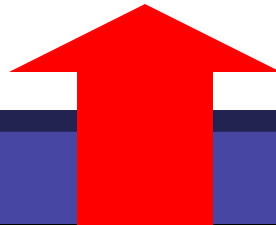
## *Goal:*

To define new project proposals based on the R&D challenges identified in the roadmap



# Dissemination

- **Uniaccess Multistakeholder workshop** *'from accessibility to universal design'*, 8 November 2006, Brussels
- **UNIACCESS Conference:** *"Towards universal accessibility in public transport"* 9 November 2006, Brussels
- **Reference manual** 'Universal design in public transport'





## For more information

- Visit our Website

<http://www.uniaccessproject.org>

- Contact project coordinator:

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