



**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**



**UNIACCESS**

# What is UNIACCESS?



- 2-year **Coordinated Action** to define concepts for universal accessibility in public transport, 6FP
- **Universal access:** provides access for all (with some exceptions) in an autonomous & dignified manner
- **Goal:** promote and support the networking & coordination of research and innovation activities in the field of universal design of accessibility systems for public transport.
- **Multisectoral partnership:**
  - Design/manufacturing: GIAT, Siemens, CRF, Sintef
  - End users: ENIL, AGE, COCEMFE
  - Transport authorities: RATP & Polis



# Why Uniaccess?

- General approach to making PT system accessible is piecemeal and often focused on one type of disabled user

## *Other observations*

- No accessibility provisions (*eg, Oslo airport shuttle*)
- Discontinuity in accessibility provisions (*esp. intermodal journeys, eg, Vienna*)
- Accessible devices poorly designed or frequently out of order (*eg. ramps*)
- Attitudes of general public and public transport staff
- Lack of universal design principles adopted in transport sector in contrast to building sector



*Norwegian example*

# Why Uniaccess?

## *However, accessible public transport*

- Benefits all passengers, eg, *Strasbourg tramway*
- Offers commercial prospects: hidden group of potential public transport users (*ageing population*)
- Offers financial advantages: reduced need for specialised transport, eg, *Noord Brabant province*



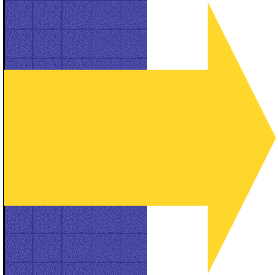
*Accessible bus, Norway*



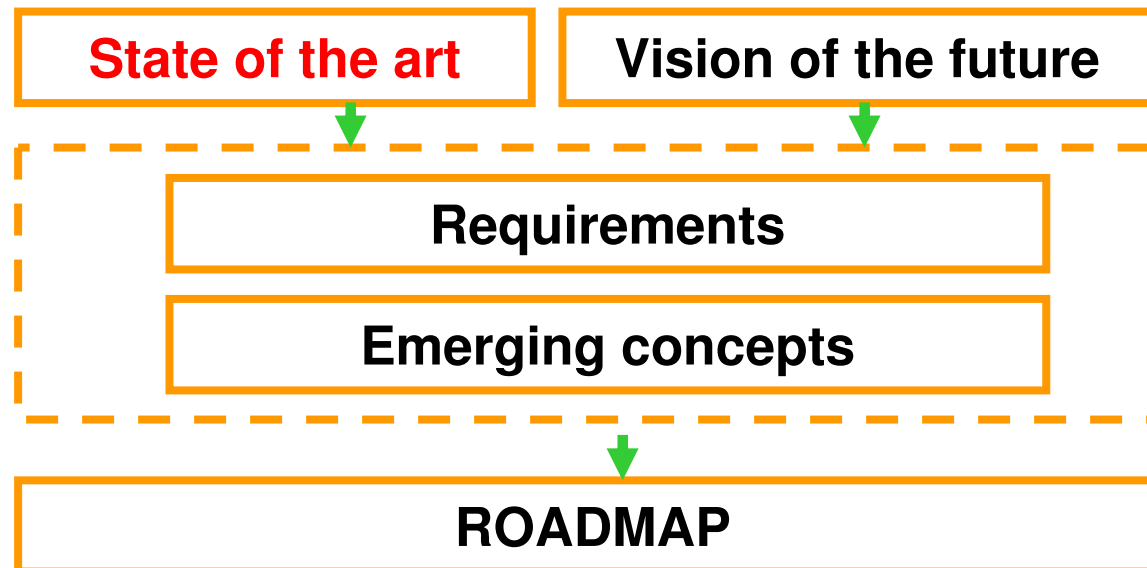
*Level access metro, Copenhagen*

# 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**
- To **raise awareness** of universal design



# Methodology for preparing the roadmap for future R&D





## 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

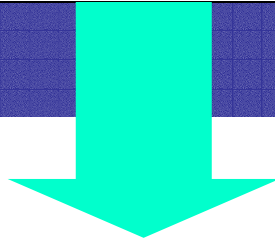
- Costly retrofitting of vehicles
- Life of certain vehicles very long
- Boarding/alighting is still a challenge
- Time lost due to opening/closing ramps
- ‘Irresponsible’ driving
- Wheelchair users take more place in vehicles than other users and their evacuation can take longer.



*Manual ramp, Norway*



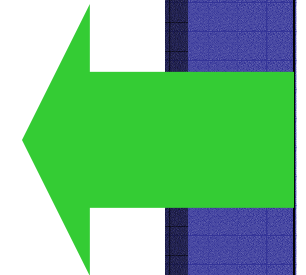
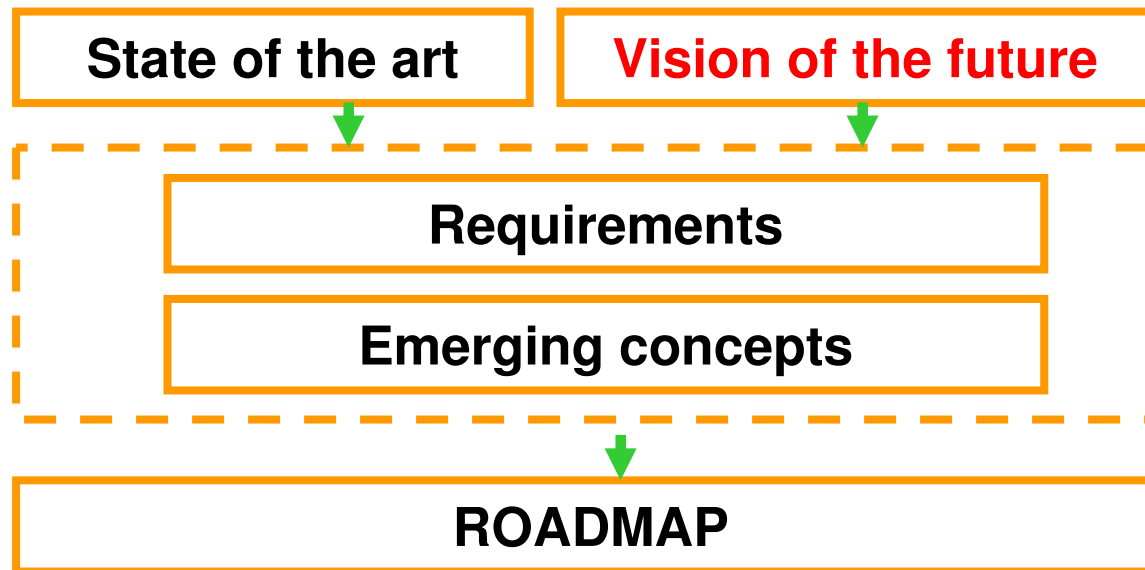
*Manual ramp, Metro Paris*



## 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.

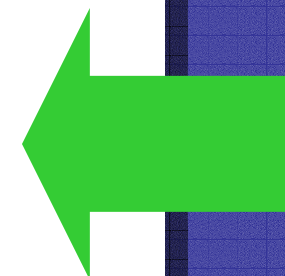
# Methodology for preparing the roadmap for future R&D



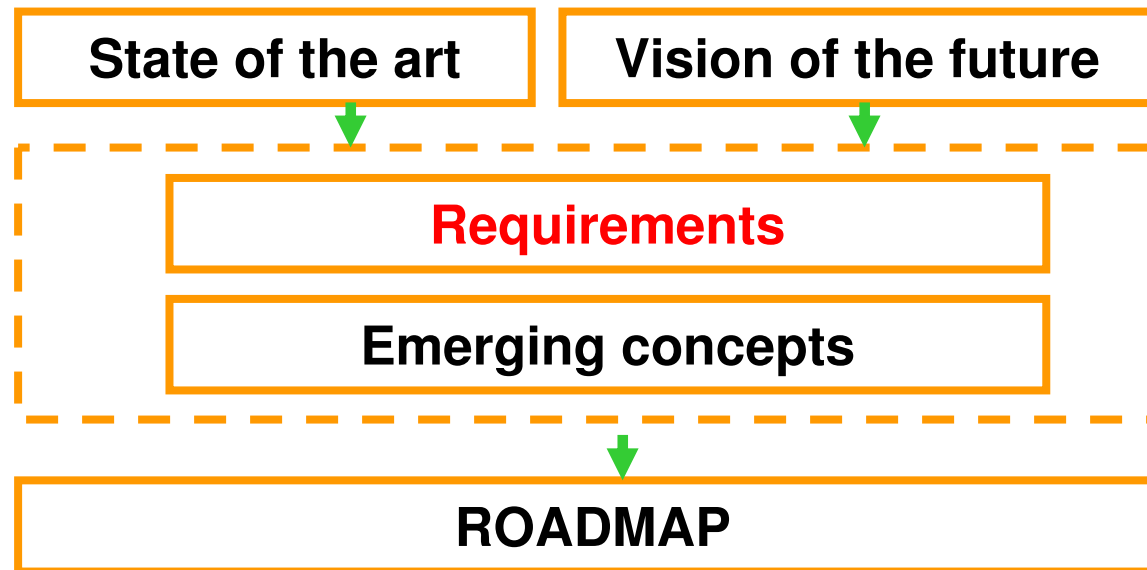
# Preparing the roadmap for future R&D

## Vision of the future

- Set of utopic scenarios involving travelers with different needs undertaking an intermodal journey from door to door (full journey chain)
- Journey chain broken down into 6 different steps
  - To the terminal/bus stop (street environment, taxi, etc)
  - At the terminal/platform/bus stop (entering, buying ticket & finding platform)
  - Boarding & alighting
  - During the journey
  - Travel information (horizontal) – *pre-trip and on-trip*
  - Booking & paying at home



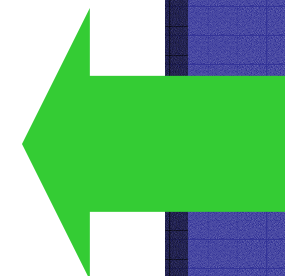
# Methodology for preparing the roadmap for future R&D



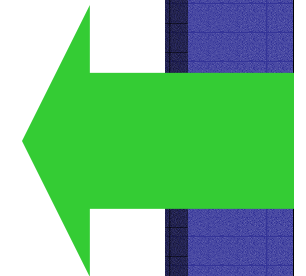
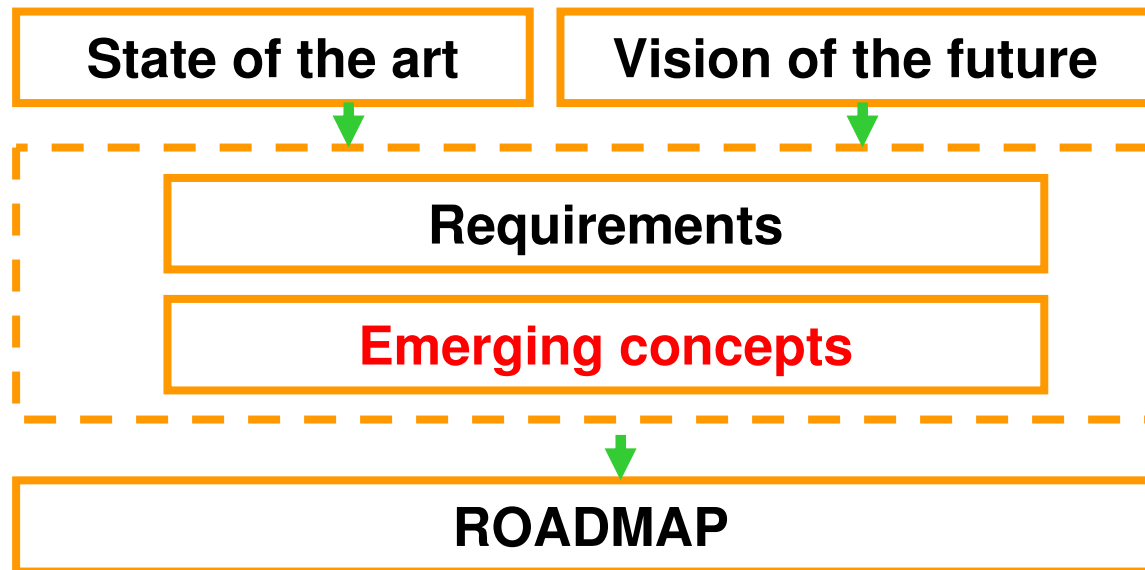
# Preparing the roadmap for future R&D

## 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



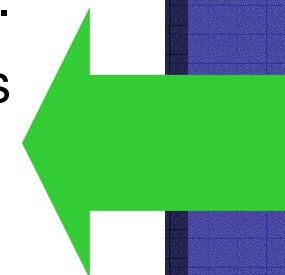
# Methodology for preparing the roadmap for future R&D



# Preparing the roadmap for future R&D

## Emerging concepts

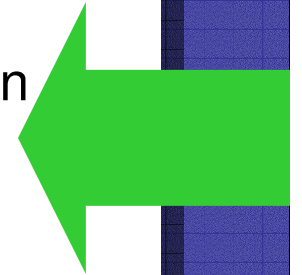
- Analysis of requirements led to definition of specific solutions (emerging concepts) needed to fulfill requirement.
- Solution assessed as to whether it is 'universal', ie, meets needs of all passengers – 9 categories identified covering physical, sensorial & cognitive impairments.
- **Example 1:**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



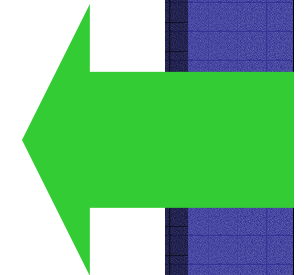
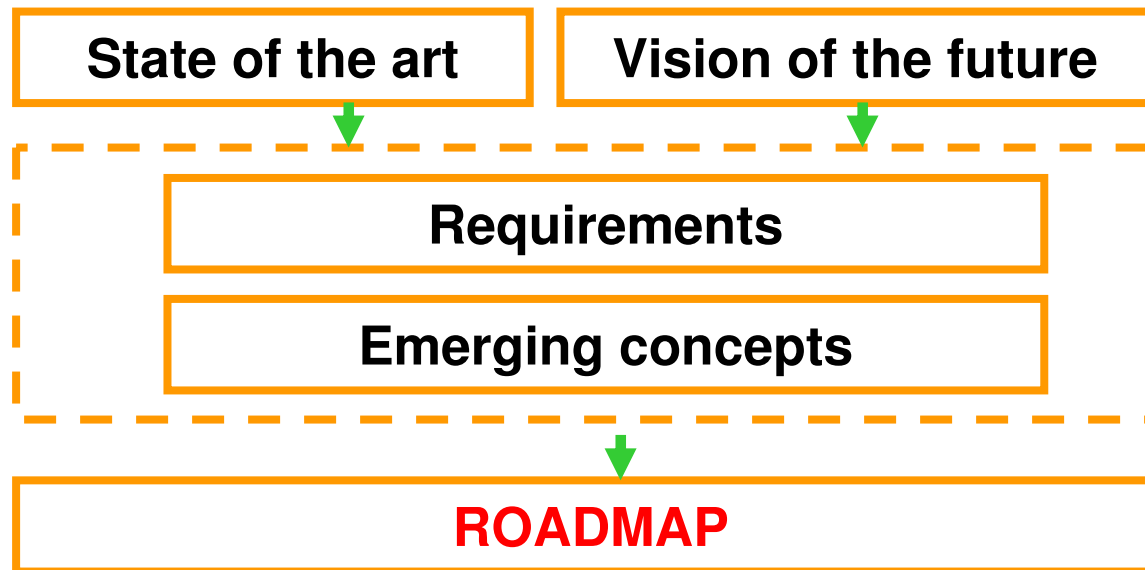
# Preparing the roadmap for future R&D

## Emerging concepts

- **Example 2:**
  - **Requirement: Autonomous trip planning**
  - **6 solutions (emerging concepts)**
    - 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



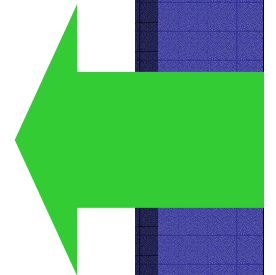
# Methodology for preparing the roadmap for future R&D



# Roadmap for future R&D - Mapping the challenges

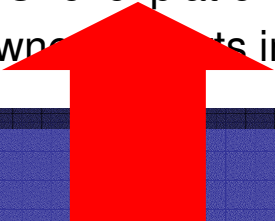
## Roadmap

- Encompasses those solutions (emerging concepts) deemed to have universal or broad application
- Defines level of priority: Very important, important, less important, undefined
- Planning horizon: short term <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



# 1st proposal to emerge from roadmap

- **MEDIATE** – **M**ethodology for **D**escribing the **A**ccessibility of **T**ransport in **E**urope
- Proposed 2 year Coordinated & Support Action  
Submitted under Call 1 of FP7 Transport Programme
- Proposed activities
  - Definition of complete set of PT accessibility indicators
  - Benchmarking of PT accessibility in 20-30 localities
  - Development of a self-assessment PT accessibility tool enabling users to understand current level & providing guidance for improvement – *tested methodology for cycling (Bypad project)*
- Partners: Sintef, Polis, Age, TfL, TTR, TIS.pt, IMOB,
- Other stakeholder involvement:
  - Working groups comprising 20-30 local transport authorities
  - End User Platform: EU-level platform of end user representatives
  - Expert group: 6 renowned experts in area of PT accessibility





## For more information

- Visit the Uniaccess website

<http://www.uniaccessproject.org>

- Contact project coordinator:

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