



Smart**Human**City



## Smart technologies fostering accessible tourism



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# ONCE Foundation



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# ONCE Foundation



- Created by the ONCE (the Spanish Blind People Organization) as an instrument to focus on persons with **other disabilities**
- Objectives:
  - Programmes of work-related **training and employment**
  - Promoting **universal accessibility**
- Figures in 2013
  - Approved **projects: 1383**
  - **Training beneficiaries: 12,144**
  - **Jobs created and / or consolidated: 7,704**





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# Accessibility



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- Design according to the people needs
- Attention to diversity of:
  - Technologies
    - Devices: laptops, mobiles, tablets, eKiosks, information panels, etc.
    - Browser, OS, input device (keyboard, mouse, tactile, voice, etc.)
  - Context of use
    - Location (home, public space, transport stations , telecentres)
    - Light, noise, connection speed, etc.







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## Diversity of end-users (1/2)



- PRM
- Limited dexterity
- Blind
- Low vision
- Deaf (sign language)
- Deaf or low hearing (captioning)
- Learning disabilities



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## Diversity of end-users (2/2)



- Older people
- Children
- Non-native speakers
- Not familiar with a technology
- Temporal disabilities



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# Accessibility standards



- Web → Web Content Accessibility Guidelines (WCAG) 2.0
- Non-Web ICT → WCAG 2.0 to Information and Communications Technologies (WCAG2ICT)
- **EN 301 549** ‘Accessibility requirements suitable for public procurement of ICT products and services in Europe’
  - 1<sup>st</sup> European Standard
  - Published in January 2014
  - Joint effort of CEN, CENELEC and ETSI



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# R&D



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# Design errors



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# User-centered design (UCD)



- “Nothing about us, without us.” European Disability Forum
- Social studies, co-design, validation & testing with end-users



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# Smart traffic lights (PassBlue)



- Fully integrated into a Green Pedestrian LED traffic light optics
  - looks like non accessible ones
- Sound emission upon users' request
- Activation via remote control or Bluetooth
- Can emit spoken info messages. E.g. the street name

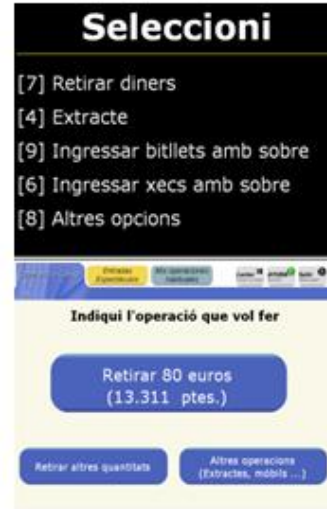
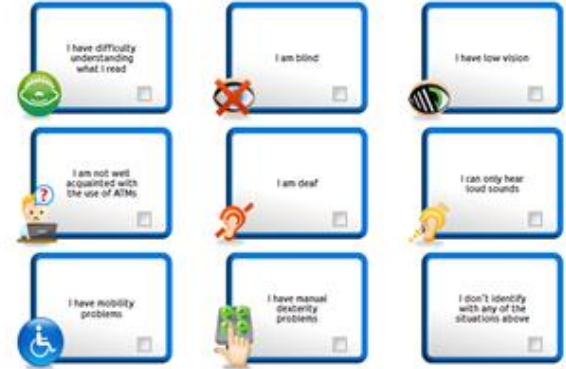






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# Personalisation of Public Digital Terminals



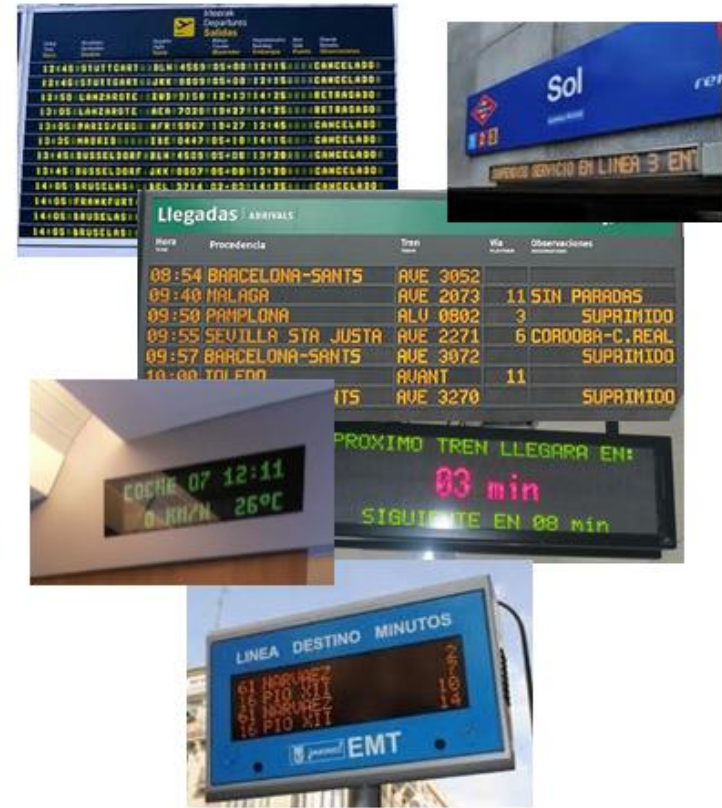
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# Information panels and public address systems (PA) to your mobile





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**Thank you for your attention**

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