

ALMEX

Public Transport by Höft & Wessel

Universal Design: Interaction with TVM for handicapped persons

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Brussels

7 December 2009

Topics

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About Höft & Wessel

Headquarters Hanover, Germany
Turnover EUR 98.1 million
Employees 502



ALMEX

Public Transport



METRIC

Parking



skeye.

Retail and Logistic

Products



almex.mobile



almex.smartfare



almex.optima cl



almex.optima



almex.office



almex.station



almex.express

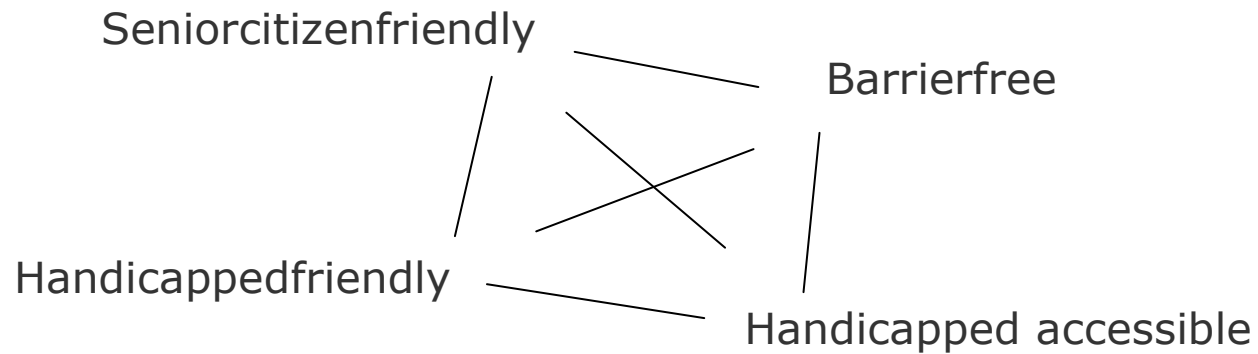


almex.compact



almex.mini

Universal Design for persons with reduced mobility



Solutions for Universal Design are not red or green, there are a lot of colors in between



- Reaction rate
- Haptic sense
- Auditive sense
- Motoric ability
- Visual sense

Aim is

One missing ability is to be substituted by an alternative ability or to be supported by technical help



Ticket Vendig Machines in context of Universal Design



Universal design is the skill to design a TVM in that way, that it can be used by as many people as possible without the need for adaption or specialization – independent of age, ability and situation of use.

It has to avoid stigmatism.

Universal Design Solutions 1



üstra Hannover

Intelligent solutions for handicapped friendly access to TVMs

- 335 stationary TVM almex.station
- Four corner menu for visual handicapped
- Audio response
- Guide for easy usage (coinslot)

DSB Danish state railway

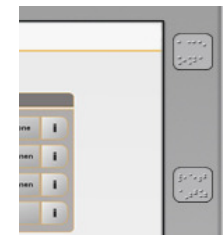
DSB is most interested in designing userfriendly TVM for persons with reduced mobility

- 200 stationary TVM almex.station
- Wheelchair pedestal
- Grab handle
- Hooks for bags

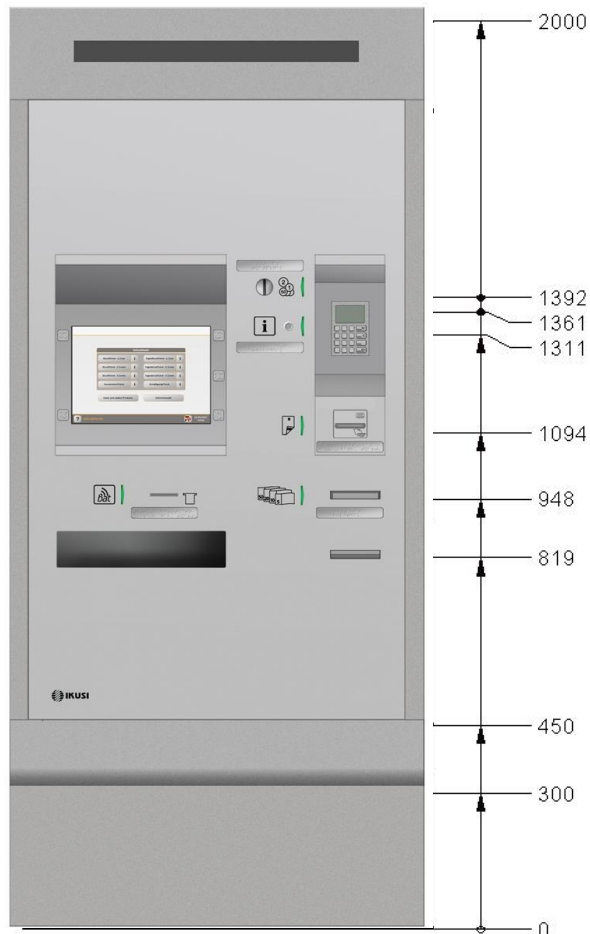
Universal Design Solutions 2

Additional details giving a solid support in operation

- Braille Inlay
- Enhancement of four corner menu
- Optical hint for the next steps



Further development to gain Universal Design 1



EU Commission Decision concerning the technical specification of interoperability (TSI) relating to "persons with reduced mobility"

The ticket vending machines to be provided ... shall have the tactile contact area ... at a height of between **700 mm** and **1200 mm**.

A minimum of one display and the keyboard shall be visible by both someone sitting in a wheelchair and by someone standing in front of the machine.

Further development to gain Universal Design 2

Assistance with intelligent chipcard

Personal identification: Printout of specific tickets including e.g. providing special seats or guidance

Electronic Ticket: Simplify e.g. payment or routedefinition



CallCenter

Direct personal help via remote connection



Link between TVM and Handy

Connection via BlueTooth

Payment through handycharge

Remote access

Voice command

Offline definition of inputdata and transfer to the TVM

The target

With ONE system we have to offer all tariffs on all stations by lowest costs, dangerless, vandalproof and barrierfree!

We are on the right way to define and develop a userfriendly and handycappedfriendly ticket vending machine

It will not be possible to gain the aim of a completely barrierfree ticket vending machine

The development of barrierfree TVM is extremely time-consuming and thus very expensive. To achieve the shared aim for this self-service terminals with universal design the government should work close together with the industry and participate on this development.

Thanks.

Coming together is a beginning,
staying together is progress,
working together is success.

Henry Ford

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