



CiViTAS
Cleaner and better transport in cities



Public transport ticketing system in City of Tallinn and Harju county

CIVITAS MIMOSA Study Tour 2014

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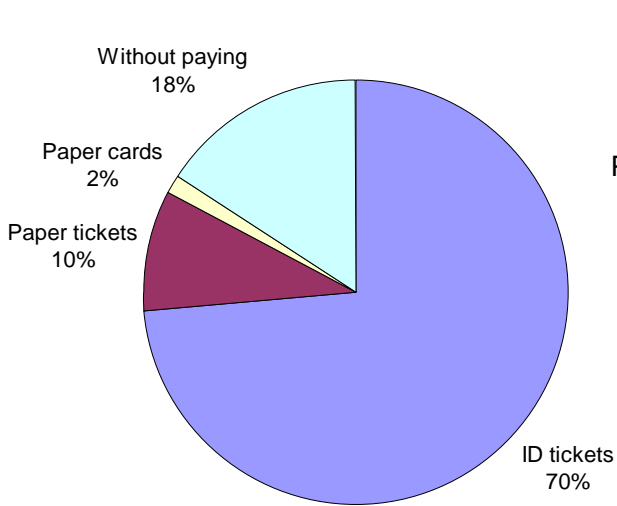
Content of presentation

- Public transport in Tallinn anno 2012
- ID tickets and paper tickets
- Why we needed a new system?
- Target and challenges
- Complicated procurement procedure
- Terms of contract
- Advantages of the new system
- Results

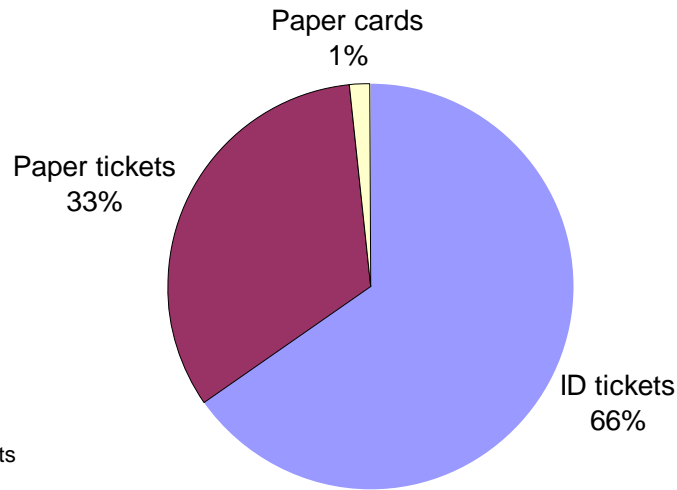


Public transport in Tallinn, anno 2012

- 4 tram-lines, 8 trolleybus-lines, 55 bus-lines
- 570 vehicles
- 3 operators
- Number of boarding's: 106,5 M (2011)



Boardings by types of tickets



Ticket revenue



Tickets: two different systems

1. ID-tickets, based on the Estonian electronic identity card (38 different types):

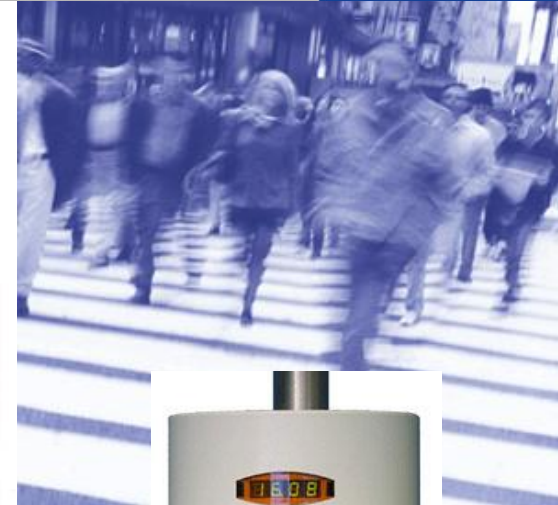
- Hourly tickets (1 h, 2 h, 1 h 10-ticket booklet) – paying and validating by mobile phone;
- Periodical tickets (1 d, 3 d, 10 d, 30 d, 90 d, joint-cards for Tallinn city and Viimsi district, joint cards with electric railway) – paying by money transfer to personal ticketing account.

2. Paper-based tickets (28 different types):

- Single ticket (7 types) – validating by mechanical markers;
- Hourly tickets (1 h, 2 h, 1 h 10-ticket booklet) and periodical cards (1 d, 3 d, 10 d, 30 d, 90 d, student cards, discount cards, joint cards with Harju county) – validating by electro-mechanical validators.



Paper-based tickets



ID-ticket



ID-ticketing system launched in 2004

Strengths:

- Need for personalised tickets - instead of verifying persons identity manually and issuing a separate personalised card, ID-card is used to do the check automatically
- Different pricing for residents
- Optimised distribution costs
- User friendly and flexible payment channels (internet, mobile phones, service desks)
- Online statistics and cash control

Weaknesses:

- No obligation for passengers to validate tickets
- Using inconvenient contact (Smart) cards



ID-ticket sales and validation process

1) ID-card (personal code)



Person must possess and show its ID-card when buying or verifying a ticket

2) Buy ticket (register ID-card)

€



e-bank



3) Validate ID-card



Person status checked from registries



EHis SKAIS RR

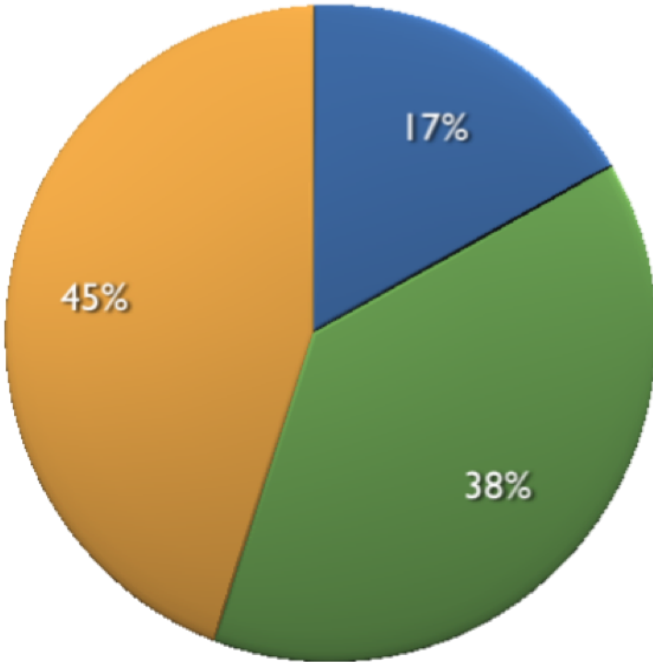
Reporting and accounting



Distribution channels of ID-ticket



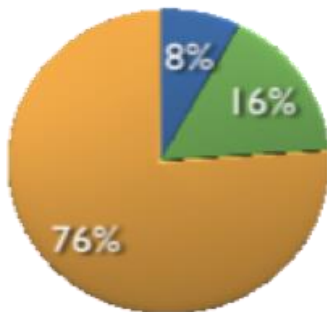
2010



- Mobile phone 17%
- Internet 38%
- Sales points 45%

- Active users of ID-ticket: 120 000
- ID-tickets sold (per month): 100 000
- ID-ticket percentage of Tallinn periodic tickets: 95,4%
- ID-ticket percentage of Tallinn overall tickets sold: 65,5%

2005



Tallinn Card

- Tallinn Card is a culture tourism product, managed by Tallinn City Tourist Office & Convention Bureau
- Tallinn Card includes free entrance and discounts at nearly 100 tourist attractions, including free use of city transport
- Tallinn Card is available in 6-hour, 24-hour, 48-hour and 72-hour versions



Why we needed a new system?

- High operation cost of 2 different ticketing system
- No obligation for passengers to validate tickets = no feedback for route/network planning
- Using inconvenient contact (Smart) cards



Target and challenges

- Replacement of paper-based tickets and cards
- Based on contactless cards (RFID)
- Cross-using of different contactless cards and in the future NFC mobile-tickets
- Online ticketing system
- New contactless Tallinn Card
- Integration with Harju county
- Challenges for integration:
 - Commuter trains
 - Other cities and counties in Estonia
 - Neighbours: Helsinki (Finland), Riga (Latvia), Vilnius and Kaunas (Lithuania), St. Petersburg (Russia)
 - Other European regions



Complicated procurement procedure

- Procurement notice in TED – 12.05.2010
- High interest: 27 different companies from 13 countries
- 16.06.2010 – 12 applications, 8 were classified
- 3 rounds of Competitive dialogue with 5 consortiums
- Publishing the Call for tender – 17.02.2011
- 15.03 – 6 bids from 4 consortiums
- 21.04 – publishing the successful tender
- 2 appeals, 5 months at different levels of courts
- 06.10 - publishing the new successful tender
- 2 appeals
- 21.12.2011 – signing the Procurement contract



Terms of contract

- 9 months for implementation + 4 years of operating
- Cost of contract: 4,6 M €
- Number of involved vehicles: Tallinn 605, Harju county 95
- New on-board computers, printers and validators to every door in vehicles of Tallinn PT
- New ticketing machines with validators into all vehicles of Harju county
- 10 mobile validators into tourist vehicles and 45 stationary validators into tourist destinations
- 50 inspecting devices
- Using of contactless *Mifare* cards



Advantages of the system

- Real time information exchange between on-board computers and back-end system (ticketing and route/position info)
- Cross usage of different cards is possible (cards issued by another organisations: student cards, ISIC cards, transportation cards of other regions)
- Supports ticket sales over the internet and mobile phones
- Stand-by for the usage of NFC mobile phones and contactless bank-cards (Visa payWave / Mastercard PayPass) as for a periodic pass or one-time ticket payment



Mifare contactless cards





Contactless Tallinn card



1900 on-door validators in Tallinn



605 printers and plug-ins for on-board computers in Tallinn

95 ticketing machines in Harju county



50 inspecting devices



Support from CIVITAS

- Ticketing workshop in April 2010 in Tallinn: cases of City of Ljubljana (one city system) and *TransLink* system in Holland (one-4-all)
- Total budget of measure under CIVITAS MIMOSA project: €1 089 620
- Support from EU: €576 659 (53%)



Financial figures

- Cost of hardware and software: 1,65 M €
- Operating cost: 60 650 € monthly
- Cost of ID ticket + paper ticket: 138 750 € monthly
- Saving: 2,3 times
- Operating cost with investment: 94 700 € monthly
- Saving: 1,5 times



Samples of data from ticketing system (January 2014)

Issued cards (incl. student and pupil cards)	600 000
these are personalised cards	396 000
are entitled to a free ride	377 000
incl. retired people 65+	73 000

Average using of public transport by card holders per month	310 000
Total trips within one month (number of validations)	8 000 000

<i>Using frequency of tickets monthly</i>	<i>persons</i>	<i>rides</i>	<i>average</i>
Free ride	252 253	7 142 635	28,32
30-day ticket	4 411	188 747	42,79
30-day discounted ticket	7 252	241 419	33,29
One hour ticket	20 519	93 772	4,57
One hour discounted ticket	7 009	39 531	5,64

<i>Transfers during 3 hours</i>	
68%	not transfers
27%	one transfer
4%	two transfers
1%	more then two transfers



Thank you!

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