



**TAL
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HOW INCREASING INTERNET VOTING IMPACTS THE ESTONIAN ELECTION MANAGEMENT

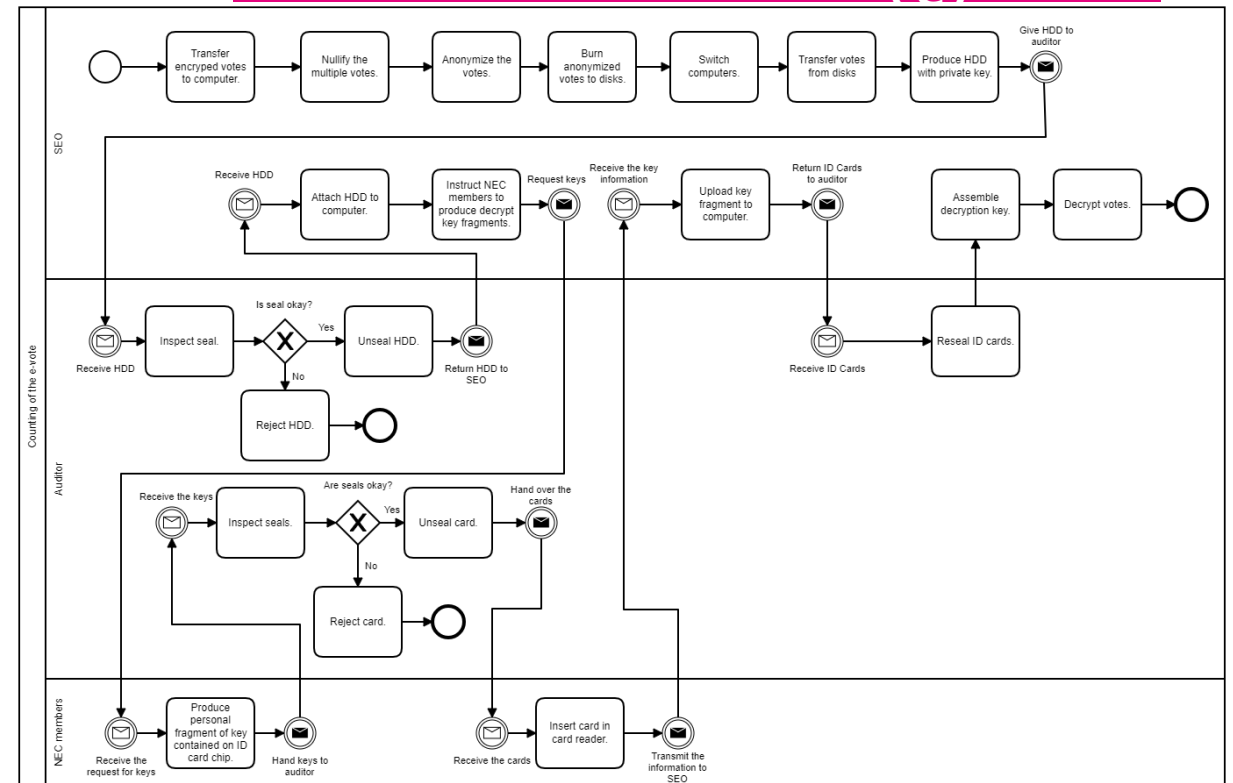
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Tallinn University of Technology

2017 LOCAL ELECTIONS METHODOLOGY AND FINDINGS

9 Steps

- Electoral Process Modelling
- Interviews and OnSite Observations
- Mapping actors
- Listing Activities
- Identification of Resource Pools
- Attribution of costs to activities
- Practical capacities of resources
- Cost per minute per activity
- Cost per ballot per voting channel
- Cost comparison

Voting Channel Cost per ballot (€)



2017 LOCAL ELECTIONS METHODOLOGY AND FINDINGS

Forthcoming

Krimmer, R., Duenas-Cid, D. & Krivonosova, I. (in press) New Methodology Calculating Cost-Efficiency of Voting Channels: Is Internet Voting cheaper in Estonian Municipal Elections?. *Public Money and Management*.

New Methodology Calculating Cost-Efficiency of Voting Channels: Is Internet Voting cheaper in Estonian Municipal Elections?

Robert Krimmer^a, David Duenas-Cid^{a,b} and Iuliia Krivonosova^a

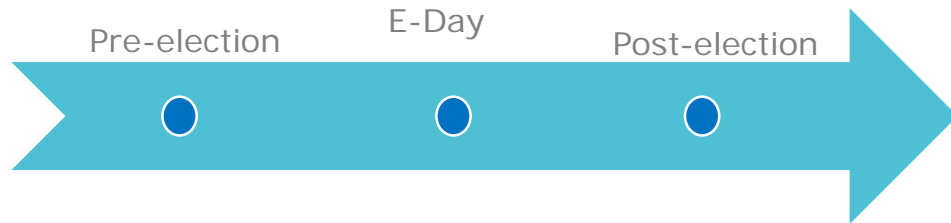
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2019 PARLIAMENTARY ELECTIONS

Voting Period

01-02-2019 / 03.03.2019

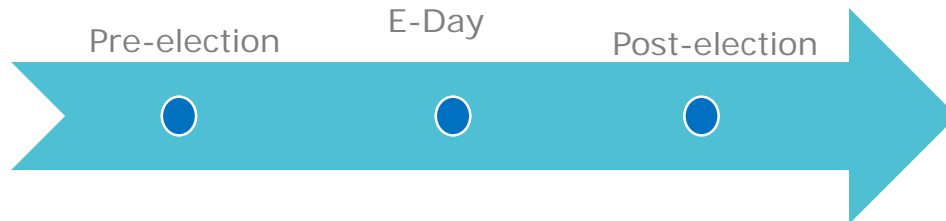
2019 Riigikogu Election



N of ordinary polling stations: 426

N of polling stations in county centres: 25

N of polling stations in diplomatic missions: 40



2019 PARLIAMENTARY ELECTIONS

What has changed?

- 2 more voting channels:

Postal voting and voting in Diplomatic Missions

- Overall turnout

37,6% in EP 2019;

63,6% in Parliament 2019;

64,2% in Local 2017

- Voters' distribution among voting channels:

For the 1st time, Internet voting is the most popular voting channel (44% and 47% of the votes cast)

2019 PARLIAMENTARY ELECTIONS

Votes distribution

Voting Channel	2017 Local	2019 EEP		2019 EUP
I-voting	31,4%	43,8%	↑	46,7% ↑
Election day voting	47,2%	37,4%	↓	31,8% ↓
Advance voting	20,3%	17,6%	↓	20,6% ↓
Home voting	1,1%	0,9%		0,6%
Voting from Abroad	n/a	0,3%		0,2%

2019 PARLIAMENTARY ELECTIONS

What's the impact of growing usage of Internet voting?

3 Categories of impact

Security;

Administration;

Infrastructure

2019 PARLIAMENTARY ELECTIONS

What's the impact of growing usage of Internet voting?

Security

Potential rise of security costs

The more the system is used, the bigger the temptation and impact of an intrusion

Estonia has a traceable trajectory in evolving and adapting the I-voting system

Availability of data? Security and availability

2019 PARLIAMENTARY ELECTIONS

What's the impact of growing usage of Internet voting?

Administration

Delivery of paper-based voting channels and financing of elections;

Decreasing demand for paper-based voting channels;

Lower cost-efficiency;



Should Cost-Efficiency determine the allocation of voting channels?

If so, which is the cost efficiency that should activate a system iteration?

2019 PARLIAMENTARY ELECTIONS

What's the impact of growing usage of Internet voting?

Administration

Delivery of paper-based voting channels and financing of elections;

Decreasing demand for paper-based voting channels;

Lower cost-efficiency;

Decrease in supply of polling stations.



Year	N of VDC
2007	657
2011	625
2015	547
2019	451

2019 PARLIAMENTARY ELECTIONS

What's the impact of growing usage of Internet voting?

Infrastructure

Impact on supporting electoral infrastructure

Lower feasibility of analogue processes surrounding Internet voting

Use of Electronic Poll Books.

Currently they are used in i-Voting, while in paper voting, paper poll books are used and then integrated.

Update of the Voting Information System, impact in all voting channels (e.g. Tabulation).
Good time-frame for it (2y gap between EUP Elections and next Local Elections)

2019 PARLIAMENTARY ELECTIONS

Summary and conclusions

- **This is a work in Progress.**

We pinpoint 3 main areas of concern but do not exclude other.

- **The Estonian Electoral System is under constant review for a more optimal allocation of the (limited) resources.**

Accordingly, a whole review of the system is currently under progress.

- **Our aim is still to analyse costs**

But the new scenario opened in the elections held in 2019 (I-Voting overtaking), raised some parallel questions for the organization of elections.

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THANKS FOR YOUR ATTENTION

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