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The 2006 conference on Electronic Voting took place in Castle Hofen near Bregenz at the wonderful Lake Constance from 2<sup>nd</sup> to 4<sup>th</sup> of August. This volume contains the twenty papers selected for the presentation at the conference out of more than forty submissions. To assure scientific quality, the selection was based on a strict and anonymous review process. The papers cover the following subjects: e-voting experiences, social, legal, political, democratic and security issues of e-voting, as well as solutions on how to (re)design election workflows, and finally how to implement and observe electronic voting systems.



Robert Krimmer (Ed.): Electronic Voting 2006

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# GI-Edition

## Lecture Notes in Informatics

Robert Krimmer (Ed.)

# Electronic Voting 2006

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Co-organized by Council of Europe,  
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# Proceedings



# **E-Voting in Slovenia: The view of parliamentary deputies**

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**Abstract:** The paper presents the results of the research, focused on Slovenian parliamentary deputies' position on e-democracy with the stress on remote e-voting. It examines the difference in the position on e-democracy and e-voting of deputies aligned with the political right and left respectively. Furthermore, it considers deputies' attitude to the initiatives mediated via e-mail and assesses the risks and impact that the deputies see in e-voting. They were asked to what level they supported the implementation of e-voting and when, in their opinion, Slovenia would start e-voting tests. Finally the authors indicate the most interesting findings of the survey.

## **1 Introduction**

There has been a great deal of discussion on e-voting over the last few years, especially within projects in Estonia, the United States, Canada, Spain, France, Switzerland, and the UK, among others. Optimists forecast greater elections turnout, pessimists warn about underdeveloped technology. The experience of other countries, which all the e-voting pioneers should take into account, is that a 'step-by-step' approach is best, which means that we should start by implementing e-voting in municipal elections, and perhaps not even in all of them.

Slovenia has not yet started any e-voting projects. An e-voting feasibility study was made in 2003, and e-voting amendments were proposed to the National Assembly Elections Act. But these amendments were not carried, which is the reason there is not yet a legislative basis that would enable this kind of voting.

Not knowing what the plans about future e-voting efforts are stimulated us to conduct a survey to find out the position of Slovenian parliamentary deputies on e-democracy with an emphasis on remote e-voting. Since the current ruling coalition consists mostly of right-aligned<sup>1</sup> deputies, and since, traditionally, the Right is more conservative we wanted to see, if we can expect further delays in e-voting progress. We carried out an e-mail survey, sent to all (90) deputies.

Most of regular internet users in Slovenia are among highly educated population (90%) [SO06], while, on the other side, the largest left-aligned party (Liberal Democracy of Slovenia) has more voters with higher education than the largest right-aligned party (Slovenian Democratic Party) [AP04]. This is the reason we started our survey with the hypothesis that the current ruling coalition is not in favour of e-voting, which could cause further postponement of e-voting.

The purpose of the paper is therefore to present the most interesting results, on the basis of which assumptions can be made about the further evolution of e-voting in Slovenia. First, the paper presents the current state of e-voting efforts and the research scheme. The next section presents the results of the survey and finally conclusions are drawn.

## **2 Presentation of the state**

There is no legislative foundation to enable e-voting in Slovenia. The most important source of electoral law in Slovenia is the National Assembly Elections Act, with other electoral legislation based upon this Act. In 2003 some amendments to this Act were proposed, including e-voting, but this proposal was not supported by the Right in parliament, so the amended Act did not become law. Most of the arguments related to 'underdeveloped' technology [Ko04].

In July 2003 Government adopted a decree establishing a project council that was chaired by the Minister of the Information Society. The project group, established in December 2003, formed its first concrete guidelines for e-voting implementation in the first quarter of 2004. Three documents were prepared: (1) A scheme for a study on e-voting with a review of electoral procedures [MIS03], (2) The feasibility study: constitutional and political views on introducing of e-voting in the Republic of Slovenia [GLZ04], the Ministry of Information Society also produced a (3) Feasibility study of e-voting with the implementation proposals [Tu04]. One of the main finding of the second document was that "the use of ICT in electoral procedures is a welcome contribution to the democratization of the society." At the same time the study warned of negative effects caused by faults (e.g. technical, procedural, system) (ibidem). The review of electoral procedures for the execution of e-voting indicates that only three procedures (out of 33) exist in electronic form: (1) insight into data on right to vote, (2) electronic announcement of unofficial data and (3) electronic announcement of official data.

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<sup>1</sup> Not all of political parties are extreme left/right-wing; we use the term left/right-aligned or simply Right/Left.

At the end of 2004 a new government took office. Its prime minister is also the president of the largest right-aligned political party. The new government abolished the Ministry of Information Society and the Government Centre for Informatics, with most of their tasks falling within the Directorate for E-Government and Administrative Processes. The current situation indicates that the e-voting project has stalled. Local elections in the present year could be a great opportunity for the e-voting pilot project, but it seems likely this will not occur. There are grounds to be anxious about e-voting projects and some other e-government projects.

It is worth mentioning that less than 10% of the Slovenian population has a digital certificate [Ce05] and the promotion of e-government services is at a low level. On the other hand, survey results [IT04] showed that 54% of respondents would participate in internet voting; it is interesting that there 58% of potential e-voters are internet users, while among non-users there are 36% of potential e-voters (ibidem).

The Strategy of E-Commerce in Public Administration of the Republic of Slovenia for 2001 to 2004 is out-of-date, so there is a vacuum<sup>2</sup> in the field of strategic planning of e-government, and we can only hope that the next Strategy will also include efforts to implement e-voting.

## 2.1 Other authors' findings

This section sets out some e-voting findings by other authors and other countries' experiences, on which our conclusions will be based.

**Local e-voting.** As Rivest [html1] assesses, local (county) level e-voting projects are better than national e-voting. This assessment has two arguments (ibidem): (1) there is no common point of vulnerability, which could be the target of attackers, (2) letting individual local levels of government experiment with different techniques is a good way to acquire experience.

**Multiple voting.** We think, that even though one of the fundamental principals of (e)-voting is 'one voter – one vote', Estonia [NEC04] makes good use of multiple voting – in the field of e-voting they consider multiple voting can prevent from vote-buying. The system only takes the last vote into consideration.

**Turnout.** Switzerland [So05] ascertained that internet has an impact on the group of voters aged 18 – 29 years; voters in this age group cast only 7% - 8% of all ballots, but when they had the possibility of e-voting, they cast 10% of all ballots. On the other hand, several authors think that e-voting should not be correlated to an increase of the turnout. The UK's Electoral Reform Society, for example, found that alternative voting methods (postal, SMS, internet, and digital TV) tested in local elections have not led to an increased voter turnout [ID03]. Furthermore, Norris [No02] drew a conclusion that 'e-voting would only have little or no effect on turnout'.

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<sup>2</sup> The new strategy is in preparation.

**Costs.** Remmert [Re04] also sees one of the reasons for e-voting implementation in a gradual reduction of the cost. Furthermore, Van Den Besselaar et al. [VODF03] also sees a good argument for e-voting in lower costs – he finds that, in contrast to traditional voting, there are no additional costs if the e-ballots continue over more days.

### 3 Research methodology

The main goal of the research was to find out the deputies' position on e-democracy with an emphasis on the remote e-voting. The research was particularly focused on:

- deputies' familiarity with e-voting projects in other countries,
- their attitude to the initiatives, proposals and questions sent by e-mail,
- their opinion on e-voting effects,
- the risks they see in e-voting,
- levels at which they support e-voting implementation, and
- their assumptions on when Slovenia will start e-voting projects.

For this purpose we conducted a survey, sent by e-mail to all (90) deputies. The survey was sent on 16 January and we received 29 replies by 6 March, 16 of which came from the members of the Right<sup>3</sup> and 13 from the Left. Fifty-seven per cent of parliamentary deputies are aligned with the Right and 41% with the Left<sup>4</sup>. Figure 1 shows the percentage of members on the Right and Left and the percentage of replies:

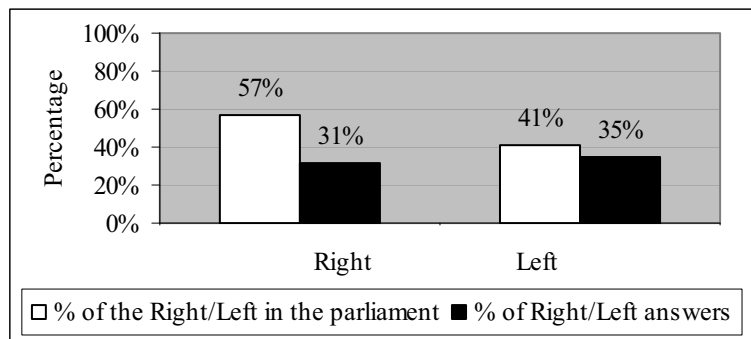


Figure 1: The percentage of the members of the Right and Left and the percentage of their answers  
The percentage of returned polls is too low to generalize overall results, so there must be some reservation regarding the results.

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<sup>3</sup> We consider that right-aligned parties to be the Slovenian Democratic Party, Slovenian National Party, Slovenian People's Party and New Slovenia, and that the left-aligned parties to be Liberal Democracy of Slovenia, Social Democrats and Democratic Party of Pensioners of Slovenia.

<sup>4</sup> Two representatives represent two minorities: Hungarian and Italian.

## **4 Presentation of the results**

### **4.1 Familiarity with e-voting projects in other countries**

As is known, some countries have already implemented e-voting in their electoral systems, while some have been implementing pilot projects for some time. We wanted to find out if Slovenian deputies were familiar with these projects.

The survey revealed that most of them (66%) had already heard something about these projects, but they were not familiar with all the details, while 14% of deputies receive information on other countries' e-voting projects on a regular basis, and 10% were not acquainted with these projects. A further 10% of them were acquainted only with the US and Estonian e-voting projects.

### **4.2 Attitude to the initiatives, proposals and questions mediated via e- mail**

At this point we wanted to find out:

- if the deputies consider e-communication equivalent to traditional communication of proposals, initiatives and answers,
- how often they receive proposals, initiatives and questions via e-mail and
- how they treat proposals, initiatives and questions via e-mail.

The results are surprising – 48% of deputies consider e-communication equivalent to the traditional communication of proposals, initiatives and answers, while 48% of them thought that e-communication is only partly equivalent to traditional communication, and 3% thought that e-communication is not equal to traditional communication.

Most (66%) of deputies receive proposals, initiatives etc. via e-mail at least once a week, 21% of deputies receive them at least once a month, 10% receive them at least once every six months, while proposals etc. are never mediated via e-mail to 3% of deputies.

Interesting, almost half (48%) of deputies considered e-communication only partly equivalent to traditional communication, but when it comes to treatment of initiatives etc. sent via e-mail, 85%<sup>5</sup> of deputies say that they thoroughly studied the material and take it into consideration as much as possible. The results of the survey [De05] make our results even more interesting – in 2004 the deputies' response wasn't that high, 40% of them responded to the e-mail with a real case question from an imaginary citizen<sup>6</sup>. The question is, do 85% of deputies from our survey really study the initiatives, proposals etc. thoroughly? We think that this data should be taken into account with some reservations.

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<sup>5</sup> n = 27

<sup>6</sup> In 14 days.

### 4.3 E-democracy and e-voting effects

The effects of e-voting were estimated on a scale of 1 to 5. The deputies assessed five parameters:

- citizens' e-participation influence on the quality of legislation and other decisions,
- e-voting effects on authority's legitimacy,
- e-voting effects on the turnout,
- e-voting effects on the movement in electoral body and
- the security of e-voting.

The survey revealed (Figure 2) that 66% of deputies thought that e-participation would influence the quality of legislation and other decisions – that was the opinion of 77% of the Left and 56% of the right-aligned deputies. Moreover, 28% of deputies thought that e-participation may or may not influence the quality of legislation – this is the opinion of 38% of the Right and only 15% of the left-aligned deputies. Interesting, most of the left-aligned deputies thought that e-participation would have influence, while this is the opinion of far fewer (56%) members of the Right:

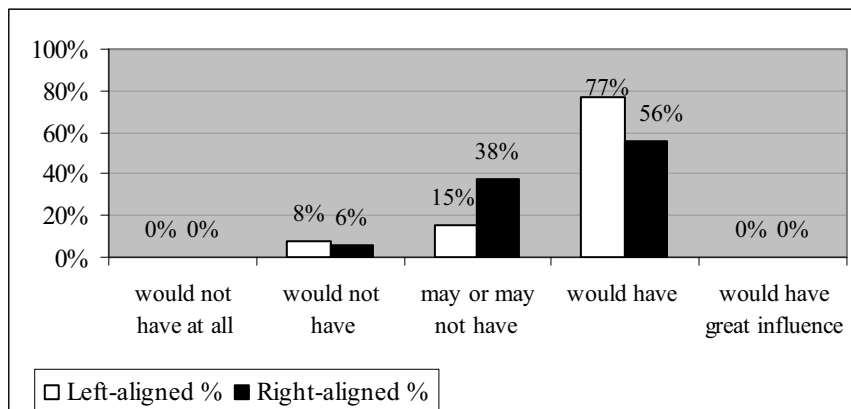


Figure 2: Citizens' e-participation influence on the quality of legislation and other decisions

Furthermore, the results show that there is a difference in Left/Right agreement with the statement "E-voting would contribute to a greater legitimacy of elected authority." Most of the right-aligned deputies (44%) disagree with this statement, while most of the leftists (46%) agree with it. On a scale of 1 to 5 the median for the Right is 2, while the median value of the Left is higher – 3.

The difference can also be seen after analysing the agreement with the statement "E-voting is secure" – most of the Right (50%) disagrees, while 42% of the Left agree and the same share neither agree nor disagree with this statement. On a scale of 1 to 5 the median of the Right is 2, and the median value of the Left is 3.

When it comes to the influence of e-voting on higher polling participation, the deputies are even more heterogeneous; most (50%) of the right-aligned deputies agree that e-voting would have influence on a higher turnout and most (85%) of the Left agree with this statement, too.

Most (69%) of the left-aligned deputies agree that e-voting would have influence on the movement in electoral body; on a scale of 1 to 5 the median of their agreement is 4. On the other side, most of the right-aligned members (44%) neither agree nor disagree with this statement; their agreement's median is 3.

If we neglect the Left and Right division and take a look at Figure 3, we can see that the situation is rather pessimistic. Most of the deputies (34%) disagree with the statement that e-voting would have an influence on the greater legitimacy of elected authority, only 28% of them agree and the same proportion (28%) neither agree nor disagree that e-voting is secure, while most of them (45%) agree with the statement "e-voting would have influence on the movement in electoral body."

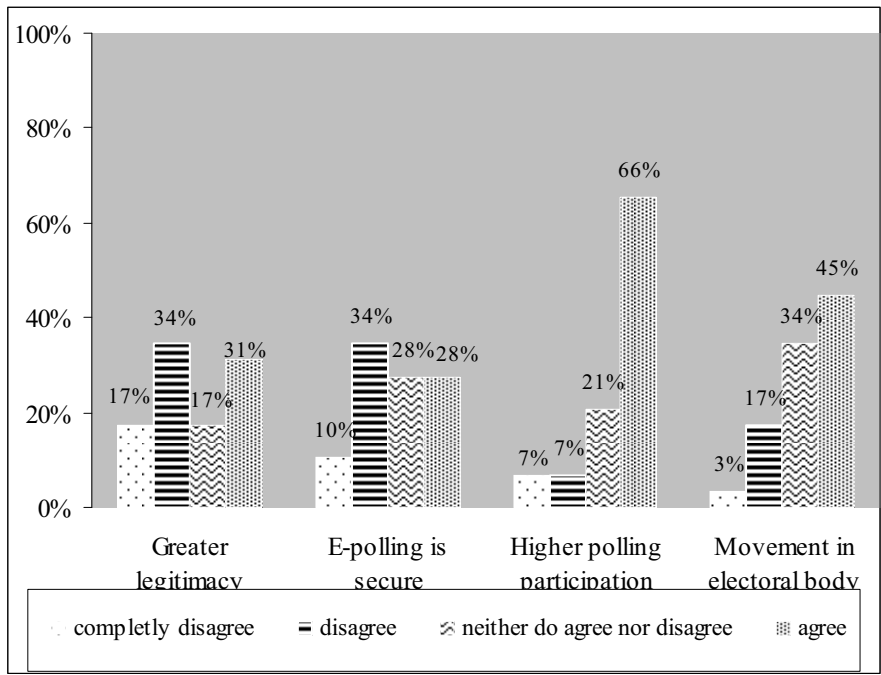


Figure 3: Deputies' views on e-voting effects<sup>7</sup>

There is one optimistic result – most of them (66%) agree that e-voting would have influence on higher polling participation (turnout).

<sup>7</sup> None of the representatives completely agreed with the statements listed above.

#### 4.4 The reasons for Slovenia still not having a legislative basis for e-voting

We wanted to find out the main reasons for not having at least a legislative basis that would enable e-voting in Slovenia. The results<sup>8</sup> show that most (45%) of the deputies blame "underdeveloped" technology for the legislative "vacuum." Furthermore, 17% of deputies thought that the reason for not having a legal basis is the fear of some political parties that implementing e-voting would cause higher participation of younger and technologically more educated registered voters.

As may be seen from Figure 4, most (60%) of the right-aligned deputies blame the "underdeveloped" technology, while most (42%) of the left-aligned deputies blame the fear of some political parties, which are worried about higher turnout caused by e-voting.

Beside the reasons listed below (Figure 4), the respondents expressed some other reasons, such as (1) how would one assure that every voter had only one vote, (2) the risk that a voter could vote instead of other members of the family, (3) how to prevent people breaking into the e-voting system, (4) how to achieve voters' trust in e-voting, (5) bureaucratic reasons (formalities).

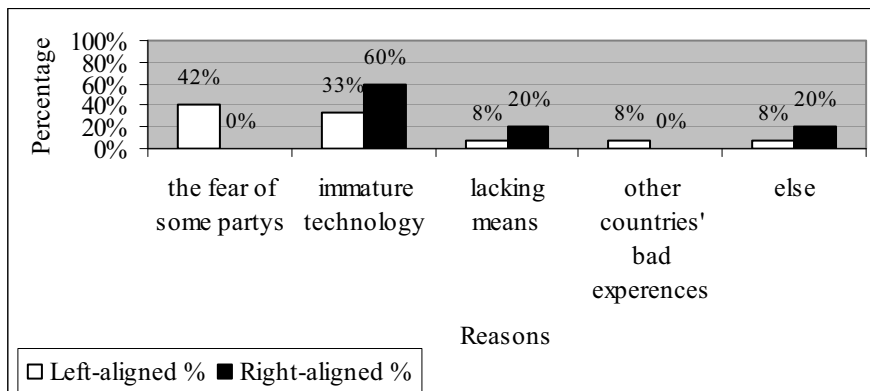


Figure 4: The reasons for not having a legal basis for e-voting

#### 4.5 E-voting risks

We also asked the deputies which, in their opinion, are the greatest risks of e-voting. They were able to choose three answers at most.

<sup>8</sup> n = 27

The survey revealed that most of the respondents (66%) saw the biggest e-voting risk as the violation of some basic election principles: secrecy, freedom and (re)check. The lowest (24%) proportion of respondents was worried about double voting, and (28%) manipulation by the current ruling powers. Furthermore, 52% of deputies thought that excluding people who do not use the internet and those, who are not educated enough to e-vote is a threat to e-voting success, and 45% of them had doubts about system (collapse); 31% of deputies selected its possible influence on voter's decisions.

It is not surprising that, in contrast to the Right (13%), 46% of left-aligned deputies saw the main risk of e-voting as the possibility of manipulation by the current ruling powers.

## 5 The future of e-voting project in Slovenia

In this part we wanted to resolve two matters:

- to what level do the deputies support the implementation of e-voting (they were able to choose whichever level) and
- when, in their opinion, will Slovenia start testing e-voting.

The results show that most deputies (66%) support e-voting for national referendums, 48% of them support e-voting in the elections for president of the state, 48% support e-local referendums and 38% of respondents support e-elections of deputies. It is obvious that deputies are most sceptical about e-elections of themselves.

There is a significant difference in Left and Right support (Figure 5). As we can see, local e-referendums are supported by 69% of Left members, while only 31% of the Right members support this project. Moreover, 38% of Right members do not support any kind of e-voting, while all Left members support e-voting on at least some level listed.

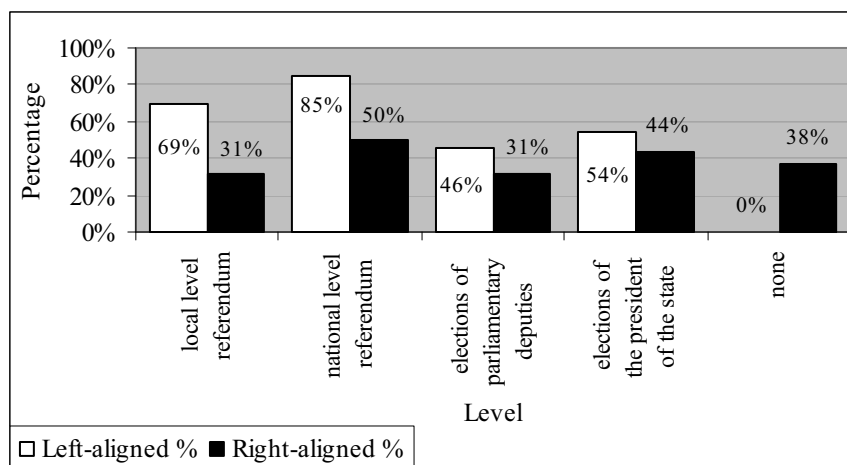


Figure 5: The levels on which Slovenian deputies support the implementation of e-voting

A total of 46%<sup>9</sup> of respondents thought that Slovenia will start e-voting test projects before 2010, among which were 62% of Left and 33% of right-aligned deputies, while 54% of respondents thought that e-voting projects would start after 2010 (38% of Left and 67% of Right).

## 5 Final remarks

The most interesting survey results can be summarized as follows:

- it is strange that only 14% of right-aligned members were well informed on other countries' e-voting projects, because the Right has been most responsible for delaying the amended law to enable e-voting. If they are not aware of others' countries e-voting projects in detail, then it is clear that their resistance to the amended Act was not based on professional arguments;
- some 48% of deputies thought that e-communication was only partly equivalent to traditional communication of proposals, initiatives, questions etc., but 85% of respondents said that they thoroughly study the initiatives etc., received via e-mail and take them into consideration as much as possible; on the other side, the survey [De05] revealed that deputies' response levels are not very high – 40% of them responded to a simple real case question from an imaginary citizen;
- the fact that 77% of the Left and only 56% of the right-aligned deputies thought that citizens' e-participation would influence the quality of legislation and other decisions is something to be anxious about, since the current ruling coalition consists primarily of right-aligned deputies;
- only 48% of respondents supported e-voting on the local level, which is interesting, since most of other countries started with e-voting projects on the local levels (municipalities); moreover, Rivest [html1] assesses, that local (county) level e-voting projects were more highly recommended than state e-voting (see section 2.1); it is possible that this answer is correlated to the forthcoming local elections in Slovenia; furthermore, it is interesting that the lowest proportion of respondents expressed support for the e-voting of deputies. If we look at these results critically, the message seems to be "e-vote for anyone, but not for us";
- some 21% of deputies neither agreed nor disagreed with the influence of e-voting on higher polling participation (turnout); this result is understandable, since the authors and other countries' experiences are not united on this question, either (see section 2.1);

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<sup>9</sup> n = 28

- some 14% of deputies thought that lack of resources was the reason for not having at least a legislative normative basis for e-voting in Slovenia, which is, according to the findings of Remmert [Re04] and Van Den Besselaar et al. [VODF03] inexcusable, since e-voting could, over time, actually reduce costs (see section 2.1); some respondents saw the reason in the problems of ensuring the 'one voter – one vote' rule, which, according to Estonia, should not be a problem at all, since Estonia used multiple voting to reduce other people's influence on a voter's decision (see chapter 2.1)

It is evident that Slovenia cannot expect the implementation of e-voting in the near future. Our initial hypothesis was confirmed – the current ruling powers were not in favour of e-voting. Right-aligned deputies are much more sceptical about the implementation of e-voting than the left-aligned, which is something to be worried about, since the current ruling collation largely comprises right-aligned deputies.

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