

GI, the Gesellschaft für Informatik, publishes this series in order

- to make available to a broad public recent findings in informatics (i.e. computer science and information systems)
- to document conferences that are organized in cooperation with GI and
- to publish the annual GI Award dissertation.

Broken down into the fields of "Seminars", "Proceedings", "Monographs" and "Dissertation Award", current topics are dealt with from the fields of research and development, teaching and further training in theory and practice. The Editorial Committee uses an intensive review process in order to ensure the high level of the contributions.

The volumes are published in German or English

Information: <http://www.gi-ev.de/service/publikationen/lni/>

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

P-86

# GI-Edition

## Lecture Notes in Informatics

Robert Krimmer (Ed.)

# Electronic Voting 2006

2<sup>nd</sup> International Workshop  
Co-organized by Council of Europe,  
ESF TED, IFIP WG 8.5 and E-Voting.CC

August, 2<sup>nd</sup> – 4<sup>th</sup>, 2006  
in Castle Hofen, Bregenz, Austria

# Proceedings



# **A preliminary question: Is e-voting actually useful for our democratic institutions? What do we need it for?**

Jordi Barrat Esteve

Dept. Dret Públic (SEJ2004-03844JURI / LEO26A05)  
Universitat Rovira i Virgili  
Avda. Catalunya, 35  
43002, Tarragona, Catalonia / Spain  
jordi.barrat@urv.net

**Abstract:** The current development of e-voting systems worldwide raises several specific interesting issues from a legal point of view. Auditability measures, identification procedures or guarantees for voting secrecy and equality are good examples, but we often forget a fundamental question: the usefulness of these new technologies. This paper intends to provide an answer that takes into account the complexity of all democratic systems. An updated image of the electoral procedures, the advantages for disabled people, the reduction of economic charges in the electoral fields or the increase of voting turnout will be analysed as the possible positive consequences of e-voting systems.

## **1 Presentation**

The theoretical arguments about e-voting procedures often begin with a couple of general statements that it is worth recalling. First of all, political participation cannot – and should not— remain isolated from the vertiginous development of ICT. In the future, these new technologies will condition, with even greater intensity than nowadays, the ways popular will is expressed and, probably, votes are cast.

On the other hand, fears are also voiced about the dangers of a non-reasonable transformation of political participation channels. New values could appear and the supreme democratic goals could suddenly be found to be secondary to the use of new technological tools. Basic principles, such as equality and freedom, the secrecy of the vote, the consolidation of free public opinion or the existence of enough socialization areas should then not be displaced by other narrow strategies favouring the use of ICT.

It is very difficult to disagree with these obvious statements, but there are others, both positive and negative for e-voting systems, which are too generic. They are very short on analysis and do not take into account the complexity of these technical developments. This paper intends to provide some specific theoretical elements about the role of e-voting procedures in our democratic institutions [for a general overview, see Tu05, Gr03, KB04, PK04 and TM05].

It will not therefore consider such important specific issues as auditability measures for e-voting systems or identification procedures in remote voting. We will remain at a preliminary stage and discuss whether e-voting is actually useful for us.

## **2 Necessity and usefulness of electronic voting systems**

Electoral institutions already accept computer procedures in some processes like the roll out or the transmission of results, but we should try to determine whether these technologies could also be useful tools for casting a vote. The physical identification of a voter, a transparent urn or an isolated booth are main elements in our electoral scheme and we would like to know if they need technical updating, maybe with e-voting solutions, or whether the current structure is better. The answer should not depend only on technological optimism because tools can easily become a goal in themselves and this situation could not be considered as an advantage for the electoral system. The only way to accept these innovations is to prove that they will be useful for citizen participation and, in a more specific way, for the vote casting.

The specific answer will depend on the electoral systems and a variety of parameters should be taken into account. For instance, many political institutions have no important problems and there is no legal or social necessity to make changes. Most European countries follow this model. Electoral discussions focus on the eligibility formula (proportional rules, etc.), but they do not foresee the need to modify electoral procedures that have been tested in several elections and accepted by everybody (I). In these cases, is it actually a priority to introduce e-voting mechanisms? Would they maybe generate inherent dangers that could weaken a popularly accepted system such as the current one?

In our understanding, these are correct and reasonable concerns given that we are dealing with highly sensitive areas in which the expression of the sovereign will is at stake. It would not, therefore, be wise to introduce innovations whose consequences have not been sufficiently analysed and compared. Even so, we believe that there are several reasons for encouraging a slow introduction of electronic voting systems.

It should be noted, in the first instance, that electoral procedures should not be limited to an *outdated technological framework* because it would give our current modern society a poor image. As Michael REMMERT points out «modernising how people vote will not, *per se*, improve democratic participation but failure to do so is likely to weaken the credibility and legitimacy of democratic institutions» [Re03: slide 34]. This initiative, however, cannot ignore the correct functioning of many electoral systems. If REMMERT's statement is understood to be saying that we have no choice to make in electoral modification, that there is an unavoidable necessity to change the current systems by introducing new technologies, it will not be acceptable. I think, however, that REMMERT's quotation can help us if we reduce its sense. Obviously, we should not forget the reasonable results of current elections, but we should always search for innovations that not only maintain the traditional electoral guarantees of any democratic system but also provide other advantages. As REMMERT foresees, our not doing this will probably decrease the system's legitimacy because, although the organization is correct nowadays, efforts must be made to keep the system up to date. Constant awareness must be maintained so that, without endangering the success and stability already reached, electoral processes gradually incorporate the technologies that characterize our era.

On the other hand, the electronic vote can be enormously *useful for certain sectors of society* (for example disabled citizens, absent residents). These are groups that often encounter many problems when it comes to exercising their right to vote, and new technologies, if designed correctly, could facilitate their participation considerably. It would therefore be possible, for both groups, to vote remotely and, in the case of the blind, electronic tools could even allow an autonomous polling-station vote.

The current low turnout of residents living abroad has several explanations, but two of them are, without doubt, the bureaucratic effort they have to make in some cases and the important role of the postal administration of different countries with very narrow deadlines [see Ca03]. Voting from abroad therefore is not simple, but Internet voting could maybe make it much easier.

Disabled citizens could always use these new voting channels. Electronic devices would make it possible for blind people to cast their votes autonomously. Spanish legislation (art. 87LOREG) currently provides disabled voters with the possibility of an assisted vote, but, even though this is a reasonable solution, it is certainly true that e-voting would allow even blind people to make a vote without help and this is obviously a great advantage.

These considerations show that it is important to define the typology of e-voting systems because not all electronic procedures will provide good solutions for disabled people. While the computer- and even mobile-phone applications more easily accept specific devices for disabled people, other e-voting systems, like those based on optical ballots, are considerably less useful from this point of view.

Blind people, for instance, will not be able to use optical ballots because they cannot have audio devices. Printing *braille* ballots could be a solution, though costly, but it is not e-voting. What is more, the separation of paper ballots into Braille and non-Braille could become a serious problem for the secrecy of the vote (see Resolution *Junta Electoral Central* / January 31<sup>st</sup> 2000; Fu00: 43-44).

In conclusion, the analysis of the usefulness of e-voting procedures should take into account the differences among them because they all have different frameworks.

Thirdly, electronic voting systems are more *versatile and flexible* than anything previously known. Today, the logistics surrounding elections involves economic, time and human costs that make it difficult for them to be conducted frequently. Some electronic voting models –not all– simplify this process and make it possible to imagine a future in which more participation tools could be made available to citizens. It should also be mentioned, not forgetting the important factors regarding security, that a good electronic voting system would be much more exact and precise than the current one. As Andreu RIERA, the person in charge of Scytl pointed out during the presentation of the citizen consultation *MadridParticipa*, there are still «muchos más errores en papel que en formato electrónico» (“many more errors on paper than in electronic format”).

However, are these new participation channels actually good? Should we back an electoral system that includes the remote vote from home? Would it be a democratic advantage or a disadvantage? These questions are closely related to the theoretical analysis of democratic representation, which is now experiencing difficult moments. Increasing direct citizen participation could be one solution because it is an attempt to reduce the role of the political parties by empowering citizens with new participation tools.

However, even people who agree with this proposal often stress the dangers of a massive introduction of direct participation tools. Democracy is both casting a vote and having a society with a sensible way of life. It needs to provide citizens with information and create debate among them so that political ideas are to mature sufficiently. To recklessly promote an increasing number of consultations could have negative collateral consequences for the democratic system. And, if this is so, is the convenience of e-voting tools, and the resulting almost effortless multiplication of our voting potential, actually an advantage? Should we consider it to be positive?

Despite all the above, a well-designed democracy based on citizen participation is always a good initiative and, in the future, there will probably be more opportunities within this framework to accept direct and binding citizen consultations. E-voting solutions can facilitate this path as long as they reduce the economic and logistic cost of an election, but this does not automatically mean that they must be massively implemented. There will be the option to do so, but those responsible for the democratic process should evaluate whether it is advisable.

Whatever solution we adopt, there is another issue that is closely related to this one. Many authors think that Internet voting may endanger the public nature of the voting day because the changes in the *electoral routine*, an essential component for any democratic procedure, allow votes to be cast from private places (companies, home, etc.). The political socialization process, then, will be different and it could also generate different and maybe negative political values because there will not be a physical relationship among voters. Following the explanation of Andreas AUER and Alexander TRECHSEL, «le citoyen n'irait plus voter en pensant à l'intérêt général, mais il voterait en tenant compte uniquement de son propre intérêt» [the citizen will not vote considering the general interest, he/she will only consider his/her own interest] (AT01: 45-46; see Su01).

I think however that this strong defence of the current electoral routine is a direct consequence of the system's weaknesses and it should strengthen the need for a democracy with more participation channels. If a short one-day meeting has become an essential component in our democratic behaviour, it is clear that we have a serious problem because the political system is not actually progressing. The relationship between citizens and their representatives cannot be reduced to an occasional point of contact and political socialization should not rely upon this small parameter. It should be a day-to-day process. Within this normal democratic framework, the absence of one act of socialization as a consequence of the introduction of Internet voting should be of no importance and it should be easily accepted.

It should also be noted that there could be virtual socialization areas. New technologies have such interactivity and simultaneity that they can emulate physical meetings and thus create complementary socialization channels. The above-mentioned authors use the following argument to respond to criticism: «il est plus probable que dans le contexte social actuel, une prise de conscience plus complète des enjeux sociaux d'une votation se fasse à travers les informations et les débats que les citoyens pourront avoir sur Internet avant de voter» [in our current social framework, the use before voting of Internet information and on-line debates will probably generate a more complete idea of the social challenges of an election] (AT01: 46; see KK05).

Anyway, some e-voting procedures do not change the current electoral liturgy. Optical ballots, for instance, are usually presented as mechanisms that do not alter voting behaviour and this is their main advantage. Moreover, both computers and telephone devices can be used in official polling stations, so they will not change the current socialization process during the voting day.

However, the economic advantage of e-voting seems to be linked with the use of non official places for casting a vote because, if we maintain the current network of polling stations, there will be no decrease in logistical obstacles or economic expenses. The possibility of asking citizens for their opinion more frequently also disappears. Optical ballots need the same number of polling stations and they will be more expensive because, even if the current combination of paper and urns is maintained, the ballots contain electronic devices that will probably increase their price.

However, the other e-voting systems, with computers and phones, are not necessarily cheaper. If they are used within official polling stations, our conclusions here are the same as those of the paragraph above. If they are used from other places, the logistical organization could be less, but the final cost will depend on the development of the computer applications and security measures that they need. Both of these situations may be cheaper or more expensive than the current paper ballot system. This depends on the fees determined by the computer experts.

Finally we should note that *election turnout* could increase as a result of implementing electronic procedures. It is frequently mentioned that the use of new technologies would make voting more attractive and certain segments of the population that traditionally abstain, such as young people, may change their attitude with these measures. The fact is, however, that there are no conclusive studies. While some experiences show that the electronic vote increases participation, others indicate the opposite. As a guide, we should mention the tests undertaken during the last Catalan elections in which certain absent residents, among whom were the Catalans living in Mexico, were allowed to use the Internet experimentally to vote. The number of participants exceeded the number of official voters by 226% (see BR04: § 3 / table 3). On the other hand, other experiences show very low rates. For example, in the MadridParticipa citizen Consultation in 2004, only 0.63% of the total electorate took part (see BR04a). The absence of precedents, however, makes it difficult to compare and to conclude whether new technologies encourage more or less participation. There are a number of variables that influence these results (e. g. a consultation is not the same as an election). Nor is it the same if electronic systems act in a unique or complimentary way. Lastly the method used also influences the process: systems based on remote voting in non-controlled environments do not present the same degree of difficulty as models based on optical paper-ballots.

The number of voters is only one parameter, but there are others that also have an important influence on increasing the quality of a democratic system: the *geographic distribution* of votes and the way votes are cast.

The Barcelona Technical Engineering Association (CETIB) is a good example of the first one. Before June 2005 the members of this Association could renew the presidential board every four years by voting through only one channel. There was an official polling station in the Association's main building, in downtown Barcelona, but this electoral organization was disadvantageous for those members who did not live there. For instance, if we analyse the previous results, it is easy to prove that the percentage of Barcelona inhabitants who voted was higher than the percentage of citizens of this city on the census. Neither did total turnout rates ever reach 10% of the electoral roll.

Therefore, in June 2005, the Association's Board decided to accept two voting channels. They intended to increase the total number of voters and also to balance the privileges of some members with a new distribution of votes from a geographical point of view. Each electoral county was to have the same proportion of voters and registered members.

Unfortunately, the turnout decreased in June 2005, but there was significant progress in geographical balancing. As Oriol CISTERÓ's graphs indicate, the *Barcelonès* County, including the capital Barcelona, decreased from 71 to 64 per cent of the votes cast while its proportion of members was 50% (2005: slide 14).

The second graph, which refers to the e-voting channel is even more significant: if we analyse the geographical distribution of votes, the new balance more accurately reflects the percentage of members. In this case, the *Barcelonès* County represents only 53% of the votes, which is very close to the 50% of registered members living in this electoral district (Ci05: slide 15).

Beside the total turnout and the geographical balancing, another parameter was used to evaluate the success of the e-voting procedures: *the way votes were cast*. The acceptance of electronic means in the General Assemblies of Spanish companies with stockholders is a good example.

The initial situation is very negative because these Assemblies often have a considerable democratic deficit. Most stockholders do not go to the meeting and they delegate their votes. The company administrators themselves encourage these delegations. Therefore, the company has an internal democratic functioning, but only from a formal point of view. Massive delegations also make the control task that belongs equally to all stockholders more difficult.

In view of this situation and as a result of new corporate governance rules, the Spanish Act 26/2003, about transparency in stockmarkets, added two new paragraphs to article 15 of the Spanish legislation on the companies involved. The first one provides for a vote in the General Assembly cast by electronic means: «de conformidad con lo que se disponga en los estatutos ... podrá delegarse o ejercerse por el accionista mediante correspondencia postal, electrónica o cualquier otro medio de comunicación a distancia» (“in accordance with what is stipulated in the statutes...it may be delegated or executed by the shareholder by postal mail, electronic mail or any other means of remote communication”). This legislation is a direct consequence of the ALDAMA report, the main document produced by a specific Commission created to analyse the transparency and security of the financial markets. Among other issues related to Stockholders Assemblies, this text recommends that e-voting mechanisms be used: «implantar los sistemas necesarios para el cómputo electrónico del quórum, así como para la delegación y el voto por correo o por medios electrónicos» (“to implement the systems required to electronically compute the quorum, and to delegate and vote by mail or electronic means”) (In03: 32). There are no other similar Acts in Spain, but VAÑÓ VAÑÓ thinks that this lack does not prevent these electoral procedures from also being included in other financial companies like those based on a collective property of the workers themselves –*credit unions / cooperativas de crédito*— (Va04: 136-137).

Several companies have already modified their internal rules and there have already been the first cases of stockholders voting remotely. The possible simultaneous casting of votes, remotely or traditionally, during the Assembly itself creates considerable technological challenges related to digital identification procedures.

There are also specific rules for delegating the right to vote (see Va05: 225-255). Some pioneer experiences, like Union Fenosa in 2003, had no positive results because only one stockholder finally cast his/her vote (see Va05: 24), but subsequent experiences were successful in consolidating a new democratic framework for these companies.

Shortly, even with the same turnout rates, e-voting procedures can offer other significant advantages like the option of a direct and personal vote. There would be no more voters, but the internal structure of these companies would have improved from a democratic point of view.

Anyway, we should not forget that abstentionism in our Western societies has deep roots and does not depend only on the ease of voting (see An99). Simplified voting procedures, like those provided by some e-voting systems, may eliminate some of the reasons for current abstentionism, but obviously not all of them.

Having analysed the arguments in favour of e-voting solutions in countries with consolidated democratic systems, we conclude that, even with trustworthy electoral procedures, new technologies could enrich citizen participation mechanisms.

In any case, not all countries have consolidated systems. Many states make enormous efforts to increase the reliability of their electoral logistics, but are often confronted with corruption, disinterest or with the illiteracy of large segments of the population (II). Can the electronic vote provide positive solutions to this worrying situation? Would we not perhaps be making a mistake by attempting to introduce sophisticated technological mechanisms in countries whose priorities, as we have seen, should be others?

The answer to this question depends not only on the situation with which we are confronted but also on the technological option chosen. Firstly, we should be aware that, although we may find that some countries have structural deficiencies in the socio-electoral area, the differences between them could be so considerable that it is not possible to have a generic approach to questions that require individual study. It should also be said, however, that even in extreme cases the electronic vote can provide positive new aspects.

Brazil and India can serve as a reference given that they are countries where the logistics surrounding elections present very serious problems. Their geographical dimension, corrupt attitudes and the widespread poverty and illiteracy are enormous challenges for any proposal that plans to develop a democratic process. Despite all this, both countries are using electronic ballots.

Brazil, for example, has been able to generalize the use of electronic voting by way of touch screens (see Ri03: § 31-47). The important aspect of this case is that technological modernization has helped to reduce some of the deficiencies mentioned above. In this way, the design of the screen, which emphasized such graphical elements as the photo of the candidate, has allowed both complete and functional illiterate people to exercise their right to vote in a simpler, more intuitive and safer way than the traditional ballot. On the other hand, the fact that computers automatically count all the votes could help to prevent, although not eradicate, the traditional dangers of electoral corruption.

In the case of India, elections in 2004 have demonstrated that it is possible to introduce extraordinarily simple electronic systems (see Te04; Id04). Although the model may contain some defects, the novelty of the experience was that it tested a range of electronic voting tools that were not complex but could modernize the Indian electoral process at a reasonable price.

### 3 Concluding remarks

Having analysed examples from both developing and developed countries, we can conclude that legal electoral regulations cannot be excluded from technological innovations such as electronic voting systems. There are several reasons for this: the need to prevent outdated political systems, the fact that the political participation of specific groups can be improved or the possibility that the current electoral corruption in some countries can be reduced. These innovations should naturally be undertaken with care. There is no room for adventurous behaviour, which disregards the virtues of the current systems and hopes to improve these with excessive naivety or technological optimism. It is not admissible, for example, that the electoral fiasco that took place in the United States in the 2000 presidential elections be hastily resolved by way of introducing electronic ballot boxes that had not been adequately controlled (see KSR04). The scandals that have arisen in relation to firms such as *Diebold* do very little in favour of a technological modernization process that, if appropriately implemented, is already an imperative need in current democratic systems.

Neither is it possible to accept those strategies that try to make massive e-voting evaluations without clear rules governing the attendance of independent observers or without officially publishing the results of the survey carried out during the electoral days. Unfortunately, the Spanish Government made these mistakes in 2005 during the referendum on the European Constitution.

### 4 References

- [An99] Anduiza Perea, E.: *¿Individuos o sistemas? Las razones de la abstención en Europa occidental*. Centro de Investigaciones Sociológicas, Madrid, 1999.
- [AT01] Auer, A.; Trechsel, A. H.: *Voter par Internet? Le projet e-voting dans le canton de Genève dans une perspective socio-politique et juridique*. Helbing & Lichtenhahn, Bale, 2001. [www.geneve.ch/evoting/doc/voter\\_par\\_internet.pdf](http://www.geneve.ch/evoting/doc/voter_par_internet.pdf) [November 30<sup>th</sup> 2004]
- [BR04] Barrat i Esteve, J.; Renu i Vilamala, J. M.: *Informe de las experiencias de voto electrónico empleadas en las elecciones catalanas de noviembre 2003*. Universidad de León – OVE / Universitat de Barcelona, León / Barcelona, 2004. [www3.unileon.es/dp/aco/area/jordi/treballs/evot/cat03.pdf](http://www3.unileon.es/dp/aco/area/jordi/treballs/evot/cat03.pdf) [November 30<sup>th</sup> 2004]
- [BR04a] Barrat i Esteve, J.; Renu i Vilamala, J. M.: *Democracia electrónica y participación ciudadana. Informe sociológico y jurídico de la Consulta ciudadana “MadridParticipa”*. Ayuntamiento de Madrid, Madrid, 2004. [www3.unileon.es/dp/aco/area/jordi/treballs/evot/lilibreesp.pdf](http://www3.unileon.es/dp/aco/area/jordi/treballs/evot/lilibreesp.pdf) [November 30<sup>th</sup> 2004]

- [Ca03] Calderón Chelius, L. (coord.): Votar en la distancia. La extensión de los derechos políticos a migrantes, experiencias comparadas. (Col. “Contemporánea Sociología”), Instituto Mora, Mexico DF, 2003.
- [Ci05] Cisteró i Fortuny, O.: E-Vot vinculant per Internet. Eleccions als càrrecs de la Junta de Govern del Col·legi d'Enginyers Tècnics Industrials de Barcelona. Juny 2005. In: II Jornades de Signatura Electrònica. Agència Catalana de Certificació – CATCert, Barca, 2005. [www.js-e.net/cat/Archivos/ponencies\\_web/Oriol\\_Cistero.pdf](http://www.js-e.net/cat/Archivos/ponencies_web/Oriol_Cistero.pdf) [January 5<sup>th</sup> 2006]
- [Fu00] Fundació Jaume Bofill: La votació electrònica: un debat necessari. (Col. “Debats de l’Aula Provença – 33”), Fundació Jaume Bofill, Barcelona, 2000.
- [Gr03] Gritzalis, D. A. (ed.): Secure Electronic Voting. Advances in Information Security. Kluwer, Boston, 2003.
- [Id04] IDA – Interchange of Data between Administrations: India’s massive e-vote considered a success. IDA / European Union – eGovernment News / May 17<sup>th</sup> 2004. [europa.eu.int/ISPO/ida/jsps/index.jsp?fuseAction=showDocument&documentID=2551&parent=chapter&preChapterID=0-140-194](http://europa.eu.int/ISPO/ida/jsps/index.jsp?fuseAction=showDocument&documentID=2551&parent=chapter&preChapterID=0-140-194) [May 21<sup>st</sup> 2004]
- [In03] Informe: Informe de la Comisión especial para el fomento de la transparencia y seguridad en los mercados y en las sociedades cotizadas. Comisión especial para el fomento de la transparencia y la seguridad en los mercados financieros y en las sociedades cotizadas, 8<sup>th</sup> January 2003. [www.cnmv.es/publicaciones/informefinal.pdf](http://www.cnmv.es/publicaciones/informefinal.pdf) [November 30<sup>th</sup> 2004]
- [KB04] Kersting, N.; Baldersheim, H. (eds.): Electronic Voting and Democracy: a Comparative Analysis. Palgrave Macmillan, Basingtoke, 2004.
- [KK05] Kies, R.; Kriesi, H.: Designing internet voting. The potential impact of a pre-voting public sphere on pre-electoral opinion formation. In (Trechsel, A. H.; Mendez, F., Eds.): The European Union and E-voting. Addressing the European Parliament’s internet voting challenge. Routledge, London, 2005; pp. 147-165.
- [KSR04] Kohno, T.; Stubblefield, A.; Rubin, A. D.; Wallach, D. S.: Analysis of an Electronic Voting System. 2004 IEEE Symposium on Security and Privacy, 2004. [avirubin.com/vote.pdf](http://avirubin.com/vote.pdf) [August 18<sup>th</sup> 2004]
- [PK04] Prosser, A.; Krimmer, R.: Electronic Voting in Europe. Technology, Law, Politics and Society. Gesellschaft für Informatik, Bonn, 2004.
- [Re03] Remmert, M.: Developing a common framework for e-voting in Europe: The Council of Europe’s draft recommendation on the legal, operational and technical aspects of e-voting. ACEEEO – Association of Central and Eastern European Election Officials, Annual Conference / London – October 2003. [www.coe.int/t/e/integrated%5Fprojects/democracy/02%5FActivities/02%5Fvoting/04%5FBackground%5Fdocuments/07\\_Presentation\\_MR.asp#TopOfPage](http://www.coe.int/t/e/integrated%5Fprojects/democracy/02%5FActivities/02%5Fvoting/04%5FBackground%5Fdocuments/07_Presentation_MR.asp#TopOfPage) [August 17<sup>th</sup> 2004]
- [Ri03] Rial, J.: Modernización del proceso electoral: voto electrónico. Observatorio Electoral Latinoamericano, [2003]. [observatorioelectoral.org/biblioteca/?bookID=26](http://observatorioelectoral.org/biblioteca/?bookID=26) [August 18<sup>th</sup> 2004]
- [Su01] Sunstein, C. R.: Republic.com. Princeton University Press, Princeton.
- [Te04] Techaos: Indian EVM compared with Diebold. Tech Chaos, personal blog / May 13<sup>rd</sup> 2004. [techaos.blogspot.com/2004/05/indian-evm-compared-with-diebold.html](http://techaos.blogspot.com/2004/05/indian-evm-compared-with-diebold.html) [July 28<sup>th</sup> 2004]
- [TM05] Trechsel, A. H.; Mendez, F. (eds.): The European Union and E-voting. Addressing the European Parliament’s internet voting challenge. Routledge, London, 2005.
- [Tu05] Tula, M. I. (coord.): Voto electrónico. Entre votos y máquinas. Las nuevas tecnologías en los procesos electorales. Ariel, Buenos Aires, 2005.
- [Va04] Vañó Vañó, M. J.: Transparencia y nuevas tecnologías en las cooperativas de crédito. In: CIRIEC-España, Revista economía pública, social y cooperativa. 49, 2004; p.117-141.
- [Va05] Vañó Vañó, M. J.: Derecho de sociedades y comunicaciones electrónicas. In (Plaza Penadé, J., Coord.): Cuestiones actuales de derecho y tecnologías de la información y la comunicación (TICS). Aranzadi, Cizur Menor, 2005; pp. 225-255.