FINAL REPORT:

- **5th review meeting of Rec (2004)11 on legal, operational and technical standards for e-voting**

  Lochau, Austria, 28 October 2014

- **EVOTE 2914 Conference**

  Lochau, Austria, 29-31 October 2014

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5th review meeting of Rec (2004)11 on e-voting

INTRODUCTORY REMARKS

1. The Committee of Ministers' Recommendation Rec(2004)11 to member states on legal, operational and technical standards for e-voting was adopted by the Ministers' Deputies in September 2004. The Recommendation invites member states to keep under review their policy on and experience of e-voting. The fifth biennial review meeting was held on 28 October 2014 in Lochau/Bregenz in Austria, back to back with the fifth EVOTE2014 conference that took place from 29 to 31 October.

2. The review meeting was attended by representatives from sixteen Council of Europe member states and representatives of the following organizations: International IDEA, Joint EC-UNDP task force on electoral assistance, OSCE/ODIHR and of E-Voting.cc. A number of e-voting experts and researchers attended the meeting. The Council of Europe was presented by its secretariat, namely Mr. François Friederich, Head of Division of Electoral Assistance and Census, Mr. Adrián Rodríguez-Pérez from the same division as well as by Mr. Pierre Garrone, Head of the Elections and Referendums Division of the European Commission for Democracy through Law (Venice Commission).

3. In its opening remarks, Mr. Friederich thanked the Austrian hosts, both the Ministry of the Interior and the Austrian Permanent Representation to the Council of Europe, for the very good cooperation in preparing the conference. With its biennial meetings on developments in the field of electronic voting (e-voting), the Council of Europe provides a platform for considering these developments at a European level. Mr. Friederich recalled that an e-voting experts' meeting was held in December 2013 in Vienna. Several countries were represented. The meeting concluded that there are a number of strong and valid reasons for updating Recommendation Rec(2004)11. The conclusions of the experts were conveyed last Spring to the Committee of Ministers which mandated the Secretariat to continue working on this issue.

4. Mr. Friederich pointed out that the question of the update of Rec(2004)11, its scope and objectives, was at the heart of the present fifth review conference. He invited participants to expose their detailed view on the future update of the Recommendation, the parts of it that need to be reviewed, the most recent technical and political trends in their respective countries, etc. The conclusions of the fifth review meeting will be handed to GR-DEM - the Group of Rapporteurs on Democracy of the Committee of Ministers - with the request to mandate the Secretariat to conduct the updating work in the year or years to come.

5. Mr. Robert Stein, head of the Elections Department of the Austrian Ministry of the Interior, reminded of the special link that exists between Bregenz/Lochau and the Recommendation. The first Bregenz EVOTE conference took place in 2004 immediately after the groups of experts finished writing the Recommendation. He reminded of the important role of previous biennial review meetings in assessing and further developing the Recommendation, namely by adopting the Guidelines on

Transparency and Certification. He considered the presence of sixteen countries at the present fifth review meeting (three more than in the previous one) as an evidence not only of the appreciation for the role played so far by the Council of Europe in this area but also as a call upon it to continue work in this field.

6. There is interest in e-voting in Austria, Mr. Stein explained, especially from citizens, policy makers and research. Positive experiences with postal voting -a form of remote voting- and the existence of a well-established e-government strategy have lead to reflections on the use of new voting channels. The Council of Europe's work on e-voting is considered professional, inter-disciplinary and neutral and as such needs to be continued.

7. Written countries' reports describing past activities and upcoming efforts on e-voting had been previously submitted by Armenia, Austria, Belgium, the Czech Republic, Estonia, Finland, Hungary, Liechtenstein, Lithuania, the Netherlands, Slovenia, Spain, Sweden, Switzerland and Turkey. After the opening remarks by the Council of Europe, governmental representatives gave presentations on e-voting developments in their respective countries. Countries that did not make *ad hoc* presentations were invited to inform the meeting on their views on e-voting.

PRESENTATIONS BY COUNTRIES

Austria

8. Practical experiences with e-voting remain limited to the students' federation elections of 2009. Failures encountered were mainly due to administration issues and showed the need to take into account concerns and to involve all stakeholders. Despite their supposed affinity for technology, students took a suspicious approach to voting via the Internet (i-voting). Using e-voting in political elections would require a modification of the Constitution and the backing of 2/3 of the members of parliament.

9. Citizens' participation in decision-making and online tools that facilitate it are on the political agenda. A "democracy package" bill introduced in 2013 contains proposals to strengthen direct democracy. The creation of a centralized voters' register accessible online is foreseen. An associated idea is to offer online tools in relation to people's initiatives (*Volksbegehren*), which allow citizens to launch and sign proposals that are submitted to Parliament. The introduction of the European Citizens' Initiative in April 2012 has further stimulated reflection.

Belgium

10. Belgium uses electronic voting with voting machines in polling stations since 1994. The Brussels-Capital Region uses automated voting for its entire electorate. Following a major problem occurred in 2014, a new discussion is underway on risks. Unlike other processes, e.g. industrial, e-

voting requires for the supplier not only an obligation of means, but also of results. The question of timetables is also vital in e-voting: deadlines cannot be extended. Finally, and unlike other electronic process, in e-voting there is a limit on monitoring from the moment the voter casts the ballot. These reflections brought the authorities to conclude that zero risk does not exists, even when a set of control procedures are put in place regarding independent certifiers, electoral management authorities organizing the elections and the panel of experts who check all the procedures.

11. Belgium is currently conducting a more profound risk analysis. Beyond the technical issues and research errors and their impact, one of the fundamental issues raised by e-voting is related to the communications strategy and the trust of voters, or on how to restore confidence when errors occur. In Belgium, the communication strategy has evolved over time from "total silence" to "complete transparency." As regards the confidence, it continues to be high. For example, in the Capital Region where 100% of the electorate vote on a voting machine, 95% of voters trust the system. However, in case of problems, the lobbying of anti-e-voting groups, despite their small number, amplifies the problems and can diminish the confidence of voters. As a result of the e-voting, Flanders has introduced a new system with voter-verified paper audit trails and most likely will continue using it. Wallonia will probably return to vote on paper and the Brussels region is currently considering various options. It introduced a new system on about half of the municipalities and significant financial effort is needed to extend the new system to the entire region.

Estonia

12. Estonia conducts i-voting with binding effect since 2005. Legislation has evolved from a few basic requirements introduced in 2002, to more detailed provisions adopted in 2005, to the latest modifications of 2011. Following the parliamentary elections and the OSCE/ODIHR report of 2011 the Parliament decided to amend and complete the legal provisions on i-voting. Their number passed from barely five paragraphs to a dedicated chapter of more than twenty paragraphs. The national electoral committee introduced a specific decree that regulates the technical aspects of i-voting. A special seven-member electronic voting committee was created. It assumes responsibility for i-voting conduct and supervision.

13. A major development was the introduction in 2012 of a form of verification. It was piloted in the local elections of 2013 and in the European parliamentary elections of 2014 and will be officially used in the parliamentary elections of 2015. Such verification is intended to prove to the voter that the vote reached the voting server as intended thus offering a way to check the voter's private computer. The procedure implies a QR code which is showed on the screen after the vote to be photographed by the voter and later checked through cryptographic solutions. The verification can be conducted in the 30 minutes that follow the vote. Thanks to the possibility of re-voting the introduction of this kind of verification does not require procedural changes. Another novelty was to equalize i-voting and paper based advanced voting period (7 days).

14. The percentage of i-voters has steadily risen since its first use in 2005 passing from 1.3% to more than 30% in the last European Parliament elections (2014). This trend is expected to continue in

the forthcoming parliamentary elections of March 2015. Several studies have found a slight positive impact of i-voting on overall turnout of 3 to 4%.

Finland

15. The Ministry of Justice set up a year ago a technical group to prepare for the introduction of i-voting. Part of its mandate is to organize a technical dialogue with companies that provide such solutions. The dialogue has been a success and eight companies participated in it. The main issue to be solved currently is the unique identification of the voter. Currently 99% of identification is done through bank IDs.

16. A governmental decision was taken in June 2015 to use i-voting in consultative municipal referenda. The decision on the use of i-voting in political elections will be taken separately, probably after the next parliamentary elections of April 2015, by the new government. The working group now focuses on system requirements' specifications.

Hungary

17. Hungary has examined e-voting solutions from controlled environments for expatriates. It has a strong IT support for election administration since the beginning of 2000. Motivated by the need to have quicker counting and rapid preliminary results for votes coming from abroad (around 200,000), Hungary recently introduced scanners to count the votes of expatriates.

18. When compiling the legal basis for the use of scanners, Hungary took good note of Rec(2004)11, of judicial decisions such as the 2009 decision of the Constitutional Court of Germany on e-voting and of experiences elsewhere. The legal basis was introduced shortly before the elections with little time left for piloting. As a result, scanners were used only to provide preliminary results. The legally binding results were declared after manual counting. The difference was of 51 ballots. Investigations showed that scanners could not read paper ballots marked with green ink. This showed the importance of comprehensive testing. The use of e-voting including scanners in foreign locations to accelerate vote casting and counting is envisaged. The issue of disclosing the source code needs to be considered and vendors' resistance should be overcome.

The Netherlands

19. The Netherlands had used e-voting machines for a long time in almost 99% of the country, when the action group "We don't trust voting computers" opposed them in 2006 proving that it was easy to replace the chip of the machine unnoticed. There was loss of trust in e-voting. In 2007 an ad-hoc commission arrived at the conclusion that introducing a new system of vote-printing and vote-scanning machines was an acceptable solution. However the Government was reticent because of

costs and of the tempest problem, i.e. the possibility of reading from a distance the radiation of the machine. For the first time since many years, the 2009 elections were organized with pen and paper alone.

20. A new commission defined in 2013 the principles that should apply to electoral processes which include the seven principles of the recommendation and an eighth one: the principle of independence of the institution in charge of taking key decisions in the electoral process. The commission examined different methods for casting votes and concluded that both e-voting on vote-printers and subsequent e-counting as well as manual voting followed by e-counting present acceptable risks and satisfy the principles applicable to the electoral process. The commission believes that the principles can only be guaranteed if the principle of the paper vote is maintained. The counting can be done electronically however manual counting should remain possible.

21. The advantages of the proposed vote-printing and vote-scanning system include better accessibility for people with disabilities, higher level of transparency and verifiability, better and faster results. Obtaining better results is important given the particularity of the ballot papers which are huge and contain a great number of candidates and the fact that counting errors occur regularly during manual counting.

22. The 2013 commission formulated several technical requirements among which: common criteria certification (EAL 5 and 6) for both the vote printer and scanner and protection profiles[1], the publishing of source code, measures against the tempest problem and no use of off-the-shelf printers or scanners. On the tempest problem the commission proposed to reduce radiation to eight meters by adopting a NATO standard. The commission proposed one central administrative body responsible for the machines, the testing and other analysis. The commission also issued provisions on standard recounts - to be conducted sporadically - as necessary to check whether the scanner worked well. Several universities and IT firms are currently working on issues such as access for the disabled or illiterate persons, methods for verifying the counting outcome, development of a protection profile, etc. The Ministry of Interior is experimenting a new, smaller, type of ballot which could be sent by email to the voters abroad. It has also expressed some, so far unclear, thoughts on internet voting.

23. The proposed vote-printing and vote-scanning system also faces a number of problems which include a highly decentralised system for election administration, the high costs for introducing the new system (estimated at around 150 and 250 million Euros, which represents 6 to 10 million Euros more than the costs of the current-system), the fact that the NATO standard for mitigating the tempest problem is a classified one, the fact that there only exist little capacities in the Netherlands for testing printers and scanners and furthermore the process is time-consuming.

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[1] The "Common Criteria for Information Technology Security Evaluation" (abbreviated as "Common Criteria" or "CC") is an international standard (ISO/IEC 15408) for computer security certification. "EAL" means Evaluation Assurance Level. "Protection profiles" is a related concept. More: http://en.wikipedia.org/wiki/Common_Criteria

Russian Federation

24. A mandatory automated voting system - SAS VYBORY (elections, in Russian) - is used since years for elections and referenda at federal, regional and local levels based on provisions of the Constitution, of electoral legislation and of regulations issued by the Central Electoral Commission. SAS VYBORY is used for all steps of the elections, starting with the publication of the decision to hold the elections up to the summarization of results and has proved to be reliable. It has a layered geographically distributed structure which replicates the structure of the electoral Commission of the Russian Federation, comprising automation facilities of the central electoral commission, of 85 subjects' commissions and of 2,756 territorial electoral commissions. The Russian federation has two types of electronic voting: electronic processing of ballot papers through contact optical scanning and e-voting machines in polling stations.

25. Legislation was modified in 2013 allowing voting returns to be done in electronic form, which means an electronic document containing voting returns document and the electronic signature of all members of the electoral commission. In 2013-2014 a number of experiences have been conducted in cooperation with voters, parties and civil society aiming at the automation of the working place in the precinct. In a test in September 2014, 20 precincts were equipped with such automated systems. This would ensure among others control by observers of all activities conducted in the precinct.

26. Rec(2004)11 is considered as an important instrument which needs to be reviewed in the light of technical developments and taking into account countries' experiences. The Russian Federation suggests that unified requirements for certification of e-voting systems and needed and proposes the setting up of an international body, which provides certification of e-voting systems and operates on a non-commercial basis and involves representatives of the member states of the Council of Europe. This should contribute to earning and preserving confidence in the election outcomes among others. Unified recommendations for the observers of the e-voting process are as well necessary.

Switzerland

27. To understand the track followed by Switzerland in internet voting, one needs to understand some of the specificities of the country such as direct democracy and federalism. People go to the polls an average four times a year (referenda). Voting including i-voting is regulated both at the federal (ground regulation) and cantonal level (detailed regulation). At the operational level it is the cantons who operate the systems, including i-voting ones. Another precondition is that postal voting is completely liberalized and each voter receives the voting material at home and decides whether to vote by post or go to the polling station. Almost 90% of voters vote per mail. This explains why Switzerland has not envisaged e-voting in polling stations but only distant internet voting. Some 190 i-voting trials were conducted so far by the cantons in 30 federal referenda and elections, the latest one being on 28 September 2014. Of the 170,000 voters authorized to vote electronically 26,000 did

actually cast their vote via the Internet. The general turnout is relatively low so the figures are to be read against this context.

28. The project which started at the beginning of 2000 is still in a trial phase meaning it is not possible for everyone to vote electronically. In its third report on e-voting published in June 2013 and the ensuing new legislation the Government set the conditions for allowing the extension of internet voting up to 100% of the electorate. Main legal provisions are to be found in the federal law on political rights. Detailed requirements are included in the federal decree on political rights and technical specifications are to be found in the regulation of the federal Chancellery - the body in charge of votes and elections at the federal level. The decree was modified in 2013 and the regulation was introduced at the same time. Both entered into force in January 2014. The decree contains conditions for extending i-voting to a larger, resp. to all the electorate. Requirements on risk assessment, audits and transparency became more detailed. The main newly introduced condition is the one on verifiability. The introduction of individual verifiability allows a canton to offer i-voting up to 50% of the electorate. By adding universal verifiability it is possible to extend it to 100% of the electorate. The regulation is available in German, French, Italian and English. Ongoing work includes the introduction of individual verifiability by the three systems in use (Geneva, Zurich, Neuchâtel) (ongoing tests and first use of individual verifiability at the 8 march 2015 vote), use of i-voting at the October 2015 national elections and extension of i-voting to Swiss residents in 2016 in many cantons which currently only offer this channel to expatriates.

Turkey

29. The representative of the Supreme election council reported on the electronic election management system of Turkey. The Supreme election council conducts overall election management, election supervision and is also last instance election judiciary board. In 2012 legislation was amended and the possibility of e-voting for out-of-the-country voters was introduced. However the Supreme council has not yet met a decision on the effective use of the e-voting possibility. At the last presidential elections of August 2014, some 3 million people from 54 different countries voted from abroad in 4,128 voting centres created by more than 100 Turkish consulates. Although e-voting was not used, electronic solutions such as the online ballot box voter list application backed the election. A number of pre-conditions to an e-voting introduction already exist in Turkey including a centralized voter register database continuously updated and integrated with the national address database and the unique identity number. New electronic identity cards and mobile electronic signature are legally regulated. Lessons learned and experience gained with Rec(2004)11 will be helpful to the Supreme council when evaluating the opportunity to introduce e-voting.

30. The Turkish representative also informed about the electronic management system for elections called SEÇSIS. This is composed of an application system used by district and province electoral boards to retrieve and deliver information at all steps of elections and of a web portal which enables individual voters, parties and civil society to monitor information registered in the system on polling stations, identity, addresses, etc.. The two systems are not physically linked but the data

entered in the application system is transferred into the web portal and can be accessed online. The SEÇSIS project was initiated in 1986 already. It is used to administer the electoral processes for the 52 million Turkish voters. The main users of the application system are the 680 district electoral bodies. It is also used at the consulates the organize voting from abroad thus helping to prevent multiple voting. Scanners are furthermore used to count the votes. The SEÇSIS system is integrated with other e-government projects (addresses, ID, etc.) allowing electoral bodies to download the latest updated electoral lists. A results-sharing system is used to inform the parties. SEÇSIS also feeds the "election night results reporting" system. SEÇSIS offers several benefits to voters, election administration bodies and to the public at large and has won several awards.

31. Countries that did not make *ad hoc* presentations were invited to inform the meeting on their views on e-voting

Albania

32. Albania has some preconditions for e-voting such as biometric ID cards. Implementing online internet voting is envisaged once the voter's authentication is ensured (the use of card readers is foreseen). An attempt to introduce e-voting at the last elections failed because of tight deadlines. However e-voting remains an issue for the Government.

Armenia

33. Armenia offers e-voting via internet on the website of the Central Electoral Commission through a dedicated software to diplomatic staff and their families which are absent from the country on voting day. The number of votes casted via the Internet is around 200, a quite small number compared to the 2,5 million registered voters. This is a pilot project and reactions by users have been good. A broader use of e-voting could be possible only upon political consent and necessary changes in the electoral legislation.

Georgia

34. Georgia does not havet legislation on e-voting so far and no common position at the Government, political and other stakeholders' level. If e-voting will be envisaged it would be e-voting machines.

Lithuania

35. E-voting has been considered in Lithuania for a long time. However, legislation has still to be adopted. A majority of Lithuanian citizens, both residents and abroad, support e-voting. A project to modify the legislation is currently in Parliament. If approved at this fall's session it could enter into force early next year. Estimation show that introduction of e-voting would cost around 2 million Euros, to be used for creating the system and for an information campaign.

Spain

36. Spain had a project in 2012 to run a pilot but it did not happen. Legislation currently does not foresee neither e-voting nor e-counting. Electronically-backed solutions are used outside the vote casting and counting processes. For example binding pilots for transmitting preliminary results via tablets from polling stations has taken place. Such a system has proved to be reliable and preliminary results are trusted by people. Furthermore all polling stations are being equipped with a computer containing dedicated software and a printer allowing the polling station personnel to conduct all its tasks (such as filling-in the different forms) electronically.

37. It is suggested that regular EMB meetings be used to review e-voting and other technology-related developments in the member states. A database could be created to that effect at the Council of Europe.

Sweden

38. There is at present no legal framework for carrying out e-voting in Sweden. A parliamentary committee investigated amendments in electoral procedures last year. One of the tasks was to introduce e-voting in Sweden. They proposed a trial in 2018 on the condition of having a technical committee established and working prior to it. A draft directive was presented by the former government. The new government established after last September's elections has not yet decided on the draft directive. One political party that opposes e-voting is now part of the new Government so the political discussion is far from over. Internet voting was the e-voting channel that was initially discussed. Later the committee also envisaged e-voting machines.

EC-UNDP Joint Task Force on Electoral Assistance

39. The UN representatives in the joint EC-UNDP task force on electoral assistance explained the e-voting situation in developing and post-crisis countries. The past ten years have seen a drastic increase in demand for assistance to introduce ICT in elections, mostly BVR (biometric voter registration) and RMS (results management system). Recently, some countries, mainly in Africa but

not only, are considering introducing e-voting. The UN is currently elaborating a broader policy on the use of ICT in elections and looks with interest at the ten year experience with Rec(2004)11. Reporting on the use of ICT, the UN Secretary General has insisted on ensuring sustainability, both financial sustainability and national capacities to prevent countries' dependence on vendors. A conference held two years ago in Mombasa produced some recommendations on e-voting, including the following:

- importance of a broad and open dialogue with stakeholders especially in post-conflict countries; importance of trust and public confidence;
- importance of feasibility studies which should also consider the infrastructure. The adoption of very expensive equipment and solutions in countries that lack basic services is questionable. It is important to introduce ICT at the right time and take into account the real advantages it brings to the processes;
- importance of piloting, of a step-by-step policy and of avoiding big-bang approaches;
- issues such as security, vote buying, secrecy of the vote are very important and even more acute in a post-conflict context;
- importance of offering the civil society the possibility to observe the process, as a way of building trust in it.

40. The Joint EC-UNDP task force organises an e-voting meeting in April 2015 mainly with African and Asian representatives. EMBs present at the Council of Europe biennial meeting were invited to participate and share their experience on e-voting with African and Asian EMBs. Such ten years long experience would be very helpful to countries considering the introduction of e-voting.

OSCE/ODIHR

41. The OSCE representative discussed the importance of e-voting observation and related challenges. New voting technologies (NVT) is the term used by OSCE to cover the use of ICT in the casting, counting and tabulation of votes. This includes using ballot scanners, Direct-recording electronic voting machines (DREs) and i-voting. OSCE, which conducts election observation and technical assistance in the 57 participating countries, observes a recent a growing attention and interest on NVT by EMBs and the populations at large. Almost half of the 57 participating states are currently using or actively exploring the use of NVT in the electoral processes. ODIHR checks that this use is in line with electoral standards and good practice for elections' administration. It has refined its methodology over time and published a Handbook on observation of NVT in 2013, available in English and Russian.

42. Since 2004 ODIHR has observed the use of NVT in 25 elections in 13 OSCE countries. According to its methodology NVT is observed in the various stages of the electoral cycle. More than a 140 recommendations on its use of NVT were issued in relation to the 25 mentioned missions. NVT has also become an intrinsic part of OSCE follow-up efforts to assist countries improve their elections.

This has included discussion of NVT recommendations (Estonia), in-depth assessments of initiatives to introduce NVT (Tajikistan), assistance in drafting e-voting legislation (Albania) or formal reviews of legislation (Norway). Importantly, e-voting requires a pre-existing level of trust and confidence as opposed to installing it once it has been introduced. The OSCE considers the choice of NVT to be a sovereign decision of each state. However, when introducing NVT a state should follow a balanced and gradual approach acknowledging the potential risks as well as the benefits.

43. When assessing NVT, ODIHR refers to the principles of the 1990 Copenhagen Document and to other documents, in particular Rec(2004)11 on e-voting. Key lines of enquiry include the following: organisation of feasibility studies to evaluate the benefits and challenges of introducing NVT; address identified needs and the overall value added by NVT; adopt a gradual approach to introducing technology; conduct of public procurement processes for choosing the solution and their quality; the status of NVT legislation; the training and education of EMBs and the public; risk management policies; the secrecy of the vote and the integrity of results. Observation can deter potential malpractice, enhance confidence in the process and ensure valuable feedback for the future development of NVT.

International IDEA

44. IDEA's representative presented a new publication on the use of open source in election administration. The publication considers open source as an effort towards making elections more transparent and sustainable. Some 150 countries' EMBs were asked about their use of open source solutions: 20% stated that they are using open source at some point in election management and 65% never considered the issue. Reported reasons for using open source are the expected benefits of such transparency effort, open source providing not only technical openness but also a cultural one. Lack of consideration for open source is sometime based on misconceptions such as open source being held as inherently insecure and immature, lacking professional support and conflicting with the protection of intellectual property. Objective reasons for not using open source include the lack of a global open source community, the fact that existing undisclosed source solutions are important precedents, that the well established market based on closed business models is reluctant to change and companies charge for opening up source code. On the demand side, calls for open source come mainly from civil society (not EMBs) and are difficult to implement. EMBs may consider closed solutions as a protection from criticism. Globally there is little awareness on this issue. Open source is too often considered as a technical detail instead of being seen as a more fundamental choice for the transparency of elections. The publication concludes that transparency of elections requires transparency of technology used in elections and thus open source. According to the publication the decision on its use should be taken by the bodies responsible for ensuring the transparency of elections. The publication aims at increasing awareness on this issue globally. Several standards of Rec(2004)11 already relate to issues of transparency of elections. Including a standard on open source may be envisaged in a future update.

45. Elections in Latin America are often based on mistrust and one of the main reasons for introducing e-voting is to mitigate and detect fraud. Other reasons include reducing costs and optimising procedures. The recent presidential election in Brazil provided an inspiring example of trust in a well-implemented voting technology. Some 142 million registered voters vote exclusively on voting machines there. Despite the fact that the difference between the winner and the loser was very narrow (3% or some 3 million votes) and the number of invalid votes higher than that (5 million), there was no claim of fraud and the candidate that lost accepted defeat.

46. Other e-voting countries include Argentina, Mexico, Peru, Ecuador, Costa Rica, Panama, Colombia and Granada. Chile, Paraguay, Honduras and Ecuador use electronics means for the transmission of results. Some trends observed in Latin America include the use of ISO 9001:2008 certification to ensure quality management of elections by EMBs (Mexico, Peru, Costa Rica, Panama), piloting and incremental approach to e-voting introduction (Peru), starting with non-binding pilots (Ecuador, Costa Rica, Panama), developing e-voting software in-house (Costa Rica), integrating e-voting into the broader e-government strategy (Panama), the setting up of an e-voting committee to prepare for e-voting introduction (Colombia). One of the main challenges is the education of EMBs and of the legislator on e-voting challenges and opportunities. The problem is that often choices that are later put into legislation and e-voting practice are often suggested by vendors. Rec(2004)11 of the Council of Europe has played an important role in this context in Latin America, where it remains a reference document throughout the region.

QUESTIONS AND ANSWERS SESSION

47. Questioned on the **relevance of the Council of Europe's Rec(2004)11** and especially of the Guidelines on certification when writing the national recommendations on certification, the representative of the Netherlands informed that the Council of Europe documents were especially helpful in the preparatory phase, before the Commission reached its conclusion to opt for vote-printing and vote-scanning machines. After that, work focused on more detailed questions, namely on security levels, costs, the creation of a centralized e-voting management body and its position in the current decentralized structure of election administration in the Netherlands, etc.

48. The **issue of costs** was discussed. In the Netherlands there was some hope, especially on the side of local government, that e-voting would present lower costs than traditional voting. However the amount announced in the 2013 report by the *ad hoc* commission showed that introducing the new system would be more expensive. In Estonia most of the costs for administering elections come from traditional voting and the need to pay polling stations personnel. In parallel with the introduction of i-voting in the last 10 years, the number of polling stations decreased from 700 to some 550, thus reducing costs. Less people frequent polling stations nowadays. According to the Estonian experience i-voting has a high entry-level cost (the initial cost for setting up of the system being 250,000 Euros).

The costs for upgrading the system from one election to the other represent 30,000 to 40,000 Euros. Major upgrades are also costly. A new generation system to be introduced in 2016-2017 will also present important costs.

49. Questioned on a possible change of mood of the public **from total support of/to total mistrust in e-voting**, as this happened a few years ago in the Netherlands, the Estonian representative insisted on the fact that the country-specific historical, political or technological context plays a major role. Success of i-voting in Estonia is mainly based on the e-IDs that many other countries do not have and on solid and growing support of the public in Government's e-policies at large. It is impossible and even dangerous to apply the Estonian solution as such in a different context. This may also explain why, despite strong opposition to e-voting, the public trust remains high and the number of i-voters has kept climbing over time.

50. The issue of ways of **dealing with public scepticism** and of **communication strategies** was addressed by several countries. In Estonia, i-voting being only one of the 14 channels offered during parliamentary elections to a small electorate (every vote is important), i-voting does not benefit from any special "advertisement". There is no special program on i-voting but there are special programs for dealing with e-IDs for example. In case there is mistrust, discussion is needed and whenever necessary, as in 2013, the law and procedures should be adapted. Strategies for dealing with scepticism and mistrust are country's specific depending on each country's specific profile and needs. Opposition for e.g. may be organized differently in different places. In Belgium according to a survey 95% of the voters trust e-voting system. The main approach in Switzerland can be summarized in the "security before speed" maxim. On the other hand, to inspire trust it is important that authorities gain experience with e-voting. Another factor specific to Switzerland is that debate takes place also at the cantonal (state) level and not only at the central federal level.

51. With respect to **e-voting observation**, questioned on the proposal to formalize such procedures, the Russian representative indicated that as no requirements exist in Russian legislation on observation of e-voting it would be interesting to have a unified approach to e-voting for observers, national and international ones. Such approach could be included in the Recommendation.

HORIZON 2016: CONCLUSIONS ON THE UPDATE OF REC(2004)11

Insights from the informal meeting of experts (Vienna, 2013)

52. Ms. Ardita Driza Maurer, legal expert, presented the results of the e-voting experts' meeting organized in December 2013 in Vienna by the Austrian Chairmanship of the Committee of Ministers of the Council of Europe in cooperation with the Division of Electoral Assistance. The Recommendation has been referred to by countries in the region when creating a legal framework for e-voting. Some have even integrated the Recommendation (or parts of it) in their national regulations. In the light of these developments the Council of Europe commissioned in 2013 a report on the issue of the update of the Recommendation. The report was discussed at the December 2013 meeting. Experts present at

the meeting formulated several recommendations on future work in this area. Their conclusions were conveyed to the Council of Ministers (see point 3 ff. above).

53. The Recommendation was a theoretically driven exercise because national legislations on e-voting as well as practical experiences at the time it was drafted were scarce. Furthermore it combines general recommendations, namely the legal ones, applicable throughout the region, with more detailed operational and technical ones. Countries were expected to apply the Recommendation as one block independently from the type of e-voting they introduced (no distinction is made in the Recommendation between e-voting in controlled and uncontrolled environments). These issues need to be corrected.

54. Furthermore e-voting has evolved rapidly in recent years. Solutions to ensure transparency for example have been introduced. An update offers the opportunity to legally define and regulate new concepts. The experts' 2013 meeting concluded that the wording of the Recommendation could be polished to take into account experiences in the past ten years, the evolution of e-voting as well as of our understanding of different issues. However, the Recommendation still remains a very valid document. The updating work is to be considered as an effort to enhance it and not to re-write it, certainly not from scratch.

Insights from the European Commission for Democracy through Law (Venice Commission)

55. Mr. Pierre Garrone, Head of the Elections and Referendums Division of the Venice Commission agreed with the conclusions of the 2013 experts' meeting. The Recommendation contains two types of standards: the general principles which should be stable (the Venice Commission favours stability of electoral legislation in general) and the technical issues which should be updated regularly based on experience and technical developments. The general principles are not e-voting specific. Concretely, appendix 1 A, legal principles, should be adapted only if absolutely necessary. Appendix 1 B, the procedural safeguards, includes principles such as transparency, accountability, etc. which are not e-voting specific and should remain stable, and implementation guidance which depends among others on developments in technology and as thus needs to be updated more often. Appendix 2, operational standards, still looks rather stable and not dependent on development of technology. Appendix 3, technical requirements, the longer and most detailed one, is much more open to amendments following developments in technology. There seems to be a crescendo in the need for change in the text going from the beginning to the end, from Appendix 1 A - the more rigid one, to Appendix 3, the more flexible one which would probably need regular updates if not continuous change.

56. It appears necessary to distinguish between more fundamental principles which should be included in the Recommendation. Details should be avoided so that the Recommendation remains as stable as possible. On the other side, there needs to be a practical check-list to evaluate the conformity of national solutions with international standards. This check-list should be updated regularly.

Conclusions

57. The open debate on the update of the Recommendation showed that countries agree on the need to update the Recommendation. It was stressed that an updated Recommendation needs to distinguish e-voting in controlled and uncontrolled environments; that it needs to focus on hard core principles applicable throughout the region leaving more detailed, check-list-style requirements in other, annex documents (similar to Guidelines) which can be more easily and frequently reviewed; that experts from different domains should be involved in the updating effort and wherever possible work done so far for example by academia is reused and perused when updating the Recommendation. It was stressed that the Recommendation is a helpful and unique reference not only in the Council of Europe region but on a global level.

58. The participants of the fifth Review Meeting on the Council of Ministers' Recommendation Rec(2004)11 on legal, operational and technical standards on e-voting expressed the view that the upcoming update of CM Rec(2004)11 should be undertaken in a concentrated way by a special ad hoc group of experts, as soon as possible, but at the latest in the intergovernmental structure within the next Programme and Budget 2016-17. To save costs, electronic means of exchange and negotiation should be used where possible. To assure the highest possible quality in the outcome of this update, this group of experts should be composed of government representatives from election management bodies supported, as necessary, by other relevant stakeholders such as academia, industry and civil society.

EVOTE2014 Conference

59. The 6th International Conference on Electronic Voting *EVOTE2014* was held on 28–31 October 2014 in Lochau/Bregenz, Austria. The conference – which celebrated its tenth anniversary – is one of the leading international events for e-voting. Experts from all over the world attended it. It provided a forum for interdisciplinary and open discussion of different issues relating to electronic voting. The theme this year was "Verifying the vote". The proceedings of the conference are online[2]. Below are a few notes on the contributions and discussions during these sessions from the author's legal perspective.

Session 1: Opening remarks and keynote speech

60. The keynote speech "Electoral Technology: Observations across Latin America" discussed the use of e-voting in Latin American countries. The Council of Europe's Rec(2004)11 apparently reached Latin America as early as 2006 and has been used since as *the* reference for e-voting legislation. One of the remaining challenges is to create a legal framework for e-voting. When writing legislation the legislator and the EMBs need to make informed decisions. Unbiased knowledge on e-technology is necessary to write good legislation. The Council of Europe Recommendation plays an important role in this context.

Session 2: Experiences with Internet Voting

61. During this session, experiences in Canada, Lithuania and Estonia were discussed. "The Patchwork of Internet Voting in Canada" showed that there is currently lack of standards on e-voting in Canada. The federal structure does not facilitate the task. Internet voting has been used in Canada at the provincial level as an alternative to postal voting. However, there exist so far no requirements on security, certification, etc. Despite this trust remains high. Collaboration between provinces and municipalities is considered to be necessary to introduce legislation and standards on e-voting.

62. The Lithuanian presentation "Practical Attempt to Overcome Internet Voting - Related Fears" presented a first practical attempt to introduce the advantages of online voting to the general public by offering a fully functional prototype that covers every major aspect of the online voting procedure.

63. "Verifiable Internet Voting in Estonia" discussed the introduction of verifiability in the Estonian i-voting. The scheme was used during the 2013 municipal elections and in the 2014 European Parliament elections. Interestingly, the author stressed that the greatest effort when introducing

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[2] http://www.e-voting.cc/en/portfolio-item/proceedings-evote2014/

verifiability was not the technical part of re-designing the system, but the effort it took to "educate" the politicians and legislators and other decision takers.

Session 3: Experiences with Voting Machines

64. Experiences from Argentina, The Netherlands and Ecuador were discussed here. "From Piloting to Roll-out: Voting Experience and Trust in the First Full e-election in Argentina" showed that the speed of implementation of e-voting has been higher in the developing world, especially in Latin America. The study showed that there is a strong effect of a voter's ability to use the voting machine without assistance on the overall support for e-voting and positive perceptions of integrity in the election process.

65. "E-voting in the Netherlands: Past, Current, Future?" presented a case study of the Netherlands, a country in which e-voting was the norm until 2006 and then was totally abandoned. Attempts are currently ongoing to re-introduce some form of e-voting.

66. "Implementation Project Electronic Voting Azuay - Ecuador 2014" discussed a pilot organized there in 2014. The author stated that legal developments in Europe were taken into account when discussing the legal principles for e-voting.

Session 4: Practicality of Technical Solutions

67. "Practical Provably Correct Voter Privacy Protecting End to End Voting Employing Multiparty Computations and Split Value Representations of Votes" and "Pretty Understandable Democracy 2.0" are two technical paper that discuss internet voting. The first discusses internet voting in the (yet theoretical) context of quantum computers which would require a re-thinking of all cryptographic solutions used today not only in e-voting but also in e-banking etc. The second discussed a practical solution based on code voting.

68. The session was followed by a discussion on the role of open source Technology in Elections, led by the Peter Wolf of International IDEA.

Session 5: Trust in Electronic Voting

69. The invited speaker discussed "Trust and Verifiability in Australian E-voting". She underlined that understanding the legal logic was a challenge when developing the technical end-to-end verifiable solution. Despite the importance of talking to each other, she regretted that cooperation between EMBs and decisions makers on the one side and researchers on the other is often determined by "personality" and is not systematic. She also noted that explaining technical solutions of verifiability to the public had proved to be much harder than initially thought.

70. "Trust in Internet Election: Observing the Norwegian Decryption and Counting Ceremony" discussed trust-building measures introduced in Norway in the 2013 internet voting experience, such as the decryption public ceremony.

Session 6: Verifiability, Auditing and Certification

71. "Proving the Monotonicity Criterion for a Plurality Vote-counting Program as a Step Towards Verified Vote-counting" discussed election auditing and verification tools. Very interestingly, the first author showed how a rather complex legal provision translates into codes and computer programming language and highlighted the necessity of having well structured and well expressed legal provisions. Their project (conducted in Australia) has shown that the legislation in question has a lot of ambiguities and is of a procedural nature and has proved difficult to translate into functional instruction (code). Their suggestion is to suggest to the legislator to formalize the law. It is clear from this project's perspective that legislation as it stands today was not written with automation in mind.

72. "Efficiently Auditing Multi-Level Elections" discussed post-election auditing in the USA. The session was followed by a short discussion on the merits of certification and the challenges it encounters.

Session 7: International Standards
Panel discussion: "International Standards on Electronic Voting: Are (Partially) Outdated Standards Better than Nothing? A Review of Experiences and Challenges with the Council of Europe Recommendation for Electronic Voting Rec(2004)11".

73. Session seven was dedicated to e-voting international (legal) standards. Gregor Wenda/Austria presented "Ten Years of Rec(2004)11 - The Council of Europe and E-voting". He discussed the work of the Council of Europe on e-voting and the Recommendation Rec(2004)11 from a historical and political perspective. He also presented ongoing efforts to have the Recommendation updated. The author of this report presented her paper "Ten Years Council of Europe Rec(2004)11: Lessons Learned and Outlook" where she discusses lessons learned that command an update and introduces a few proposals on how to tackle the updating work.

74. The session and the panel discussion were moderated by Nadja Braun Binder. The panel was composed of Priit Vinkel/Estonia, Ardita Driza Maurer/independent expert, Adrián Rodríguez-Pérez/Council of Europe, Gregor Wenda/Austria and Jordi Puiggali/Scytl.

75. Participants in the panel and from the public confirmed that there is strong interest in the Recommendation and its update not only in the Council of Europe region but in other latitudes as well. The Recommendation is for example used as a model for an e-voting regulatory framework especially in Latin America. Participants suggested that comments on its update be called from outside the region as well. E-tools could be envisaged to ensure such a broad participation.