UPDATE OF THE COUNCIL OF EUROPE
RECOMMENDATION ON LEGAL, OPERATIONAL AND
TECHNICAL STANDARDS FOR E-VOTING –
A LEGAL PERSPECTIVE

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Abstract: The Council of Europe 2004 Recommendation on e-voting (Rec(2004)11) is a soft law instrument containing legal, operational and technical standards for e-voting. An ad-hoc Committee of Experts on E-voting (CAHVE) started work on its update in 2015. This paper focuses on the place of Rec(2004)11 in the regulatory framework for e-voting as well as on issues related to its update. We discuss the main results of the first phase of the update and some specific legal questions related to the use of information and communication technologies (ICT) in elections. The main challenge for such an instrument is to fully and correctly translate broader principles of the European Electoral Heritage into standards and requirements for e-voting that remain pertinent as technology evolves.

1. The Recommendation on E-Voting

1.1. A soft law instrument

The Recommendation of the Committee of Ministers to member States on legal, operational and technical standards for e-voting, also known as Rec(2004)11 [8], was adopted more than ten years ago, on 30 September 2004 by the Committee of Ministers which also took note of the Explanatory memorandum thereto [9]. In 2010, two Guidelines [6][7] were elaborated providing additional requirements on certification and transparency issues, briefly dealt with in the Recommendation. The update of all these documents is now being considered by CAHVE1 – the ad-hoc Committee of Experts on E-voting set up by the Council of Europe in 2015.

Rec(2004)11 defines e-voting as an e-election or e-referendum that involves the use of electronic means at least in the casting of the vote covering e-voting in controlled environments (e.g. voting machines in polling stations) and from uncontrolled ones (e.g. voting via internet) [12][22].

As for voting at polling stations or postal voting, a legal framework is an indispensable precondition to the use of e-voting with binding effect in political elections2 [2][24]. It contains the requirements governing such use. Legal requirements (must) determine e-voting characteristics.

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1 The author of this paper is the nominated leading legal expert of the ad-hoc Committee of Experts on E-voting (CAHVE) created in April 2015 at the Council of Europe. More on: http://www.coe.int/t/DEMOCRACY/ELECTORAL-ASSISTANCE/news/2015/CAHVE2910_en.asp.

2 «Elections» will be used here as a broad term covering all kinds of political votes: election of candidates, votes on issues (e.g. on initiatives and referendums).
In a specific country, the legal framework for e-voting is composed of provisions contained in mandatory (or «hard» law) instruments that stand in a hierarchical relationship to each other (Figure 1). In addition, non mandatory or «soft» law instruments, do also impact e-voting.

Several Council of Europe instruments have a direct or indirect impact on the legal framework for elections and e-voting in countries of the region. The European Convention on Human Rights (ECvHR) and in particular art. 3 of Protocol 1 (right to free elections), are part of the higher level principles governing elections (and e-voting) in countries that have ratified them [14] and so is the interpretation of the principles by the European Court of Human Rights (ECtHR).

Soft law instruments, such as the opinions of the European Commission for Democracy through Law (Venice Commission) are closely related to national hard law. For instance, the Code of Good Practice on Electoral Matters – a soft law instrument – both reflects and influences national legislations. It reflects national hard law (or is influenced by it) to the extent that it picks up and catalogues the main, commonly shared principles of the European Electoral Heritage to be found in national legislations and practice. On the other hand, it influences the content of hard law to the extent that it serves as a benchmark to countries and other institutions when amending or evaluating legal provisions on elections or when interpreting treaty provisions such as those of ECvHR.

Rec(2004)11 is a soft law instrument of a lower level than the Code of Good Practice on Electoral Matters. It aims at translating the commonly shared electoral principles (catalogued in the Code) into standards specific to e-voting. Rec(2004)11 was influenced by nascent national legislation on internet voting, in particular the 2002 Swiss federal ordinance on e-voting [13]. It has had a direct impact on e-voting in countries where it has been included in the national legislation on e-voting as was the case in Norway where the Recommendation was (almost entirely) given the status of legal basis regulating internet voting [20][12]. Elsewhere, although Rec(2004)11 is not directly part of the national legislation on e-voting, it has (had) an effect on it. Countries and organizations have referred to Rec(2004)11 when interpreting [23][18] or amending hard law...
instruments [5]. It has also served as a benchmark when making practical decisions on e-voting\(^3\) or when evaluating its set-up and use [21].

1.2. Need to update Rec(2004)11

The need to update the Recommendation was formally articulated at the 2012 biannual review meeting. An experts’ gathering was held in December 2013 to discuss an expert report on the update [13]. Based on the conclusions of both meetings, confirmed by the 2014 biannual meeting, the Council of Europe mandated CAHVE to update Rec(2004)11. The reasons for updating the Recommendation on e-voting have been discussed in depth initially in [13] and subsequently in [12]. Reference [28] discusses them from a historical and political perspective. They can be grouped in two categories: intrinsic and extrinsic ones.

The intrinsic grounds include congenital weaknesses of the Recommendation such as vagueness, lacunae, inconsistencies, over- or under-specifications, redundancy and repetition of provisions (see in particular references [16] and [19] and the in-depth discussion in [13]). Extrinsic reasons include the need to take into account relevant developments in national legislations and case-law [11], taking advantage of practical and academic experience accumulated since the adoption of the original Recommendation, addressing the implications of emerging technical concepts and solutions, such as individual and/or public end-to-end (E2E) verifiability, among others.\(^4\)

In this section we will discuss one of the intrinsic reasons, namely the need to improve the structure of Rec(2004)11 to ensure a good interweaving of legal, operational and technical requirements. One of the identified problems with the current Recommendation is that it contains 112 legal, operational and technical standards and requirements without it being clear how they relate to which other: which are the broader, high-level ones, and which those of a more executive nature.\(^5\) As illustrated by Figure 2, the three appendices are situated at the same level giving the impression that their provisions are of the same level, which is not the case.

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\(^3\) A useful source of information are the country reports at the biannual review meetings organized since 2004. They can be found under «Biannual Review Meetings» at http://www.coe.int/t/DEMOCRACY/ELECTORAL-ASSISTANCE/themes/e-voting/default_en.asp.


\(^5\) Recommendation ii specifically says that «the interconnection between the legal, operational and technical aspects of e-voting, as set out in the appendices, has to be taken into account...». It has so far been interpreted as meaning only that a country should consider requirements in all three appendices and not limit its considerations to some of them.
The Recommendation does have the ambition of providing guidance on all main aspects of e-voting: legal, operational and technical ones. Compared to national hard law on elections and e-voting (Fig.1), Rec(2004)11 attempts to list, in one soft law document, all relevant principles of the three levels [constitution (legal standards), law (legal and operational standards) and regulation (mainly technical requirements but also operational ones)]. A quick look at Figures 1 and 2 shows that Rec(2004)11 has not chosen the right structure for this. Instead of a pyramidal structure, where provisions are nested logically, it presents a horizontal one. Appendices are descriptive and do not illustrate the possible relations between higher level principles, conditions for implementing the principles and requirements of a more technical or operational nature. This increases the risk of having inconsistencies, redundancies, repetitions and lacunae among the three Appendices. Such a risk has materialized, becoming one of the main reasons behind the current update.

One can object to this viewpoint the fact that Rec(2004)11, as a soft law instrument, is there only to provide guidance and to inspire countries to write their own legislation on e-voting. This is what the Recommendation announces in its Preamble. However, as already hinted by [16], the problem with such soft law instruments, be they national [25] or international, is that nothing prevents countries from including them into their law or conferring them a «hard» law status [13].

To our knowledge, the pyramidal structure was not envisaged in 2004. Rec(2004)11 was more the result of a theoretically driven exercise. Today’s viewpoint that a good nesting of provisions is needed is based on practical experience with e-voting and with the use of Rec(2004)11 in the past ten years.


2.1. A roadmap for the update

A two-step approach was chosen for the update [10]. In a first phase, discussions focused on issues of principle such as the clarification of the scope and format of the Recommendation (issues mainly related to congenital weaknesses). During phase II of the update, which started already in November 2015 and is supposed to last at least until mid-2016, work will extend to the update of individual provisions and of the explanatory memorandum to reflect recent developments (legal, technical, etc.) and our current understanding of e-voting issues.

The mandate given to CAHVE requires the process to be guided by a needs assessment of stakeholders [10]. This took the form of a consultation of experts from member States and participant institutions, most of them CAHVE members. At the beginning of phase I, in summer 2015, a questionnaire on the scope and format of the update was circulated.

The questionnaire questioned the scope of the Recommendation: a possible extension of the definition of e-voting to include scanning devices; the need to further specify the preponderant role of electoral management bodies (EMBs) in organizing e-voting and in relation to private providers; the need to better take into account the incompressible risks associated to e-voting.

It furthermore addressed issues of format. It suggested a new organization that distinguishes between high-level, concise requirements that are persistent over time on the one hand and detailed, mainly technical standards that need to be updated more frequently, on the other. It also suggested a distinction between provisions that assess what an e-voting system should do from those indicating how a system should do what it is supposed to do or those focused on checking that a system does what it is required to do in the way it is supposed to do it.

Additionally, the questionnaire introduced some open questions aiming at gathering respondents’ proposals,

As shown by the expert report that discusses the replies to the questionnaire\(^6\) [10] and its annexes, all proposals to clarify the scope and format of the Recommendation received a majority of approval (from 72 to 84% of yes replies). An analysis of negative opinions shows that most are based on a different understanding of the question or simply present alternative views rather than opposition. The alternative and negative replies underline important aspects that in any case need to be taken in consideration. The report furthermore proposed the introduction of a review mechanism which is currently missing.

\[2.2. \quad \text{A new definition of e-voting and other clarifications}\]

CAHVE examined the necessity to extend the definition of e-voting to include, in addition to voting machines in polling stations and to internet voting from a controlled or uncontrolled environment, also the use of scanners, in particular of scanning devices where the voter casts a mark sense paper ballot directly into the scanning device and may receive direct feedback from the machine on who they voted for, for review or verification purposes – as suggested by the questionnaire.

It was finally decided to extend the definition of e-voting in order to include all kind of optical scanners in the scope of the Recommendation: those used in voting centres to register and count votes as well as those used in central counting facilities only for counting purposes.

The new definition ensures that the two soft law documents on e-voting in the region will now on use «e-voting» to refer to the same realities. Such alignment between Rec(2004)11 (focusing on e-voting regulation) and the OSCE/ODIHR 2013 «Handbook for the observation of new voting technologies» (focusing on e-voting observation) will benefit the countries in the region. The ODIHR Handbook defines e-voting as the use of information and communication technologies applied to the casting and counting of votes. The new definition of e-voting adopted by CAHVE will cover, in addition to e-vote casting systems, also purely e-counting devices.

The CAHVE delegates also agreed on the importance of introducing a specific provision reminding that the conduct of e-enabled elections and referendums gives specific responsibilities to Electoral Management Bodies which cannot be delegated to the private sector providers.

Furthermore they agreed on reflecting throughout the provisions of Rec(2004)11 the incompressible risks associated with e-voting. Taking into account such risks will help draft clear requirements which are implementable and can be monitored. Taking into account risk should not be understood as an opportunity to introduce provisions which are more risk-friendly or to introduce thresholds for acceptable risk at the regional level. It only implies that requirements should be based on an up-to-date understanding of technical risks associated to e-voting and, based on it, make sure to correctly (understand and) translate legal requirements into e-voting provisions.

\[2.3. \quad \text{A new structure for Rec(2004)11}\]

One of the identified weaknesses of Rec(2004)11 is its lack of homogeneity. Some provisions are quite high-level, others are too detailed and their nesting is not made clear.

Furthermore, no differentiation is made between provisions which are applicable to all e-voting methods and

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\(^6\) The expert report was discussed at the first plenary meeting of CAHVE, held in Strasbourg on 28-29 October 2015. More on the dedicated page of the Council of Europe, Electoral Assistance and Census Division: http://www.coe.int/t/DEMOCRACY/ELECTORAL-ASSISTANCE/news/2015/CAHVE2910_en.asp.
those specific to one or more but not all of them. The Recommendation has to be applied as «one block» to any specific case. This has proved difficult if not impossible [1].

Change is another preoccupation. Higher level provisions are stable and do not change frequently. Lower level, technical ones usually need frequent updates. The Recommendation is a rather stable document which cannot be updated frequently. Other instruments, like the Guidelines, are more flexible. Given this, it was proposed that the new Recommendation only contains high level, concise standards that are stable over time.

As illustrated by Figure 3 the questionnaire proposed a hard core (core, red layer in fig.3) of «mandatory» nature, i.e. applicable to all countries in the region and to all e-voting methods and, next to it, provisions applicable throughout the region but specific to an e-voting method (e.g. e-voting in controlled environments or in uncontrolled ones) (blue layer in fig.3). The first ones should be stable and mainly indicate what an e-voting system is supposed to do. The second ones indicate what a system should do, how a system should do what it is supposed to do and how to check that it does it correctly. They may need more frequent updates than the core ones.

It is currently unclear what will be the final status of the blue layer. Will it be included in the Recommendation itself (to the risk of difficult updating, unless an appropriate review mechanism is found as explained below) or will it be included in a lower level instrument such as the Guidelines, more easily reviewed? Whatever the decision of CAHVE on this, it is important that the relations and nesting between the hard core provisions and those in the other layers are stated clearly.

*Proposal of a new structure for the Recommendation*

![Diagram of proposal structure](image)

Countries have expressed interest in a collection of up-to-date good practices developed in the region. Such a good practice for instance could be the development of e-voting specific certification criteria and the effective certification of e-voting systems against them [27]. Good practice examples are not «mandatory» to the region. They serve as inspiration to countries which consider introducing them. Furthermore they are
supposed to evolve. The non-mandatory nature and the need for frequent updates justify the fact of putting such examples in yet another layer (represented by the outside, yellow layer in fig.3). Without being part of the Recommendation strictly speaking, such a layer has clear links to it. When a good practice becomes widespread enough as to be considered regional standard, it can move to the blue layer.

2.4. A review mechanism

The current Recommendation contains no review mechanism. Biannual meetings have been regularly held since 2004 to review the application of the Recommendation, providing a forum to member States to exchange and to evaluate both the Recommendation and its application in specific cases. However, updates that were identified through such evaluation could not be carried out on an ongoing basis. The Guidelines on Certification and Transparency were adopted to complete some of the provisions of the Recommendation. However, their structure is similar to that of the Recommendation thus adding to the complexity of its provisions and to problems of inconsistency, duplications, etc. The current update provides CAHVE with the opportunity to foresee a review mechanism whose aim is to maintain the future Recommendation and its complementary documents up to date.

The re-structuring of the Recommendation de facto facilitates updates because provisions that need to be reviewed more often will be put in lower level documents, easier to update. In addition, CAHVE, in its first plenary meeting, agreed to formalise a review mechanism. Such mechanism will allow to assess the implementation of Rec(2004)11 and to follow-up on developments in member States. It is important that the mechanism ensures the regular update of the different documents or layers outside the Recommendation but closely related to it.

3. Use of ICT in elections: general questions

3.1. Increasing dependence on ICT

A lack of global vision is observed in some cases of e-voting introduction, not only in the regulatory area. E-voting is often treated as an ad-hoc project, especially during the initial, usually small-scale deployment phase. In our view, authorities in charge of e-voting have all interest in embedding it as soon as possible in a larger context and treating it as part of a bigger challenge.

The context is that of election administration in its broadest sense and the challenge relates to the increasing use of electronics in all phases of the electoral process [11][21], independently from the use or not of e-voting. To this must be added the increasing dependence of election administration on ICT: voter and candidate registration, transmission and tabulation of results, their publication, etc., are based and depend on ICT solutions. The question is how to manage e-voting in order to benefit from the advantages they offer (e.g., e-voting provides an effective voting channel to people with disabilities or to expatriates, or makes voting attractive to youngsters) while acknowledging, mitigating and controlling the associated risks.

Reference [11] suggests measures such as enhancing parliamentary oversight, increasing institutional understanding of its place in the election cycle, building in-house expertise etc. In the regulatory field, problematic issues are symptomatic of difficulties to regulate at the crossroads of law and technology. Combined legal, technical and social knowledge is needed.

A new understanding of e-voting regulatory framework will help. Legislation, in particular electoral legislation must be stable over time but in an e-voting context, stability obstructs the flexibility (updates) required by technical requirements. It is thus important, from a regulatory perspective, to identify higher, stable requirements (and their meaning in an e-voting context) on the one hand and lower level, changing provisions on the
other. The way they are connected and nested should be made clear. Lower level provisions should go into lower level regulations, usually competence of the administration. The mandate of the administration in the e-voting regulatory field should be clarified.

3.2. Evolution of national legislations and case law

Talking about the evolution of use of technology in voting in the U.S.A, [15:2] complains that our laws have not kept pace with the enormous changes in how elections are being run. This is true for any country in the region. A quick look into national recent practice shows that legislation on e-voting is being updated to take stock of lessons learned.

Countries initially introduced legislation on e-voting starting from a theoretical perspective or by extending previous legislation on mechanical voting. In recent years they considered (or the judiciary required them) to updating it or stop e-voting. In the Netherlands, the lack of a good embedding of e-voting in legislation was one reason for abandoning it [17]. In Germany and Austria national supreme courts declared lower level regulations unclear and not enough detailed [3][26][11]. They were not updated and e-voting was interrupted. In France a parliamentary commission declared that a more detailed and accurate e-voting regulation is needed [4]. Finally in Estonia and Switzerland the Administration, aware of academic and political pressure, upgraded the e-voting specific regulations to reflect experiences and lessons learned (introducing the requirements of individual and universal verifiability)[11][5].

One important leap forward in countries with e-voting experience was to abandon automatic analogy thinking with traditional channels (e.g. in the case of internet voting, analogy with postal voting; in the case of e-voting in controlled environments, analogy with mechanical voting in the same environment). Such change resulted from a better understanding of e-enabled voting and of threats associated to it. The threat to the voter’s secrecy may be the same for internet or postal voting, while the threats to, say, the integrity of the overall voting result are quite different ([16] compares them to «wholesale fraud for internet voting and «retail fraud for postal voting»).

Case law has played an important role [11]. Judges were questioned about the meaning of broader electoral principles in an e-voting context. In some jurisdiction the highest courts enunciated clear requirements on issues of principle, for instance on how transparent an e-voting solution needs to be (e.g. in Germany [3] and Austria [26] or in India and Brazil [11]). Elsewhere judges limited their review to the conduct of a specific vote or election leaving it to politics and society to define the main conditions of e-voting [11]. Both positions are spread in the region. Rec(2004)11 should opt for solutions that respect both of them.

3.3. «Detailed regulation of e-voting» vs «Risk of weakening legal principles»

Already in 2004, Venice Commission concluded that e-voting’s acceptability depends on the legal, operational and technical standards implemented in the procedure. The content of such requirements is of primary importance [14].

Initial regulations were not clear enough, leaving a big manoeuvring room to people in charge of implementing e-voting whose interpretation of legal principles was sometime challenged [11]. A trend towards more detailed regulations is now being observed inside and outside the region. Detailed e-voting requirements should be easier to implement and supervise.

While regulations become more detailed in general, benchmarks differ from country to country. In Germany, for instance, an e-voting regulation should be clear and detailed to the point that the layman (without technical knowledge) understands every technical detail. In Austria it’s the member of the elections board who should
be able to understand and implement the regulation without help from technical experts. In Switzerland or Estonia by contrast, detailed regulations should be clear to and applied by democratically and transparently designated (and supervised) technical experts [11]. Such differences should be taken into account when updating Rec(2004)11.

Some fear that the administration will weaken the principles when translating them into e-voting regulations. Similarly, at the international level, concerns are voiced that any update of Rec(2004)11 or related layers are opportunities to weaken the application of international principles of democratic elections. Such fears are understandable and do support conclusions mentioned earlier to increase in-house expertise of administrations and courts, to enhance the supervisory role of parliaments, to clarify the manoeuvring room of different players, etc. The risk of weakening the principles should be taken seriously but must not become an obstacle to needed updates.

A regulatory framework cannot cover all aspects of the use of ICT. One must distinguish between issues of public policy and issues of (e-)voting technology. Only the second are discussed in an e-voting specific framework. Another distinction relates to technique and technology. The first is dealt with in e-voting regulations, the second relates to implementation.

Use of ICT is usually ahead of the respective regulatory framework and technology will continue to influence the content of legal provisions as shown by the examples of individual and universal verifiability. However and despite their advance technical solutions should conform to legal principles and not the other way round. By clarifying the meaning of legal principles in an e-voting context, by clearly nesting provisions, Rec(2004)11 is re-written in a more formal way ensuring a better translation of European Electoral principles into e-voting specific provisions.

4. References

Internet sources were last accessed on 9 January 2016
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