

The Future use of voting machines after the decision of the Constitutional Court

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Agenda:

The Future use of voting machines after the decision of the Constitutional Court as of 03/03/2009

- a) Bremen's Proposal (use of counting computers in the evaluation process)
- b) NEDAP-new (use of voting equipment for collecting and analysing votes)

Meeting results:

1. The ruling of the Constitutional Court as of 03/03/2009 (BVerfGE 123 39) gives no rise to a fundamental rejection of the possibility of using any technical systems for voting. However, the constitutional hurdles mentioned in the ruling which so far have not been addressed for lack of relevance but may become important in other case scenarios are so high, that at present, given the currently known devices, the use of voting machines is not an option.
2. In view of the serious legal obstacles and uncertainties, part of the federal states and the federal government consider the future use of voting machines as not being feasible. Even those states that consider the use of electronic voting machines to be desirable, currently do not see themselves in a position to show a constitutionally viable way of their deployment. As a result, the parties agreed that a constitutionally safe way for a future use of voting machines is currently nowhere to be seen.
3. There was agreement among participants, that the voting machines made by NEDAP the use of which had already been suspended in the 2009 European election and in the 2009 election of the German National Parliament (Bundestag), given the ruling of the Constitutional Court dated 03/03/2009 (BVerfGE 123, 39 <85>), will not be used in future either. Even the modification proposals currently discussed (paper receipt after casting one's vote) do not change that assessment, since even that modification does not ensure that the requirements of the Federal Constitutional Court can be

fulfilled, since they are not just limited to the result of the election but also include the control of the essential steps of the electoral process by the citizens.

4. The participants agree that after the Federal Constitutional Court found the Federal Voting Machine Ordinance to be unconstitutional (BVerfGE 123, 39 [81]), the current legislation does not allow the use of voting machines.
5. As there is no practical relevance and given the unclear legal situation, no legal requirements for a future use of such systems will be defined at this point.
6. In order to remain open to future developments, § 35 BWG will not be repealed either.
7. The approach pursued by Bremen, to use counting computers with a special software for analysing votes after a traditional election with ballot papers did not raise any constitutional concerns with regard to the ruling of the Federal Constitutional Court as of 03/03/2009.
8. Regardless of whether the counting computers used for the final counting of votes qualify as "voting machines" or not, the election principles to be derived from Article 38 paragraph 1 of the Basic Law shall apply to each stage of the election. This applies both to the requirements of Article 38 paragraph 1 GG, which already had been subject and benchmark of ruling by the Federal Constitutional Court, and to the requirements that had not (yet) been used in recent rulings.

CC: Participants of the meeting, AL V; St RG; BWL; home ministries of the states
signed: Dr. Boehl
registered by Matthias Cantow

1. When dealing with a complaint about electoral irregularities, the Federal Constitutional Court pursuant to § 13 No. 3, § 48 BVerfGG (Law regulating the work of the FCC) not only has to ensure compliance with the provisions of the Federal Election Act [Bundeswahlgesetz, BWG] by the relevant electoral bodies and the German Bundestag, but also has to examine, whether the provisions of the Federal Election Act comply with the provisions of the Constitution (see BVerfGE 16, 130 [135 f.], 121, 266 [295]). This examination also extends to the validity of ordinances.

2. The use of computerized voting machines shall be examined in particular in the light of the principle of the public nature of elections (Article 38 in conjunction with Art. 20 para 1 and paragraph 2 of the Basic Law).

The principle of the public nature of elections is essential to democratic expression of the political will. It ensures the regularity and transparency of electoral processes, thus creating an essential prerequisite for justified trust of citizens in the proper course of elections. The political form of parliamentary democracy, where the rule of the people is mediated through elections, i.e. not permanently exercised directly, requires the act of transferring public responsibility to the members of parliament to be subject to special public supervision. The general requirement that the entire electoral process shall be open to the public includes the nomination procedure of candidates, the voting itself (with the exception of the fact that ballots shall be cast in secrecy) and the counting of votes (see BVerfGE 121, 266 [291]).

a) Public elections are based on the fundamental constitutional decisions for Democracy, the Republic and the Rule of Law (Article 38 in conjunction with Article 20 paragraph 1 and paragraph 2 of the Basic Law).

aa) The election of the representatives of the people is the fundamental legitimization act in a representative democracy. The casting of ballots during the elections for the German Bundestag is the essential element of the process of transmitting the will of the people to state institutions and hence the basis of political integration. The observance of applicable election principles and the trust in them being observed are vital for making democracy work. Only the possibility to check whether the elections comply with the constitutional election principles will ensure, that the delegation of authority to parliament which forms the first and most important part of the continuous legitimization chain from the people to the bodies and officials the people has entrusted with governmental functions, does not suffer any deficit. The democratic legitimacy of the election calls for accountability of the electoral process in order to prevent or correct manipulation and to rebut unjustified suspicion. Only this way there will be justified trust of the sovereign in the regularity of the formation of the representative body. The mere obligation of the legislature and the executive to ensure that the electoral process is designed in line with the constitution and implemented properly, is not enough to provide the necessary legitimacy. Only if the voters can reliably verify the legality of the transferring act, i.e. if the elections are carried out "before the eyes of the public" (see

Schreiber, Handbuch des Wahlrechts zum Deutschen Bundestag (Manual of legal requirements for the election of the German Bundestag), 7 edition, 2002, § 31 marginal note 2), one can ensure the sovereign's trust in parliament as a body composed according to the will of the voters, which is a requirement for making democracy work and for the democratic legitimacy of public decisions. (see NRW VerFGH, ruling as of 19 March 1991 - VerFGH 10/90 - NVwZ 1991, p. 1175 [1179]; Hanßmann, Möglichkeiten und Grenzen von Internetwahlen (Possibilities and Limitations of Internet Voting), 2004, p. 184).

bb) In the Republic elections are a matter of the whole people and the collective concern of all citizens. Correspondingly, the control of the electoral process shall also be a matter and a task of the citizens. Every citizen must be able to reliably understand the key steps of the election without any special technical knowledge.

cc) the principle of the public nature of the elections is also based on the rule of law. Openness to the public as a principle of the Rule of Law serves the transparency and accountability of state power.

It requires the actions of governmental institutions to be acknowledged by the citizens. This also applies to the activities of the electoral bodies.

b) The principle of the public nature makes it imperative that the public shall be given the possibility to verify all essential steps of the elections, unless other constitutional concerns justify an exception. In this process the control of the voting act and the counting of votes are particularly important.

A method of voting, where voters cannot reliably understand, whether or not their vote is collected without alterations and included in the counting of votes and how the total of votes are counted and assigned, excludes key elements of the election process from public scrutiny and therefore does not sufficiently meet constitutional requirements.

c) Despite the high profile of the constitutional requirement that elections shall be open to the public, the same requirement does not mean that the public must be involved in each and every action in connection with the determination of the election results, in order to create justified trust in the correctness of the elections. For instance, the constitution does not require the activities of the District Returning Officer, with whom in accordance with § 76 para 1 BWO the district election committee prepares the - public - counting of votes, to be carried out in the direct presence of the public (see BVerfGE 121, 266 [291f.]).

d) The requirements regarding the verifiability of the election process shall apply without prejudice to the responsibility of the official state bodies to conduct the parliamentary elections (see BVerfGE 20, 56 [113], 41, 399 [414] Seifert, Bundeswahlrecht (Federal suffrage), 3rd Edition 1976, p. 130).

First and foremost it is the responsibility of the legislature, to regulate how to make sure that the main steps of the electoral process are understood. Article 38 paragraph 3 of the Basic Law authorizes and requires the legislature, to define the details of the electoral system (in particular the electoral system and voting procedures) and compliance with the principles of electoral law set (see Magiera, in: Sachs, of the Basic Law, 5. 2009, Art. 38 marginal note. 106ff., 113 ff.). The regulatory mandate of Article 38 paragraph 3 of the Basic Law also includes the design of the technical aspects of the electoral process (see Morlok, in: Dreier, GG, vol 2, 2. 2006, Art. 38 marginal note no. 127) and thus the decision about using voting machines and establishing the detailed requirements for their use. Details may be regulated by way of an ordinance based on a statutory authorization (see Magiera, in: Sachs, GG, 5. 2009, Art. 38 marginal note. 114).

Law makers have a wide scope within which they may decide, whether and to what extent deviations from individual principles of the electoral law are acceptable in the interest of the uniformity of the whole election system and in order to ensure the political objectives of the state pursued by that system (see BVerfGE 3, 19 [24f.], 59, 119 [124], 95, 335 [349]). The Federal Constitutional Court only analyses, whether the legislature stayed within the limits of discretion granted by the Basic Law or whether he failed to comply with a constitutional electoral principle by exceeding those limits. It is not for the court to decide whether the legislature, within his scope of discretion, has found appropriate or desirable legal policy solutions (see BVerfGE 59, 119 [125]).

3. Accordingly, the use of electronic voting machines that electronically capture the votes of voters and determine the election results electronically, only complies with the Basic Law under strict conditions.

a) When using electronic voting machines, it must be possible to reliably verify, without special expertise, the essential steps of the election act and the way election results are determined. Least of all, the need for such control results from the fact that any electronic voting device is prone to manipulation and error. In those machines the capture of votes and the computation of the election result is based on a computing process which cannot be validated from outside and by non-IT experts. Hence, errors in the software of the voting machines are difficult to detect. In addition, such errors may not only occur in an individual voting machines, but affect all the equipment used. While with the traditional ballot-paper-based election hardly allow any manipulation and electoral fraud under applicable regulations which include the rules about openness to the public, at least manipulation is possible only with considerable effort and an extremely high risk of being detected which has a highly deterring effect, an intervention in electronically controlled voting machines may, in principle, result in a major impact with relatively little effort. Even manipulation of individual voting machines may not only affect individual votes, but all votes cast in using that device. The range of election errors that may be caused due to malfunction of a single piece of software and may spread the error across several devices is even higher. The far-reaching effects of any error in the voting machines or deliberate fraud calls for specific prevention measures to uphold the principle of the public nature of elections.

aa) The voters themselves must be able to understand- even without detailed technical computer knowledge - whether their votes will be used as a basis for counting, or - if votes are first counted with technical support - will at least be captured without alterations as the basis for any subsequent recount. It is not sufficient to ask voters to trust the system without giving them the chance of having insight in the operability of the system. Hence, it is not sufficient, if only an electronic display informs voters of the fact that their vote has been registered. This does not give voters sufficient control of the process. The same traceability must also be given to electoral bodies and interested citizens.

Consequently, the votes must not exclusively be stored on an electronic storage medium after voting. The voter must not be referred to the fact that after casting his vote he has to rely solely on the technical integrity of the system. If the election result is determined by computerized count of the votes stored in an electronic memory, it is not sufficient if only the results of the computation process performed in the voting machine can be seen on a screen or summary hardcopy. This way voters and electoral institutions can only examine, whether the number of votes processed matches the number of voters qualified for operating the voting machine in that election. In none of those cases it is possible to realize immediately, whether there had been any bugs in the software or deliberate electoral fraud had been committed by manipulating the software or voting machines.

bb) The legislature is not prevented from using electronic voting machines during elections, provided that there is an opportunity of reliably checking the accuracy of the process, as required by the constitution. What could be conceivable in particular are voting machines which do not only collect votes electronically, but also in a different way. This is possible for example with electronic voting machines that in addition to the electronic record print a hardcopy log of the vote cast visibly for each voter, which can be checked before the final casting of the vote and is then collected to facilitate later investigation. A control that is independent from the electronic registration of votes is also possible with systems, where voters mark their decision on a ballot paper, and at the same time (e.g. by using a "digital voting pen", see Schiedermaier, JZ 2007, p. 162 [170]) or later (e.g. by electronically scanning the ballot papers (cf Schönau, Elektronische Demokratie (Electronic Democracy), 2007, p. 51f.; Khorrami, Bundestagswahlen per Internet (Elections for Federal Parliament via the Internet), 2006, p. 30) the vote is recorded electronically to allow electronic evaluation at the end of Election Day.

At least in these cases it is ensured that voters remain in command of their votes and that the election results can be reliably verified by electoral bodies or interested citizens without any special technical knowledge. There is no need to decide here, whether or not there are any other technical options allowing the electorate to trust the correctness of the process of determining the election result on the basis of traceability and thus satisfy the principle of public scrutiny.

b) Restrictions of civic accountability of the electoral process cannot be compensated by having some sample units verified in a type test procedure or by having each voting machine checked for compliance with certain safety standards and for technical integrity by an official institution before their use. The control of the main steps of the elections will duly promote justified confidence in the regularity of the election only, if the citizens themselves can reliably track the election process.

For this reason, even a wide variety of other extensive technical and organizational security measures (e.g. inspections and safe storage of the voting machines, the comparability of the devices used with an officially approved type at any time, criminalization of electoral fraud and a decentralized organization of the elections) alone are not suitable to compensate any lack of controllability of the essential steps of the electoral process by citizens.

Accordingly, neither the participation of the interested public in inspection or homologation procedures of voting machines nor any publication of test reports or design features (including the source code of the software implemented in computerized voting machines) are important contributions to ensure the constitutionally required level of verifiability and traceability of the electoral process. Technical trials and official approval procedures, which can only be knowledgeably appreciated by interested experts anyway, refer to a process stage which is well ahead of the voting. Hence, in order to meet the requirement of reliable monitoring of the electoral process, public participation would require additional precautions of a different kind.

c) The legislature may allow limited exceptions to the principle of the public nature of elections, in order to gain recognition of other constitutional matters, particularly the written principles of electoral law of Article 38 paragraph 1 sentence 1 of the Basic Law. This allows restrictions to public scrutiny of voting by postal ballot (§ 36 BWG (Federal Election Act)) to be justified by the objective of achieving the maximum possible turnout, following the principle of universality of the election (see BVerfGE 21, 200 [205] , 59, 119 [125]). As regards the use of computer-controlled voting machines however, no principles conflicting with other constitutional principles that could justify a far-reaching restriction of the principle of openness of elections to the public and thus the verifiability of voting and voting results can be identified.

aa) As far as the use of computer-controlled voting machines aims at excluding unconsciously wrong ballot markings unintentionally invalid votes, accidental counting errors or incorrect interpretations of the voters' will upon counting the votes which has occurred again and again in elections held with conventional ballot papers, (see Schreiber, Handbuch des Wahlrechts zum Deutschen Bundestag, (Manual of Election Law for the German National Parliament), 7, 2002 Edition, § 35 marginal note 2), it does indeed serve the enforcement of the electoral equality required by Art.38 para 1 sentence 1 of the Basic Law. The importance of such purpose however, remains undecided. In any case such purpose alone does not justify the abandonment of any kind of accountability of voting. For accidental counting errors or incorrect interpretations of

the will of voters could also be excluded by voting machines, if along with the electronic collection and counting of votes further review by voters, electoral bodies or the public is possible. A similar control is possible, for example, in electronic voting machines which do not just register the votes electronically inside the voting device, but simultaneously in another way that is independent from the first one (see above II. 3. a) bb). Apart from that, the voting gear approved for the elections of the 16th German Bundestag did not exclude operator errors such as the use of the "Void" button in the assumption that pressing that button would correct a wrong input.

bb) Also, the principle of secrecy of voting is no conflicting constitutional principle that can be used as the basis of a far-reaching limitation of the verifiability of voting and voting results. There is no "tension" between the principle of secret ballot and the principle of openness to the public that might justify such restrictions (Bundestag document 16/3600, Annex 1, p. 20).

The principle of secret ballot ensures that only the voter gets to know his or her voting decision and requires the legislature to adopt the necessary measures to protect the secrecy of the ballot (cf. H.H. Klein, in: Maunz/Dürig, GG, Art. 38 marginal note 110 [March 2007]; Pieroth, JuS 1991, p. 89 [91]). The secrecy of the election is "the main institutional protection of the freedom of elections (see BVerfGE 99, 1 [13]). Historically, the secret ballot may have been a caesura in the principle of the public nature of the election process, because it abandoned the principle of open voting in order to protect the freedom of the elections (see Breidenbach / Blankenagel, *Rechtliche Probleme von Internetwahlen (Legal Issues of Internet Voting)*, Berlin 2000, p. 34 f.). However, under the rule of the Basic Law which expressly requires the voting to be secret in order to protect its freedom, the principle of the public nature does not apply to the act of voting from the outset. As far as the principle of the open nature of the elections is not excluded in order to allow the unobserved casting of the vote, the electoral process is subject to the principle of the open nature of elections. (cf. HH. Klein, in: Maunz/Dürig, GG, Art. 38 marginal note no. 113 [March 2007]; Seifert, *Bundeswahlrecht (Federal Suffrage)*, 3 1976, Art. 38 marginal note. 35). Accordingly, the principle of secrecy with regard to the act of voting does not mean any restriction of the principle of the public nature of the elections. It also does not justify a restriction of public control upon submittal of the ballot - previously marked secretly - or during the computation of the results of the elections. This already follows from the fact that it does not conflict with any additional measures introduced to enable the voters to check whether their votes are collected unaltered as the basis for later recounting.

cc) Finally, the goal of being able to form a workable representation of the people in a short time does not justify any restriction of the principle of the public nature of the elections when using computerized voting machines. The clarification of the correct composition of parliament within a reasonable time is a matter which may be considered when designing the electoral process and the election scrutiny procedure (see BVerfGE 85.148 [159]). The interest of timely formation of a new Bundestag (see Article 39 paragraph 2 GG), however, is not put at risk by taking enough measures to ensure the

principle of the public nature of the elections. The constitution does not require the election results to be available shortly after the polls have closed. Moreover, recent Federal Elections have shown that even without using voting gear it has been possible to regularly establish the preliminary official outcome of the elections within a few hours. Hence the interest in a rapid clarification of the composition of the Bundestag is no constitutional concern which could be suitable to restrict the public nature of the electoral process.

4. The normative level at which any issues concerning the use of voting machines shall be regulated, depends on the requirements of parliamentary control and the requirements of the authority to enact ordinances (Article 80, paragraph 1, sentence 2 of the Basic Law).

a) Parliamentary control which is based on the rule of law and the principle of democracy requires any major decisions in basic normative areas, especially those regarding the exercise of fundamental rights, as far as accessible to governmental legislation, to be made by legislature (see BVerfGE 49, 89 [126f.] 61, 260 [275], 80, 124 [1132], 101, 1 [34]). This standardization obligation does not only imply the question of whether or not a particular object requires regulation by law at all, but also the question how detailed such regulations shall be (see BVerfGE 101, 1 [34]).

According to Article 80 paragraph 1 sentence 2 of the Basic Law the content, purpose and scope of the authorization to issue ordinances have to be determined in the law. The legislature himself must decide which questions should be regulated by the ordinance within which limits and for what purpose (see BVerfGE 2, 307 [334], 5, 71 [76f.], 23, 62 [72]). The wording of the authorization does not need to be as accurate as possible, the constitution only requires it to be sufficiently determined (BVerfGE 55, 207 [226], 58, 257 [277], 62, 203 [209f.]). It will be sufficient, if the limits of the authority can be determined by interpretation on the basis of generally accepted principles of interpretation, where the objective of the law, the meaningful link with other provisions and the history of the law are of importance (cf. BVerfGE 8, 274 [307]; 23, 62 [73]; 55, 207 [226f.]; 80, 1 [20f.]). Determination requirements particularly depend on the characteristics of the subject of regulation and the intensity of the measure (cf. BVerfGE 58, 257 [277f.]; 62, 203 [210]; 76, 130 [143]). Whereas diverse and rapidly changing matters are subject to less stringent requirements, the degree of determination of authorization in case of regulations involving more intensive interventions in constitutionally protected legal positions have to meet more stringent requirements (see BVerfGE 58, 257 [278], 62, 203 [210]).

b) Because of their special character, regulations regarding the use of voting machines are subject to parliamentary decision, as far as it concerns the essential prerequisites for the use of such devices. These include decisions on the admissibility of the use of voting machines and the basic conditions for their use. Those decisions may not be left to the legislature.

The detailed prerequisites of the approval of voting machines and the procedure to be followed, the details of the use of voting machines in the elections and the safeguarding of the principles of electoral law during the actual use of voting machines do not, however, have to be regulated in detail by parliament, but may be regulated by the legislature. The respective requirements for voting machines to a large extent depend on the type of each voting machine and therefore do not need to be standardized in detail at the level of parliamentary law already. There is, for example, a difference in the requirements for the use of electronically controlled voting machines and the requirements to be met when using exclusively mechanical voting machines. As voting machines are subject to an ongoing technical development, a swift adjustment of the law will be more ensured, if the detailed regulations are conferred to the legislature.

III.

By these standards, the regulatory power of § 35 BWG does not raise any significant constitutional concerns.

1. The parliamentary legislature was not required to regulate the use of computerized voting machines beyond the provisions of § 35 BWG, as § 35 BWG determines the essential issues related to the use of computer-controlled voting machines. As far as § 35 BWG authorizes the adoption of the Federal Voting Machine Ordinance, the content, purpose and scope of the authorization are regulated with sufficient determination (Article 80 paragraph 1 sentence 2 of the Basic Law).

In § 35 para 1 BWG of the parliamentary legislature has taken the fundamental decision for the use of voting machines. By limiting the use of voting machines to facilitate the casting and counting of votes, the legislature clearly determined the objective of the regulatory power. By deleting the words "independent counting devices" in 1999, the legislature clearly determined that § 35 BWG also shall cover the use of computer-controlled voting machines.

The basic requirements for the use of voting machines, in particular the official approval of the type and the official approval of the use of voting machines are mentioned in § 35 para 2 sentences 2 to 5 and para 3 BWG. Among all the constitutionally guaranteed election principles § 35 paragraph 2 sentence 1 BWG only deals with the secrecy of voting and the principle of secrecy of the ballot. The other principles of electoral law are covered by § 1 paragraph 1 sentence 2 BWG. Hence, they apply ipso jure to the use of voting machines in elections for the German Bundestag. Finally, in § 35 para 3 sentence 1 No. 6 BWG the legislature provided that the Federal Ministry of the Interior may regulate the details related to the use of voting machines-in connection with the election. This provision is not only a sufficient normative basis which takes into account the constitutional particularities of the use of computer-controlled voting machines. It also makes it clear to the citizen that an election with voting machines may come along with modifications, as compared with the traditional ballot. Constitutionally, it is not necessary that the contents of an ordinance may be derived in detail from the respective

authorization base. The scope which therefore may be granted to the legislature shall also take into account the complexity of the matter and the dynamics of the development processes in the field of voting machines. Accordingly, the constitution does not require the parliamentary legislature to enact detailed regulations for the use of electronic voting machines.

2. § 35 BWG is compatible with the principle of the public nature of elections.

a) It encounters no constitutional concerns that § 35 para 1 BWG allows voting machines "instead of ballot papers and ballot boxes". Because § 35 para 1 BWG with this formulation, does not rule out the approval and use of voting machines with control devices that capture the votes in addition to the (electronic) record in the voting machine in a way the voter can control. According to the systematic position of § 35 para 1 BWG the words "instead of ballot papers and ballot boxes" refer to the traditional election procedure normalized by § 34 BWG which exclusively relied on official ballot papers and ballot boxes. § 35 para 1 BWG, however does not rule out the adoption of regulations providing for devices which ensure the traceability of the election results independently from the electronic recording and counting of votes.

b) It is harmless, that § 35 BWG does not mention again expressly the principle of the public nature of the elections as a prerequisite for the approval and use of computer-controlled voting machines. Those requirements result directly from the constitution and therefore are binding for the legislature in specifying § 35 BWG. Independently from the above point it also follows from other provisions of the Federal Electoral Act that the use of voting machines is allowed only if the principle of the public nature of the elections is safeguarded. BWG § 31 determines that the act of voting shall be public. § 35 para 3 sentence 1 No. 4 BWG authorizes the adoption of regulations relating to public testing of a voting machine before use.

IV.

The Federal Voting Machine Ordinance is unconstitutional because it violates the principle of the public nature of the elections specified in Article 38 in conjunction with Article 20 paragraph 1 and paragraph 2 of the Basic Law. The regulation does not encounter legal concerns for exceeding the scope of the authorization standard provided in § 35 BWG when extending the scope of the Federal Voting Machine Ordinance to computerized voting machines and for correspondingly amending the Federal Voting Machine Ordinance as of April 1999 (BGBl I, p. 749). It does not, however, include any provisions to ensure that only such voting machines are approved and used that meet the constitutional requirements of the principle of the public nature of elections.

1. To the extent the regulation amending the Federal Voting Machine Ordinance as of 20 April 1999 (BGBl I, p. 749) with effect from 24 April 1999 regulates the conditions for the use of computer-controlled voting machines, it stays within the framework of the authorization given by the wording of § 35 BWG still applicable on 24 April 1999. That

article allowed the use of voting machines "with independent counting apparatus" (§ 35 para 1 BWG). Although the subsequent deletion of the words "with independent counting devices" was deemed necessary, to adjust the Federal Regulation of voting devices to the technological development in the field of voting machines "(Bundestag document 14/401, p. 5) That assumption from the legislative process for the amendment of § 35 para 1 BWG was, however, insignificant for the interpretation of the regulation in its wording prior to the amendment. The extension of the scope of the Federal Voting Machine Ordinance to computerized voting machines was indeed compatible with the wording of the prior version. The term "counting apparatus" implies only that unit numbers of units, flow rates or other variables are determined and displayed (cf. Duden, Das große Wörterbuch der deutschen Sprache (The Large Dictionary of German Language, 3rd edition, 1999. Hence, the wording also includes electronic or software-controlled counters in computerized voting machines. According to the legislature, the feature "independent counting devices", was only supposed to point out the requirement of an independent count of the first and the second votes, and such independent count of the first-and the second vote is also possible with computerized voting machines by means of an electronic counter. Even though in the original version of § 35 para 1 BWG the legislature could not yet take into consideration the use of microprocessor-controlled voting machines (see Breidenbach / Blankenagel, Rechtliche Probleme von Internetwahlen (Legal Issues of Internet Voting), Berlin 2000, p. 7), neither the wording nor the purpose of § 35 BWG in the version applicable on 24 April 1999, when the regulation amending the Federal Voting Machine Ordinance came into force, include anything which would exclude those voting machines from the rule-making powers of the legislature.

2. The Federal Regulation on Devices violates the principle of the public nature of elections provided by Article 38 in conjunction with Article 20 paragraph 1 and paragraph 2 of the Basic Law, because the use of computer-controlled voting machines does neither ensure an effective control of the voting, nor the reliable verification of election results. That deficit cannot be removed by way of constitutional interpretation.

a) When using computer-controlled voting machines, the principle of the public nature of elections requires the main steps of voting and the counting of votes to be reliably traceable without special expert knowledge. The Federal Voting Machine Ordinance is lacking such regulations.

In particular it cannot be derived from the Federal Voting Machine Ordinance that voting machines will be eligible only if they allow the voter to reliably control, whether his vote cast is collected without alterations. The ordinance also does not provide any specific substantive and procedural requirements for a reliable subsequent control of the results.

To this extent the requirements that computer-controlled voting machines and the containers where their vote memories are located have to be sealed after determining the result of the elections (§ 15 para 3 BWahl1GV) and that it must be ensured that the vote memories are inaccessible to unauthorized persons (§ 16 para 2 BWahl1GV) are

insufficient. Even if the vote memories can be read again any time after election day using a voting machine, the subjects of such recount are only the electronically stored votes in respect of which neither the voters nor the election committee are still able to verify, whether those votes were collected without alterations. The citizen cannot review the essential steps of vote counting, if votes are counted again inside a voting machine.

Even when counting the voting registrations in the electoral roll and the collected ballots and comparing them with the total numbers displayed on the voting machine for the first and second votes (cf. § 13 BWah1GV) it will only be possible to check, whether the voting machine processed as many votes as there had been voters authorized to use the voting machine. This procedure does not ensure public control of the essential steps of voting and the counting of votes.

b) The Federal Voting Machine Ordinance cannot be made constitutional by interpretation in the sense that only voting machines may be used which satisfy the principle of the public nature of elections.

A constitutional application of Federal Voting Machine Ordinance in such a way that type homologation and permit of use by the Federal Ministry of the Interior may be issued only if an effective control of voting and the counting of votes is ensured (cf. Schiedermaier, JZ 2007, S. 162 [170]), would exceed the limits of constitutional interpretation. The legislature basically has various ways to ensure the verifiability of the central steps of voting and vote counting. Since the Federal Voting Machine Ordinance in its current form fails to demonstrate, what such control could look like, it lacks the standardization required by the constitution and therefore sufficient evidence for any constitutional interpretation.

It should also be taken into account, that the Federal Ministry of the Interior as a legislature, clearly confirmed in its statements made in these proceedings, that according to the ministry, the possibilities to effectively control the voting and the counting of votes, as required by the constitution are neither appropriate, nor required by law.

V.

Moreover, the computerized voting devices used during the elections for the 16th German Bundestag also fail to meet the requirements established by the Constitution for the use of electronic voting machines.

The use of type ESD1 electronic voting machines by Nedap, Hardware Versions 01.02, 01.03 and 01.04 and type ESD2, hardware version 01:01, violated the principle of the public nature of elections (Article 38 in conjunction with Article 20, paragraph 1 and paragraph 2 of the Basic Law), because those voting machines did not provide for effective control of the voting process and no reliable verification of election results.

The votes were collected only in an electronic memory after voting. Neither the voters, nor the election committee members or citizens present at the polling station were able to verify whether the voting machines had collected the votes cast without alterations. The election committees could only see on the display on the keypad, whether the voting machines had registered a vote, rather than whether the voting machines had collected the votes without substantive change. The voting machines did not provide any possibility to collect the votes in way that was independent from the electronic storage in the vote memory module, thus giving each voter the chance to review his vote.

The essential steps in the counting process by the voting machines could not be tracked by the public either. Since the vote counting process was exclusively confined to the data processing operation running inside the voting machines, neither the electoral bodies, nor the citizens witnessing the counting procedure could assure themselves, whether the valid votes cast had been properly assigned to the ballot proposals and whether the votes cast for each of the nominations had been determined correctly. It was not sufficient that one could see the outcome of the computing process performed inside the voting machine on the basis of a summary paper printout or an electronic display. Public examination which would have given citizens the opportunity to reliably track the counting of votes even without any special technical knowledge was therefore impossible.

VI.

It may be left open, whether the other claims are well founded. The complainants contend, among other things, that the design of the voting machines and the software used did not meet the requirements of the Federal Voting Machine Ordinance, in particular the guidelines regarding the type of voting devices (Annex 1 to § 2 BWahlGV). The voting machines used also had not been subject to adequate official control, and the tests of the samples by Physikalisch-Technische Bundesanstalt as well as the homologation procedure should have been designed differently. As a result, the complainants are against the use of the computerized voting machines used during the elections for the 16th German Bundestag. Even if these complaints were well founded, the election errors would be of no special bearing in addition to the infringement of the principle of the public nature of the elections under Article 38 in conjunction with Article 20, paragraphs 1 and 2 of the Basic Law.