E-voting for Swiss Abroad:
A Joint Project between the Confederation and the Cantons

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Abstract: The ever-increasing number of expatriates has fed the political debate on the voting rights of Swiss abroad over the last two decades. More than the right to vote itself, the effective exercise of voting rights has become a much-discussed issue. Swiss expatriates are able to vote at the federal level, which means they are invited to vote in popular votes and referendums up to four times a year and in elections every four years. They vote mainly by post and are faced with delays inherent to this method of voting and are sometimes disenfranchised as a result. Internet voting considerably accelerates the return of the ballot. Its introduction has been one of the main demands of Swiss living abroad. In parallel, the federal and cantonal authorities have planned to gradually and pragmatically adapt direct democracy instruments and voting methods to the digital environment in a prudent and long-term process. Internet voting was launched at the beginning of the 21st century and is one of the key projects of the Confederation's e-government strategy. Three Internet voting systems have been developed so far by the cantons of Zurich, Neuchâtel, and Geneva. Internet voting was first offered to Swiss expats in June 2008. For the latest federal elections on February 13, 2011, some 55,000 Swiss abroad had the possibility to vote via Internet; on the federal elections on October 23, 2011, some 22,000 Swiss abroad registered in four cantons took part in the very first Internet voting trial during a federal election. Half of Swiss cantons have now introduced Internet voting, mainly for citizens abroad. While it is too early to draw conclusions on whether Internet voting fosters participation of expatriates in Swiss political life, recent experience clearly shows that Internet voting is well accepted. The success of the Swiss model of the introduction of e-voting can be explained with the following elements: joint strategic planning (the roadmap), a good inter-cantonal cooperation with hosting solutions, and a gradual expansion, which puts security at the center of efforts.

1 Introduction

Switzerland has a long tradition of citizen participation in the decision-making process at federal, cantonal, and local level. In addition to elections, which are held every four years, direct democracy instruments such as referendums[1] and initiatives[2] at all levels, and the ensuing high frequency of votes[3], encourage citizens to take part in the democratic process. Voting methods have traditionally adapted to take account of voters' needs and social developments and are broadly considered to be citizen-friendly. They evolved from the people's assembly[4], to voting at the polling station, to postal voting, and finally to Internet voting (also referred to as e-voting), not to forget a short foray into SMS-voting[5]. A distinctive feature is the co-existence of several voting methods; at least two are always available in every canton: voting at the polling station and voting by post[6]. Completely liberalized postal voting – also a sort of remote voting – is one of the main features of Swiss voting procedures. Family voting is not an issue in Switzerland during the public debates, not even in discussions on postal voting. Remote or distance voting from an uncontrolled environment (typically home) on the Internet has been tested and introduced on a limited scale and in a controlled manner since the beginning of the 2000s. It is currently being used by half of the 26 cantons[7] that constitute the Swiss Confederation. Most of them initially offered e-voting to their citizens living abroad[8].

The relatively short deadlines to mail the voting material (ballot papers) for federal elections combined with problems in terms of postal delivery and the postal system in various countries meant that Swiss voters living abroad risk being disenfranchised. The deadlines for mailing voting material for federal elections are more generous than for other elections, so the potential for problems regarding disenfranchisement is lower. The observers of the Organisation for Security and Cooperation in Europe (OSCE/ODIHR) present at the federal elections in 2007 identified problems with the issuing of voting

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[1] At the federal level it's a popular vote on Federal Assembly legislation, total or partial revision of the federal Constitution, international treaties, or agreements on accession to international organizations.

[2] Generic term for various procedures by which a pre-determined minimum number of Swiss citizens who are eligible to vote may make a request in terms of a general proposal, an amendment be made to the Constitution, or by which a canton or any member of the Federal Assembly, parliamentary group, or committee proposes a Federal Assembly bill or the fundamental elements of such a bill.

[3] Up to four times a year a federal vote is organised on referendums or initiatives that have obtained the required number of signatures. Federal elections are held every four years.

[4] This traditional, public voting method involving a show of hands is still practised at cantonal level in a few cantons. It is widely used at the local level by many communes. The *Landsgemeinde* voting channel is not permitted for federal votes.

[5] Canton Zurich (ZH) trialed code-voting via SMS until 2008.

[6] With the exception of the canton Ticino, where postal voting is only available for federal elections and votes, all other cantons allow postal voting at local, cantonal and federal level.

[7] The 26 cantons of Switzerland are the member states of the federal state of Switzerland.

[8] Swiss abroad are considered to be all Swiss people who have no residence in Switzerland (Art.2 of the Federal Act on Political Rights of Swiss Abroad, SR 161.5 http://www.admin.ch/ch/ f/rs/c161_5.html). The Federal Act on Swiss Citizenship (SR 141.0, http://www.admin.ch/ch/ f/rs/c141_0.html) actually makes no distinction between Swiss resident and Swiss abroad: Swiss citizenship is transmitted by birth. The only restriction is that Swiss born and living abroad, who also have another nationality, lose Swiss citizenship if their birth is not registered with the Swiss consular authorities by their 22nd birthday.

material to Swiss voters abroad. Recommendations for overcoming these problems, made in the ODIHR report of April 2008[9], include encouraging the introduction of e-voting. The recommendations have been followed up in the form of an implementation report[10].

This paper focuses on the development of e-voting with a focus on Swiss living abroad. The new channel is considered by the expatriates themselves to be the flagship measure to improve their ability to exercise their voting rights. After a short review of some facts and figures on Swiss abroad, their political rights and the implementation of these are explained, this paper will discuss the political decision to focus the development of e-voting initially on the needs of Swiss abroad and the different steps in implementing this decision, followed by a description of the expansion of the e-voting trials centered on those citizens living abroad since June 2008 (the date of the first Internet-voting trial for Swiss abroad which took place in the canton Neuchâtel) up to the last trials held in 12 cantons[11] during the federal elections of March 2012 as well as the trials in four cantons at the recent federal elections on October 23, 2011. It is observed that e-voting enjoys a high degree of acceptance among the population. A discussion of the future development of the project closes the paper.

2   Political Rights of Swiss Abroad and Their Exercise

By the end of 2011 there were some 700,000 Swiss abroad. According to the data collected during the last federal elections, about 125,000 of them have registered to exercise their political rights in a Swiss canton or commune[12]. The increase of more than 16% in the number of Swiss people living abroad within a decade is in part due to the increase in the number of people with dual nationality, in particular births abroad and naturalisation of family members. It is also a reflection of increased levels of migration, a trend, which can be observed worldwide. Almost 60% of Swiss abroad live in an EU country and about 25% in North America[13].

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[9] OSCE/ODIHR Elections Assessment Mission, Report of 3 April 2008; see in particular chapter X, part C "Out of country voting", http://www.osce.org/odihr/elections/switzerland/31390.

[10] A detailed report on the implementation measures can be found under the Political Rights Section of the Federal Chancellery's website. The Federal Chancellery is the leading federal body responsible for the administration of votes and elections at federal level:
http://www.bk.admin.ch/themen/pore/nrw/index.html?lang=de -
See "*Implementation report OSCE/ODIHR*" on the right side of the page.

[11] The following cantons are involved in the e-voting project: Zurich (ZH), Berne (BE), Lucerne (LU), Fribourg (FR), Solothurn (SO), Basel-Stadt (BS), Schaffhausen (SH), St. Gallen (SG), Grisons (GR), Aargau (AG), Thurgau (TG), Neuchâtel (NE), and Geneva (GE).

[12] http://www.admin.ch/ch/f//pore/va/20110213/index.html (Click on "Details sur cet objet" to see the detailed figures.)

[13] To have more information visit the website of the Federal Department of Foreign Affairs:
http://www.eda.admin.ch/eda/fr/home/serv/livfor.html.

2.1 Political Rights of Swiss Abroad

The political rights of the Swiss abroad are set out in the Federal Constitution[14], the Federal Act on Political Rights for Swiss Abroad[15], and the Federal Ordinance on Political Rights for Swiss Abroad[16].

In the Swiss system of direct democracy[17], the Swiss abroad have the following political rights:
-   Swiss abroad who are 18 and over are allowed to participate in all federal referendums and elections. Some cantons and communes also allow their expatriates to take part in votes and/or elections at cantonal level and some even at communal level.
-   They have the right to elect and be elected.
-   Swiss abroad are allowed to sign federal initiatives and referendums. Some cantons and communes also allow them to sign cantonal and communal initiatives and referendums as well.
-   Swiss abroad have the same right as others to sign a petition.

2.2 The Exercise of Political Rights by Swiss Abroad

Swiss abroad can choose whether they want to exercise their political rights in their commune of origin or in (one of) their former domicile(s). In order to receive the voting material, they have to register with the Swiss consular representation in their country of residence.

In federal popular votes and referendums, an average of about 50% of these registered Swiss abroad cast their vote. In federal elections, the participation rate is lower; when it comes to choosing candidates for the national parliament, on average only around one-third of the registered Swiss abroad decide to participate.

Until 1992, those citizens living abroad had to come back to Switzerland to cast their vote in person. Since 1992, they have been allowed to send their vote by post. The material for postal voting is sent automatically to all registered Swiss abroad one week earlier than it is sent to residents in Switzerland. However, not all Swiss abroad can exercise their political rights, as the voting material may arrive too late in some countries due to difficulties with postal service[18]. In an attempt to find a solution to this problem,

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[14] Federal Constitution of the Swiss Confederation as of April 18, 1999 (http://www.admin.ch/org/polit/00083/index.html?lang=en). There is a special article concerning Swiss broad (art. 40).
[15] Federal Act of December 17, 1976 on Political Rights (http://www.admin.ch/ch/e/rs/161_1/index.html).
[16] Federal Ordinance of May 24, 1978 on Political Rights (http://www.admin.ch/ch/d/sr/1/161.11.de.pdf [no English translation]).
[17] A form of democracy in which the participation of the People is comprised of both electing the highest state bodies and also determing whether and which issues should be submitted to the People for an official decision.
[18] Most delays occur in neighbor and European Union countries, typically: Italy, Spain, France .

the Federal Chancellery, the cantonal authorities responsible for political rights, and the Swiss post office founded a working group to investigate possible measures[19]. Some measures could already be applied for the 2011 national elections; others have yet to be implemented.

Due to these problems with postal voting, the Organisation of the Swiss Abroad (OSA)[20] began to demand the introduction of a remote, electronic voting channel a few years ago[21].

3   Focus on E-voting for Swiss Abroad

3.1   Context

In its second report on the "Vote électronique" project on May 31, 2006[22], the Federal Council[23] evaluated the five pilot trials conducted between 2004 and 2005 by the cantons of Zurich, Neuchâtel, and Geneva during federal referendums (for Swiss residents only). The report marked the end of the e-voting pilot phase and the beginning of a gradual and controlled introduction to e-voting.

The Federal Council was given the task of introducing e-voting on a gradual basis by the parliament. The Federal Council allotted this task to the Federal Chancellery, where the "Vote électronique" project was run by the Political Rights Section.

This strategy – along with the necessary legal amendments to enforce it – was approved by parliament on March 23, 2007[24]. While acknowledging the advantages of e-voting, the federal government opted for a gradual introduction of this additional voting method in Switzerland[25].

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[19] For example, technical measures such as the format of the addresses or information on the envelopes.

[20] See also the organization's website http://aso.ch/en.

[21] A full, Internet-based voting procedure in which the voting material is also sent electronically to the Swiss abroad has yet to be realized and will not be implemented within the next few years due to various security-related difficulties.

[22] The report was published in the Federal Gazette 2006 5205; www.admin.ch/ch/f/ff/2006/5205.pdf .

[23] The Federal Council is the supreme governing and executive authority (Government) of the Swiss Confederation and is composed of seven members who are elected by the United Federal Assembly.

[24] On December 19, 2006 and March 19, 2007 the National Council and the Council of States respectively acknowledged the Federal Council report from May 31, 2006 on the e-voting pilot projects and amendments to federal legislation on political rights (the records of the two sessions can be found under the following URLs:
http://www.parlament.ch/ab/frameset/d/n/4715/236210/d_n_4715_236210_236330.htm (National Council) and http://www.parlament.ch/ab/frameset/d/s/4716/241444/d_s_4716_241444_241572.htm
(Council of States).

[25] Detailed information on the development of e-voting can be found, in English, in the three reports (2006, 2008 and 2010) that Switzerland (Federal Chancellery) transmitted to the Council of Europe in the context of the evaluation of implementation of the Recommendation 2004 11 on e-voting. Reports are available on demand.

The Federal Council authorised e-voting trials but limited them in order to minimise the risks. This approach reflected the technical and organisational challenges posed by the new voting method, as well as the risks it presented. Swiss abroad were identified as one of the groups with a major interest in e-voting.

The Swiss "Vote électronique" project consists of the following four phases:
- E-voting in federal referendums
- E-voting in federal elections
- E-collecting of signatures for federal initiatives and referendums
- E-collecting of signatures for federal election proposals.

A project team consisting of three members and a project manager is responsible for the operational and technical management of the project.
The cantons play the main role in the organisation of the project. In accordance with Switzerland's federalist structure, in which political rights are exercised differently in the different cantons, each canton is free to choose if and when it wishes to introduce e-voting.

3.2   Federal Legislation

The following amendments were introduced into federal legislation to enable the cantons to offer e-voting to their citizens abroad:

- **Article 8*a* of the Political Rights Act[26]:** This article stipulates that, in addition to the three pilot cantons, *interested cantons can begin controlled e-voting trials during federal votes*. Given that the results of electronic votes will have legal implications affecting the authorities, all trials are subject to prior authorisation by the Federal Council - the authority which validates the results of federal votes[27].

- **Article 5*b* of the Political Rights Act of Swiss abroad[28]:** This article stipulates that in order for Swiss abroad to be able to vote via Internet, *the electoral registers of Swiss abroad will be digitalised and either conducted in a centralised manner by the cantonal authorities or managed in a harmonised way by communes*. The cantons were given a year and a half , until the end of June 2009, to adapt their implementation provisions accordingly. In addition, work was also undertaken by the eCH-association[29]. The eCH-standard 0045[30] for voter registers, based on the international OASIS Election Markup Language Standard, was approved and has been already implemented by some cantons.

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[26] See http://www.admin.ch/ch/f/rs/161_1/a8a.html.
[27] Art. 15, para 1, Political Rights Act.
[28] See http://www.admin.ch/ch/f/rs/161_5/a5b.html.
[29] This is the Swiss association for setting e-government standards. See www.ech.ch.
[30] See http://www.ech.ch/vechweb/page?p=dossier&documentNumber=eCH-0045&documentVersion=1.00.

- **Article 27*c* of the Ordinance on Political Rights:** This article was modified in September 2009 to exclude Swiss abroad from the calculation of the quota limitation[31]. Given that they have the greatest interest in e-voting, and given the fact that they make up only a small proportion of the electorate, the federal government decided that Swiss abroad should be excluded from the quota limitation. This means that if a canton decides to introduce e-voting, it can offer it to almost all its Swiss abroad: namely those who live in EU and Wassenaar Arrangement States[32] as well as in certain small European countries[33]. Almost 90% of Swiss abroad live in these countries, which allow the exchange of encrypted data used in e-voting.

- **Article 27*k^bis* of the Ordinance on the Political Rights of Swiss Abroad:** This article was introduced in February 2010 to address certain aspects of the data exchange between cantons that cooperate to offer e-voting.

The amendments to the federal acts were adopted by parliament and were subject to optional referendum[34]; the amendments to the Federal Ordinance were approved by the Federal Council alone.

4   Introduction of E-voting for Swiss Abroad

4.1   Cooperation Between Cantons

In addition to amending federal and cantonal legislation in line with the goal of offering e-voting to expatriates, practical solutions had to be found to allow cantons without an e-voting system to start testing in a secure and cost-effective manner.

At the conclusion of the pilot phase, the Confederation, which contributed financially to the realisation of the three different e-voting systems in Zurich, Neuchâtel, and Geneva, decided to end any financial participation in future e-voting trials[35]. In accordance with previous agreements, the three pioneering cantons agreed to publicly release their know-how and the final results obtained to any interested cantons at no cost. In practice, this gave rise to some innovative types of inter-cantonal cooperation. The three pilot cantons,

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[31] During the pilot phase, the Federal Council limited the possibility of voting electronically to 2% of the Swiss electorate. During the 2007-2011 legislative period, the Federal Council made sure that the level did not exceed 10% of voters at federal level, even as more authorizations were granted. In the case of mandatory referendums, where the majority of cantons also play a decisive role, the Federal Council made sure that these trials did not involve more than 20% of voters in each canton.

[32] Wassenaar Arrangement of December 19, 1995/May 12, 1996 on export controls for conventional arms and dual-use goods and technologies, www.wassenaar.org. The Arrangement regulates the export/import of cryptography, a dual-use technology.

[33] Andorra, Liechtenstein, Monaco, San-Marino, Vatican State, and the northern part of Cyprus.

[34] The optional referendum is a popular vote that is held if requested by 50,000 voters or eight cantons on a new amended federal act, decree, or certain international treaties. The referendum bill is approved if a majority of those voting vote in favor of it.

[35] A detailed overview of the costs of e-voting will be presented in the third report of the Federal Council in 2013.

which each own and operate an e-voting system, and which have relatively long experience with e-voting, offered the use of their systems to other cantons. Therefore, the solutions developed in the pilot cantons can be employed by other cantons.

Two forms of cooperation have emerged:

- The *hosting solution* offered by the canton Geneva (see 4.2)
- The *consortium solution,* which operates a copy of the canton Zurich system (see 4.3).

Neuchâtel, which is the only canton so far to have developed a comprehensive online portal of cantonal government services (GuichetUnique.ch), of which e-voting is a feature, has yet to develop a scheme offering e-voting to other cantons.

4.2 Hosting Solution

In the hosting solution, the hosted canton transfers its electoral roll to the hosting canton. The hosting canton uploads the roll to its e-voting system and starts operating the system. When voting has ended, the hosting canton opens the ballot box, obtains the results, and transmits them to the hosted canton. To date, Geneva has signed hosting contracts with Bern, Lucerne, and Basel-Stadt[36]. The Federal Chancellery is also part of the hosting agreements. To make sure the Geneva e-voting system satisfies the needs of all hosted cantons (including the needs of Geneva itself), a user group[37] has been created.

4.3 Consortium Solution

The consortium solution was formed in autumn 2009. Seven cantons[38] agreed to cooperate to use a copy of the Zurich e-voting system, operated by a private company. The consortium solution is similar to the hosting one, with the major difference being that the system is not operated by a canton, as in the Geneva case, but by a private company. The Federal Chancellery is part of the consortium's agreements as well.

Both hosting and consortium solutions offer several advantages, not least of all lower costs for the joining cantons (compared to the cost of developing/buying yet another system). It also gives those cantons an opportunity to trial e-voting in a secure and cost-effective manner and discuss its future extension. Plus it allows participating cantons to resolve problems faced by voters abroad.

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[36] The first hosting contract was signed in Berne in June 2009:
http://www.bk.admin.ch/aktuell/media/03238/index.html?lang=fr&msg-id=27425.
[37] The user group has the competence to decide upon the development/modification requests coming from the partners; deal with the organisation of votes/election, the technical specifications, fix priorities, and handle costs; decide the functional modifications of the system which can impact the hosted cantons; take stock of the last trial as it meets Monday, 8 days after every voting Sunday.
[38] Fribourg, Solothurn, Schaffhausen, St.Gallen, Graubünden, Aargau, and Thurgau.

5　Implementation of E-voting

5.1　Implementation for Referendums and Elections

Since 2004, 75 trials have been conducted in federal popular votes and four in federal elections, making a total of 79 trials. The systems were employed at numerous cantonal votes and communal votes as well.

	NE*	GE*	ZH*	BS¹	SO²	FR²	SG²	AG²	GR²	TG²	SH²	LU¹
26.09.04		░										
28.11.05		░										
25.09.05	░											
27.11.05	░		░									
26.11.06	░		░									
11.03.07	░											
17.06.07	░		░									
24.02.08	░											
01.06.08	█		░									
30.11.08	█	░	░									
08.02.09	█		░									
17.05.09	█	░	░									
27.09.09	█	█	░									
29.11.09	█	█	░	░								
07.03.10	█	█	░	█								
26.09.10	█	█	█	█	█	█	█					
28.11.10	█	█	█	█	█	█	█	█	█	█	█	█
13.02.11	█	█	█	█	█	█	█	█	█	█	█	█
23.10.11				█			█	█	█	█		
11.03.12	█	█		█	█	█	█	█	█	█	█	█

* Pilot cantons / ¹ Hosting in Geneva system / ²Consortium / copy of Zurich system

░ Trials without Swiss voters abroad
█ Trials with Swiss voters abroad

Fig. 1: E-voting trials (at federal level)

For each ballot, as many as 170,000 voters were able to vote electronically. This did not exceed the limit of 10% of the electorate set by the Ordinance on Political Rights.

It is not possible to discern from the statistics whether or not the introduction of e-voting had an influence on the number of Swiss abroad who voted. Only very few of the cantons identify votes cast by Swiss abroad separately. Nevertheless it is worthy mentioning that there has been an increase in the number of Swiss voters registered abroad since e-voting was introduced. Research has not yet been conducted into whether these two facts are connected.

5.2 Focus National Elections 2011

On October 23, 2011, e-voting was used for the first time in federal elections. Approximately 22,000 Swiss voters abroad, registered in the cantons of Basel-Stadt, St.Gallen, Grisons, and Aargau, were permitted to use this system. This was about 0.4% of a total of approximately 5,090,000 voters. About 53% of Swiss voters abroad, who were registered in the cantons entitled to take part in the trial, made use of this new voting method. The e-voting trials ran smoothly. The technical and logistical challenges were successfully mastered by the cantons involved. This first-ever use of e-voting in federal elections marked the beginning of the second phase in its implementation.
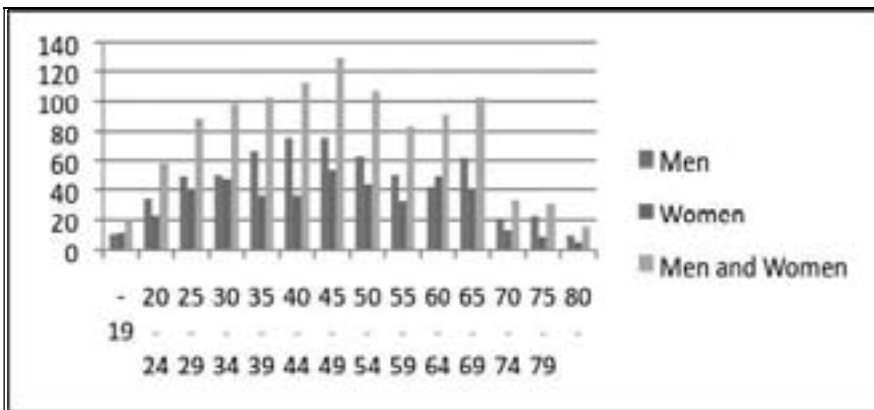

Fig. 2: Voter participation among Swiss abroad registered in canton Grisons using e-voting, by age group (Source: Grisons Cantonal Chancellery)

An analysis of voter participation among Swiss expatriates registered in the canton Grisons shows that e-voting is used most frequently by men in all age groups. Most of the people who use e-voting are aged 45-49. The distribution is normal.

The 2011 elections to the National Council were observed by the OSCE/ODHIR. The team of experts was particularly interested in the e-voting systems, as this technology is relatively new and to date, pilot studies only been conducted in a few member countries. The report was issued on January 30, 2012[39].

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[39] http://www.osce.org/odihr/elections/Switzerland/81974.

6   Acceptance and Use of E-voting

The results of a survey conducted in 2011 by the Federal Office of Communications showed that there is considerable support for an electronic voting system and the public perceives a need for trials to be continued[40]. Another public survey conducted in 2011 by the Federal IT Steering Unit confirms that the general public would like to see e-voting given priority in e-government programs[41]. Surveys carried out in the cantons also suggest that the project is widely accepted. In 2011, the canton Geneva gave the whole electorate an opportunity to vote online in two cantonal votes, of which just under 20% of the electorate made use of the option. This ballot showed that e-voting has clearly become accepted as a third valid voting option. On this occasion, online voters were surveyed. 80% claimed to be very satisfied with the voting process in terms of user-friendliness and time taken to vote. Just fewer than 40% were using e-voting for the first time. Two thirds said they would use e-voting again at the next ballot. Very few people contacted the helpdesk, which suggests that the system was easy to use.

Nevertheless, some cantons are experiencing opposition to e-voting. As an example, a motion entitled "E-voting Is Dangerous for Democracy – Let's Stop the Expense" was submitted in the canton of Vaud, signed by representatives from almost every political party represented in the cantonal parliament[42]. The motion calls for a total ban on e-voting. The main arguments relate to the transparency, security, and secrecy of e-voting. Further arguments include the privatisation of processes meant to be public and the trivialisation of the act of voting. At the federal level, an interpellation entitled 'Electronic Voting: A Danger to Democracy' has been submitted to the Council of States[43]. It questions the security and organisational aspects of Internet voting.

The Confederation and its partners take doubts and fears expressed by critics seriously. Emphasis is placed on enhancing security and transparency so as to foster trust in the new voting channel. These objectives form the focus of ongoing and future work on e-voting (federal group on e-voting and its taskforces, see 7.2).

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[40] For all results see: http://www.uvek.admin.ch/themen/kommunikation/00690/01347/index.html?lang=de.

[41] http://www.egovernment.ch/studienportfolio/upload/pdf/E-Government_Bevoelkerung_Bericht_def.pdf

[42] Vaud Cantonal Parliament (accessed 17.01.2012): http://www.vd.ch/fr/autorites/grand-conseil/seance-du-8-fevrier-2011/motion-jean-christophe-schwaab-le-vote-electronique-est-dangereux-pour-la-democratie-arretons-les-frais/.

[43] Smaller chamber of the Federal Parliament that is composed of 46 representatives of the cantons.

7 Outlook

7.1 "Vote électronique" Roadmap

Drawn up in spring 2011, the "Strategic Paper on Vote Électronique" (roadmap)[44] provides an overview of the rollout strategy for the coming years. It lays down common objectives and milestones so as to ensure optimal coordination between the Confederation and the cantons and defines measures to drive the project forward. The strategy, which was discussed by the Conference of Government Chancellors at its spring meeting in 2011, provided for the establishment of a nine-member steering committee responsible for dealing with all strategic and political issues. The creation and first constituent meeting of the steering committee, which consists of representatives from the Confederation and the cantons, took place in Bern in August 2011 under the auspices of the Federal Chancellor. This new coordinating body is charged with supporting the ongoing implementation of the project and studying future strategic proposals. Following its formation, the steering committee intends to meet at least twice a year and its purpose is to assess the progress of the project and monitor the implementation of the roadmap objectives.

7.2 Security Standards Taskforce

Due to current legislative limitations, only the Swiss abroad and a limited proportion of citizens resident in Switzerland may use e-voting. Since the impact of certain risks increases with the number of voters using e-voting, the roadmap foresees the granting of e-voting access to more users only after crucial security questions have been revisited. The roadmap therefore serves as a basis for the newly founded security standards taskforce. The group, comprised of representatives from the Confederation, cantons, academia, and various consulting firms, aims to establish a set of minimal security criteria that e-voting systems and their administration need to comply with before the community of users can be expanded.

An absolute key requirement of e-voting systems is that they need to generate results as the consolidated collection of legitimate votes (which have not been tampered with). As ballot secrecy has to be maintained at all times, fraud attempts are not as easily detectable as with other Internet applications, such as e-banking. Nevertheless, the technical literature on e-voting cryptography suggests a multitude of privacy-preserving solutions, such as verifiable protocols that allow voters to verify that their vote has reached the voting servers as intended, that it has been recorded as cast, and tallied as recorded. The taskforce seeks to increase security requirements and relate its reflections to the existing literature. With this aim, Bern University of Applied Sciences' (BFH) e-voting research group of has been given the task of producing a concept outlining how

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[44] See: http://www.bk.admin.ch/themen/pore/evoting/06552/index.html?lang=de.

a verifiable system could be implemented in practice[45]. The Norwegian experience, with their trial using a verifiable system in September 2011, serves as a fine source of inspiration in terms of usability and the implementation of a verifiable protocol in practice.

The security standards taskforce has assumed the user's platform to be the most vulnerable system component. In Norway, the problem has been mitigated by introducing return codes that enable voters to verify whether their vote has been tampered with before arriving at the servers. While Switzerland is looking at Norway's solution with great interest, the Confederation has also given a grant to the Federal Institute of Technology in Zurich (ETH) to elaborate on this sensitive subject and propose appropriate solutions. An ETH-researcher is also a member of the security standards taskforce, continually sharing newly discovered insights. Regardless of which final technical requirements will be proposed by the security standards taskforce in summer 2012, there will also be organisational requirements to consider, such as requirements on external audits.

7.3   Expansion of E-voting

Some cantons are planning to expand their e-voting projects. The next steps will include offering e-voting to Swiss residents and implementing e-elections. Other cantons have expressed an interest in introducing e-voting for their own expatriates. The Federal Chancellery, as the coordinating body, supports the cantons in implementing their chosen solution. It has set itself the goal of permitting the majority of eligible Swiss voters abroad to cast their ballots electronically in federal votes and referendums by 2012 and in elections by 2015. As governments gain e-voting experience through their expatriates, e-voting will gradually be made available to Swiss residents as well.

While there are some critics, a strong political will to develop Swiss e-voting can be observed among the many stakeholder groups. In September 2011, a parliamentary intervention asked for the introduction of a federal obligation for cantons to introduce e-voting for their Swiss abroad by the next elections in 2015[46]. Even though the Federal Council is in favour of introducing e-voting, it rejected this proposal, as the cantons, which are responsible for organising national polls, should be free to decide if and when they wish to begin this complex project. This also fits in with the ongoing cooperative approach. The Organisation of the Swiss Abroad is currently collecting signatures for a petition demanding the introduction of e-voting for all Swiss citizens.

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[45]   http://www.bk.admin.ch/themen/pore/evoting/index.html?lang=de.
[46]   Motion Fässler (Flächendeckendes E-Voting für Auslandschweizerinnen und -schweizer bis 2015), see http://www.parlament.ch/d/suche/seiten/geschaefte.aspx?gesch_id=20113879.

The Federal Chancellery has been evaluating the trials conducted since 2006. This evaluation will lead to a third report on "Vote Électronique", which is due to be presented to the Federal Council by mid-2013. The report will also make recommendations on how to proceed with the project. At the same time, the current legal basis for e-voting will be reviewed and proposals for modification will be made to the Federal Council, which is in charge of amending the Federal Ordinance on Political Rights.

8   Conclusions

Swiss voters abroad are the target group prioritised in the introductory phase of the "Vote Électronique". First, the possibility of voting online satisfies a particular need of this target group. Secondly, Swiss voters abroad form a clearly defined group which can be easily monitored. This is particularly important in the pilot phase.
Since 2000, binding trials with e-voting have been carried out in Switzerland. So far 13 cantons have become involved in the project. Finding solutions to extend e-voting to Swiss abroad from cantons that have no e-voting system has fostered a new cooperation between cantons as well as with the Federal Chancellery. Extending e-voting as part of a gradual process has proven its worth.

Thanks to the "Vote Électronique" roadmap, the players involved in the project have had the certainty they need to proceed with planning and investment. By 2012, the majority of Swiss voters abroad should be able to participate in popular votes and referendums online. In 2015, thanks to "Vote Électronique", the large majority of Swiss voters abroad should be able to cast their votes in the federal elections.

The success of the Swiss model of the introduction of e-voting can be explained by the following elements: joint strategic planning, positive inter-cantonal cooperation with hosting solutions, and a gradual expansion with an intense focus on security. The third report of the Federal Council is due in 2013 and will evaluate the trials carried out so far, establishing the conclusions of the security standards taskforce as well as the next steps to be taken.

Among Swiss voters abroad, e-voting has established itself as a safe, practical means of voting alongside postal voting. At the same time, the political parties are showing greater interest in mobilizing this target group. Such interest in the votes of expatriates almost automatically means that measures that made it easier to cast votes, such as the introduction of e-voting for federal elections, have been embraced by almost all political parties.

Bibliography

[CE11]   Chancellerie de l'Etat de Génève, Second scrutin en ligne ouvert à tout le canton: Grande satisfaction des utilisateurs, Genève, 2011
Available on: http://www.ge.ch/chancellerie/communiques/2011/20111127.asp

[EG11]   E-government Schweiz, Studie Bevölkerung und E-Government, Berne, 2011
Available on: http://www.egovernment.ch/studienportfolio/upload/pdf/E-Government_ Bevoelkerung_Bericht_def.pdf

[FO11]   Federal Office of Communications, Thesen zur Entwicklung der Informationsgesellschaft in der Schweiz: Ergebnisse der Online-Umfrage, Berne, 2011
Available on: http://www.uvek.admin.ch/themen/kommunikation/00690/01347/ index.html?lang=de

[OS08]   Organisation for Security and Cooperation in Europe, Elections Mission Report of 3 April 2008, Vienna, 2008,
Available on: http://www.osce.org/odihr/elections/switzerland/31390

[SF04]   Swiss Federal Chancellery, First report on "Vote électronique", Berne, 2011. Available on: http://www.bk.admin.ch/themen/pore/evoting/06552/index.html?lang=de

[SF06]   Swiss Federal Chancellery, Second report on "Vote électronique", Berne, 2006
Available on: http://www.bk.admin.ch/themen/pore/evoting/06552/index.html?lang=de

[SF11]   Swiss Federal Chancellery, Implementation report OSCE/ODHIR, Berne, 2011, http://www.bk.admin.ch/themen/pore/nrw/index.html?lang=de

[SFC11]   Swiss Federal Chancellery, Roadmap "Vote électronique", Berne, 2011
Available on: http://www.bk.admin.ch/themen/pore/evoting/06552/index.html?lang=de