International Specialized Course

The Use of Technology in the Electoral Process

Final Report

Mexico City, November 10th-14th, 2014
The Use of Technology in the Electoral Process

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DESCRIPTION

The International Specialized Course: the Use of Technology in the Electoral Process was developed within the frame of the Working Group on Elections of the Community of Democracy. It took place in Mexico City on November 10-14th, 2014.

The mission of Working Group on Elections is to encourage democratic and electoral practices, through the promotion of horizontal international exchange and cooperation.

According to the mission of the Group, the mandate was defined in three areas as the following:

1) Capacities' reinforcement of Electoral Management Bodies (EMBs), as well as of electoral stakeholders, including political parties, observers' groups, civil society organizations and international organizations particularly active in the field of elections
2) Electoral accessibility and participation
3) Electoral processes' improvement

The Working Group is co-chaired by Mexico and The Philippines.

The International Specialized Course is an initiative framed in the Group’s Capacity Reinforcement area, supported by the National Electoral Institute of Mexico (INE), through its International Center for Electoral Training and Research (CICIE).

The use of technology was the transversal axis for the three thematic areas addressed: electoral registry, electronic voting and transmission of electoral results.

Each of the thematic areas was developed through a general view presented by international experts. After this, case studies were presented. Finally, the participants integrated group discussions in which the exchange of experience was privileged on the use of technology in the three mentioned areas.
II. PARTICIPANTS

- 24 electoral officers of 15 countries of Africa, America, Asia and Europe.
- The EMB’s countries represented were:
  - **Africa**: Nigeria
  - **America**: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Peru, Mexico
  - **Asia**: The Philippines and Indonesia
  - **Europe**: Estonia, Georgia, Lithuania, Ukraine
## The Use of Technology in the Electoral Process

<table>
<thead>
<tr>
<th>Continent</th>
<th>Country</th>
<th>Electoral Management Body</th>
<th>Photo</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>Nigeria</td>
<td>Independent National Electoral Commission</td>
<td></td>
<td>Paul Omokore, Deputy Director, ICT</td>
</tr>
<tr>
<td>America</td>
<td>Argentina</td>
<td>National Electoral Chamber</td>
<td></td>
<td>Ariel Alejandro Alonso Shannon, Computer Area Officer</td>
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<tr>
<td></td>
<td>Brazil</td>
<td>High Electoral Tribunal</td>
<td></td>
<td>Giuseppe Dutra Janino, ICT Secretary</td>
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<td></td>
<td>Chile</td>
<td>Electoral Court</td>
<td></td>
<td>Leopoldo Núñez Tomé, Chief of Studies Department</td>
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<tr>
<td></td>
<td>Colombia</td>
<td>National Registry of Civil State</td>
<td></td>
<td>Nicolás Farfán Namén, National Management Director</td>
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<td>Heriberto Quiñonez Sandoval, Head of Development and Programming Unit</td>
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<tr>
<td>Country</td>
<td>Institution</td>
<td>Person Name</td>
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<tr>
<td>Costa Rica</td>
<td>High Electoral Court</td>
<td>Carlos Umaña Morales, Responsible for Electoral Program of Result’s Transmission</td>
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<td></td>
<td></td>
<td>Esteban Durán Hernández, Responsible for Electoral Development Area</td>
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<td></td>
<td></td>
<td>Silvana Lasso, Electoral Technician of National Electoral Registry</td>
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<tr>
<td>Peru</td>
<td>National Identification and Civil Status Registry</td>
<td>Katiuska Valencia Segovia, Deputy Manager of the Electoral Registry Processing.</td>
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<tr>
<td></td>
<td></td>
<td>Ricardo Saavedra Máliva, Manager of Certification and Digital Registry</td>
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<tr>
<td>Mexico</td>
<td>National Electoral Institute</td>
<td>Raúl Cruz, Project Leader of Technical Support of the Office of Electoral Linking for Mexicans Living Abroad</td>
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<td></td>
<td></td>
<td>Alejandro Andrade, Technological processes Coordinator of the Electors’ Federal Registry Executive Office.</td>
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### The Use of Technology in the Electoral Process

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<th>Photo</th>
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<tbody>
<tr>
<td>Asia</td>
<td>Indonesia</td>
<td>General</td>
<td></td>
<td>Hadar Nafis Gumay, Electoral Commissioner</td>
</tr>
</tbody>
</table>
The Use of Technology in the Electoral Process

<table>
<thead>
<tr>
<th>Country</th>
<th>Organization</th>
<th>Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>Commission on Elections</td>
<td>Muhamad Erfan, Officer of Technology Development</td>
</tr>
<tr>
<td>Estonia</td>
<td>National Electoral Committee</td>
<td>Tarvi Martens, Head of e-Elections Committee</td>
</tr>
<tr>
<td>Georgia</td>
<td>Central Election Commission</td>
<td>George Dzagania, Head of the Division of Courts and Electoral Disputes Relations</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Central Electoral Commission</td>
<td>Jurga Augustaityte, Head of the Information Technology Division</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Electoral Commission</td>
<td>Oleksandr Stelmakh, Chief of State Electoral Register</td>
</tr>
</tbody>
</table>

### III. PROGRAM
The Use of Technology in the Electoral Process

**MONDAY, NOVEMBER 10TH**

**INE AUDITORIUM**

**WELCOME SESSION AND OPENING REMARKS**

Maria Leissner, Secretary General of the Community of Democracies  
Lorenzo Córdova, President Councilor of the National Electoral Institute (INE)

**KEY NOTE SPEECH**

New technologies and the integrity of electoral processes: myths and realities.  
*Maria Leissner, Secretary General of the Community of Democracies*  
*Moderator: Manuel Carrillo, INE*

Exchange session

**INTRODUCTION TO THE COURSE’S METHODOLOGY**

Manuel Carrillo Poblano, Head of the International Affairs Unit, (INE)

**INTRODUCTORY SESSION**

General overview about the use of technology in the electoral process  
*Steven Canham, IFES*  
*Moderator: Hadar Nafis Gumay, Indonesia*

Exchange Session

**TUESDAY, NOVEMBER 11ST**

**ROYAL PEDREGAL HOTEL**
The Use of Technology in the Electoral Process

INTRODUCTORY SESSION

The importance of a reliable electoral registry: introducing new technologies.
Steven Canham, IFES
Moderator: Leda Bandeira, TSE de Brazil
Exchange Session

THE IMPORTANCE OF A RELIABLE ELECTORAL REGISTRY: INTRODUCING NEW TECHNOLOGIES.

Katiuska Valencia
Peru

Oleksandr Stelmakh
Ukraine

Alejandro Andrade
Mexico

Paul Omokore
Nigeria

Moderator: Heriberto Quiñonez, Colombia
Exchange Session

GROUP DISCUSSION: THE INTEGRITY OF THE ELECTORAL REGISTRY AND THE USE OF TECHNOLOGY

Group 1.
Mechanisms for a reliable electoral registry.
Moderator: Silvana Lasso, Ecuador

Group 2.
Technologies to guarantee the security of electoral registry
Moderator: Ricardo Saavedra, Peru

Wednesday November 12th
Royal Pedregal Hotel
INTRODUCTORY SESSION

Dilemmas on the use of electronic voting
Steven Martin, OSCE
Moderator: Tarvi Martens, Estonia
Exchange Session

STUDY CASE: VOTING MECHANISMS AND SCRUTINY

<table>
<thead>
<tr>
<th>Jurga Augustaityte</th>
<th>Leopoldo Núñez</th>
<th>Nicolás Farfán</th>
<th>Hadar Nafis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithuania</td>
<td>Chile</td>
<td>Colombia</td>
<td>Gumay Indonesia</td>
</tr>
</tbody>
</table>

Moderator: Steven Martin, OSCE
Exchange Session

STUDY CASE: ELECTRONIC VOTING SYSTEMS: CHALLENGES OF ITS INSTRUMENTATION AND BALANCE OF ITS FUNCTIONING

Political actors and decision making on electronic vote. Al Parreño, Philippines Commissioner
Moderator: Gerardo Martínez, INE

<table>
<thead>
<tr>
<th>Diego Tello</th>
<th>Tarvi Martens</th>
<th>Giuseppe Dutra</th>
<th>Esteban Durán</th>
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<tbody>
<tr>
<td>Ecuador</td>
<td>Estonia</td>
<td>Brazil</td>
<td>Costa Rica</td>
</tr>
</tbody>
</table>

Moderator: Gerardo Martínez, INE
Exchange Session

GROUP DISCUSSION: SOPHISTICATION OF THE VOTING MECHANISMS

Group 1. Reassuring the electoral process’ credibility through the use of electronic voting.
Moderator: Giuseppe Dutra, Brazil
Group 2. Regulations and electronic vote
Moderator: Paul Omokore, Nigeria

THURSDAY, NOVEMBER 13RD
ROYAL PEDREGAL HOTEL
INTRODUCTORY SESSION

Legitimacy and credibility: Challenges in the transmission of electoral results.
Eduardo Núñez, International expert
Moderator: Manuel Carrillo, INE
Exchange Session

STUDY CASE: ELECTORAL RESULTS TRANSMISSION

<table>
<thead>
<tr>
<th>George Dzagania</th>
<th>Ariel Alonso</th>
<th>Yuri González</th>
</tr>
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<tbody>
<tr>
<td>Georgia</td>
<td>Argentina</td>
<td>México</td>
</tr>
</tbody>
</table>

Moderator: Leopoldo Núñez Tomé, Chile
Exchange Session

GROUP DISCUSSION: CREDIBILITY IN THE ELECTORAL RESULTS TRANSMISSION

Group 1.
Transparency, trust, and promptness in the results transmission.
Moderator: Carlos Umaña, Costa Rica
Group 2.
Security and contingency factors during results transmission.
Moderator: Jurga Augustaityte, Lithuania
INTRODUCTORY SESSION

**Political communication and the use of new technologies**
*Alberto García Sarubi, National Coordination of Social Communication*

*Exchange Session*

CONCLUSIONS

**Conclusion Session: Use of technologies and electoral registry.**
*Silvana Lasso, Ecuador*
*Ricardo Saavedra, Peru*

*Exchange session*

**Conclusion session: Electronic vote in the electoral process**
*Giuseppe Dutra, Brazil*
*Paul Omokore, Nigeria*

*Exchange session*

**Conclusion session: Electoral results transmission and new technologies**
*Carlos Umaña, Costa Rica*
*Diego Tello, Ecuador*

*Exchange session*

**Closing Ceremony**
*Moderator: Manuel Carrillo, INE*

IV. INTERNATIONAL EXPERT’S PROFILE
The Use of Technology in the Electoral Process

**Lorenzo Córdova** Mexican jurist and academic. He has been a professor at the Law Faculty and researcher at the Institute for Legal Research of the National Autonomous University of Mexico. He is a member of the National Researchers System. He collaborates with the El Universal newspaper, and in the Nexos and Voz y Voto magazines. Since December 2011 he was appointed Electoral Counselor in the Federal Electoral Institute (IFE). On April 3rd, 2014, he became the first President of the National Electoral Institute.

**María Leissner** is a Swedish politician who led the Swedish Liberal Youth organization both as Secretary General and as President. She chaired the Swedish Committee for Afghanistan in 1991–94. She joined the Ministry of Foreign Affairs in 2000 and was Ambassador to Guatemala, Honduras, El Salvador, Belize and Costa Rica in 2000-04. Maria Leissner was elected Secretary General in April 2012, being the first Secretary General of the Community of Democracies. In June 2014, she was re-elected for the second term.

**Eduardo Núñez** is a political scientist from the University of Costa Rica with postgraduate studies in Projects Development Management from the Central American Institute of Public Administration. He was Head of the Projects of Electoral Technical Assistance for the Inter-American Institute for Human Rights and its Advising Centre for Electoral Promotion (IIDH/CAPEL). He has been a consultant on political parties for the United Nations Development Program (UNDP). He is President of the Association of Costa Rica Integra Board of Directors.

**Steven Martin** is a Canadian electoral expert who has observed, advised on, and implemented a range of election-related activities with expertise in operations and capacity building as well as developing training programs for election commissions and civil society. His experience spans across the Middle East/North Africa, the Balkans, the Caucuses, and Central Asia. He currently works with the OSCE/ODIHR as a Senior Adviser on New Voting Technologies.

**Steven Canham** is an Australian international expert who provides advice and leadership in strategic management, business development, process design, organizational analysis, and technology integration. He has designed and led an extensive number of mission critical projects internationally, including nationwide projects in both the Government and private sectors. His electoral experience extends in the fields of civil and voter registration, in addition to broader electoral operations and management.
Alberto García Sarubi
Obtained his Bachelor’s degree in Communication Sciences by the National Autonomous University of Mexico (UNAM). Is certified in Political Communication and Political Campaigns. He is currently INE’s Coordinator of National Social Communication. He has carried out posts inside the Institute, such as Chief of Information at the National Civil Service Commission (CNCS) for 4 years. He previously held a position in public service as ProMéxico Chief of Information from 2008-2009, and appointed Mexico’s Press Counselor at the European Union, the Kingdom of Belgium, and the Duchy of Luxembourg from 2006 till 2008. He has collaborated as a reporter and anchor in private initiative in various electronic communication media and written press for over 10 years.

Manuel Carrillo Mexican political expert. He has been Head of INES’s International Affairs Unit since 1993. He served as Political Analysis Deputy Director for the Ministry of Interior’s Political and Social General Research Office, as well as Political Analysis Coordinator of the same office and institution.
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V. SESSIONS

Monday, November 10th, 2014

Welcome Session

Maria Leissner, Secretary General of the Community of Democracies
Lorenzo Córdova, President Councilor of the National Electoral Institute (INE)

During the welcoming session, the Chief of International Affairs Unit (INE), Mr. Manuel Carrillo, remarked the Working Group on Elections’ objectives and its areas of action.

The international course was developed within this group. It has been established as a collaboration platform to acknowledge and to exchange different experiences and practices from the country’s members. Also, in his remarks, Mr. Carrillo, stressed out the strictly respect to the countries members’ sovereignty and recognized that in democracy there is not a unique model but different ones responding to each culture and social and political context.

The inaugural message from Ambassador Maria Leissner, General Secretary of the Community of Democracies, acknowledged that this new collaboration platform addresses the institutional strengthening for the improvement of the quality of democracy.

Mrs. Leissner pointed out that this cooperation mechanism promotes the development of collaboration networks not only among the Electoral Management Bodies but also among international organizations.

At the time, Amb. Leissner appreciated INE’s initiative and role for the promotion of the Working Group activities, she remarked INE encourages the worldwide cooperation. Also, she invited the members to follow up these type of international exchange programs and to continue participating on them.

Dr. Lorenzo Cordova, Councilor President of INE, agreed and remarked that the international cooperation and technical assistance promote the strengthening of democratic institutions. Dr.
The Use of Technology in the Electoral Process

Cordova emphasized that EMBs need to support and to boost specific topics, such as: financing of political parties, media access, guarantee equity and transparency, among other topics.

Dr. Cordova pointed out this Specialization Course’s characteristic: is an horizontal mechanism of international cooperation, where INE’s participation aims to the improvement of the democratic practices and the institutional strengthening by building up the electoral officials' capacities.

Two elements were emphasized in his speech:

a) This technical assistance cooperation, the Specialization Course, must be an horizontal exercise, aiming to enrich the participation and to receive a feedback, from and for the participants. He pointed out that there are not exportable recipes since each democratic context has its own particularities. The solutions can’t be taken as universally acceptable or implemented to every country. Each country may adapt and acknowledge others experiences, and the solutions will be according to the cultural, social and political country’s context.

b) Technology is a transversal tool for each stage of the electoral process. The technical and scientific procedures have contributed to strength the mechanisms, to protect the suffrage and to get access even in the distance. Technology has helped to dissipate doubts or uncertainty through the dissemination of preliminary results, providing certainty and integrity to the electoral process, and even to inhibit fraudulent practices. All these factors have build up trust in the electoral process, and therefore, governavility for the political systems.

Finally, INE’s President Councilor expressed his hopes for the Specialization Course to be the first of many more activities organized jointly with the Community of Democracies and welcomed the participants to “INE: Mexico’s house of Democracy”.

"INE: Mexico’s house of Democracy"
The Use of Technology in the Electoral Process

Key Note Speech
New technologies and the integrity of electoral processes: myths and realities

*Maria Leissner, General Secretary, Community of Democracies*

*Moderator: Manuel Carrillo, INE*

The Ambassador Maria Leissner started her presentation by mentioning that the Community of Democracies adopted and guides its activities by the 19 principles in its Warsaw Declaration. They are based on the UN's Universal Declaration of the Political and Civil Rights.

Amb. Leissner continued her speech by regretting that multiparty elections aren’t still an international principle. This kind of principle could guarantee many options for citizens and a peaceful transfer of power. This characteristic is a measure which places citizens at the top of the decision pyramid.

Mrs. Maria Leissner provided a different meaning of democracy. She defined it as the art to loose, to acknowledge others victory and to loose with dignity taking into consideration that always will be a second chance to compete again.

Even when elections don’t constitute the democracy; elections are an essential pillar for its achievement. Elections must be developed with integrity.

After this general overview, Mrs. Leissner remarked that even when the technology makes more efficient the electoral process, it doesn’t solve every problem, such as the social and political issues on which the electoral process relies on.

Many countries consider that the use of technology is closer to the realities of the new democracies rather than the older ones. As an example, she mentioned Estonia which established an e-governance. Since it is a new democratic State they were able to develop a modern form of democracy. So, its possible to affirm that new democracies have more openness to the new technologies.
Mrs. Leissner emphasized that the new technology is directly linked with young people. It is very important that governments promote the young people’s participation in democracy. This participation influences in the electoral results. By reaching the youths, they will be directly benefited because they are the ones who promote the use of electronic means such as the social media network.

The implementation of technology must consider the electoral integrity. The technology is a mean which may facilitate the processes, such as the transversal topics boarded in this Specialized Course: electoral registration, electronic voting and transmission of results.

The Ambassador continued her presentation regarding these three topics. First, she mentioned that the implementation of electronic voting has provided many benefits to many countries, for example, in Brazil through the electronic voting, 140 million voters could participate in the last electoral process.

However, as she pointed out, most of the countries are just starting out this new electronic voting process. It is possible that people with discapacities and illiterate people could be benefitted through the electroning voting system thus, promoting a more inclusive process.

Amb. Leissner mentioned that recently Elections Canada has published a study on the use of the electronic vote. The results from that study shows: more electors have a postive attitude towards the e-voting system; from 2010, electoral participation has increased in 10% thanks to the use of e-voting; the study also remarked the participation from citizens who previously weren’t interested in voting, and they now voted electronically due to its accesibility.

Regarding the transmission of electoral results, the use of technology allows to provide free and reliable results. More efficiency in the process since it reduces the human mistakes. A more automationized process could simultaneously manage a bigger volume of data.

As the final remarks, Ambassador Leissner invited the countries who hasn’t applied the technology to try it out according with their own context and needs.

During the exchange session, the following comments were presented:

- Ricardo Saavedra, RENIEC Peru. Remarked the duality between electronic voting and the use of technology for the electoral registration.

- Diego Tello, CNE Ecuador. Mentioned that the use of technology must be accepted and validated by many electoral stakeholders and diversity groups, particularly the political organizations.

- Hadar Gumay, GEC Indonesia, asked if there is any learning or study regarding the use of technology, the different stages and how efficient results have provided.
Finally, Manuel Carrillo, as moderator in this panel, presented as conclusion that the solution on technology will depend on the EMB’s problem faced and its adoption will rely on the social and political context. He pointed out there is not a unique guideline, since there are a variety of models, all of them depending on the countries’ context framework.

**Introductory Session**

**General overview about the use of technology in the electoral process**

*Steven Canham, IFES*  
*Moderator: Hadar Nafis Gumay, Indonesia*

Dr. Canham presented a general overview on the use of technology in different stages of the electoral process. The following are the main ideas of his presentation:

I. **Common areas of Technology Implementation:**
   a) Voter Registration.
   b) Election Management: party and candidate registration; ballot design and production; resource and logistical planning; stock and inventory management.
   c) Voter Education and Awareness. It is an area without a correct impulse.

II. **Technology Implementation Guidelines:**
   a) Have clear objective for introducing new technologies: What is to be achieved?
   b) It is necessary to consider specific requirements before the implementation of a technological project: time, resources, efficiency. Once we define this, it is necessary to know a methodology for assessing the achievements.
   c) Planning: at what point of the Electoral Cycle will the technology be implemented? Taking in consideration: resources, time, risk management and contingency measures, among others.
   d) Ownership: Who owns the technology?
   e) Sustainability: costs, equipment, project longevity.
   f) Involving different strategic stakeholders
   g) Manage Expectation; ensure that a failure of the technology does not imply a failure in the integrity of the Elections.
Some of the questions after Mr. Canham’s presentation were:

- **Paul Omokore, Nigeria:** How do you handle the fact that strategic actors do not know technology in the electoral process, so its implementation can be seen as an instrument used by groups in power to manipulate the process?

  R=There is always a level of suspicion and mistrust when technology is introduced. These are the greatest dangers. It is not easy, but the greater transparency of information may clarify the negative perception.

- **Leopoldo Nuñez, Chile:** using technology is a way of no return, in case of problems you can return?

  R=To introduce new technology always have to weigh the risks and to define which are the contingencies.

- **Manuel Carrillo, Mexico:** Are there some models or technological systems on electoral administration of justice?

  R=Dr. Canham mentioned that he only knew technology in registry of cases and their status.

- **Heriberto Quiñonez, Colombia** what is your opinion regarding the introduction of Open Source software in the electronic voting?

  The use of any software depends on the EMB’s decision and the elements and characteristics of the electoral system.
Tuesday, November 11th, 2014

Technology and electoral registry were presented during the Course second day. The objective was to recognize limitations and impact on the use of technology in the development of the electoral registry.

The following comparative chart presents the electoral registry’s characteristics of the participant countries:

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<th>Country</th>
<th>Electoral Registry</th>
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<tr>
<td>Nigeria</td>
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<td></td>
<td>Direct Data Capturing (DDC) is used to register the voters’ data such as their name: date of birth; gender; address; picture; and fingerprints, as well as for printing a temporary electoral document. This kind of technology eliminates all double registries and keeps the electoral registry updated.</td>
</tr>
<tr>
<td>Argentina</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Use of technology that incorporates voters’ signature, picture, and fingerprint through optical, digital, or electronic ways.</td>
</tr>
<tr>
<td>Brazil</td>
<td>Use of technology to collect images of the voters’ fingers, as well as for their digital picture.</td>
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<tr>
<td>Chile</td>
<td>Continuous</td>
</tr>
<tr>
<td>Colombia</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>Biometric identification systems are used to allow full voters’. Identification. For such purposes, the right hand forefinger’s fingerprint of the registered person gets printed out.</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Digital systems are used for printing the fingerprint of at least one finger. Through AFIS technology, data is identified and authenticated.</td>
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<td>Ecuador</td>
<td>Continuous</td>
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<tr>
<td>Mexico</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Use of technology to collect the voter’s signature and his/hers fingerprints.</td>
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<tr>
<td>Peru</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Use of technology to collect digital fingerprints and facial picture.</td>
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<tr>
<td>Estonia</td>
<td>Continuous</td>
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<td>Georgia</td>
<td>Periodic</td>
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<tr>
<td></td>
<td>Use of technology to gather a biometric picture.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Use of technology to gather electoral electronic lists into a server, and for syncing national and district ones through a safe internet connection.</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>Electronic electoral registry. Voters may check their registry through the electoral authority’s website.</td>
</tr>
<tr>
<td>The Philippines</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>Use of technology to collect digital picture, fingerprints and the voter’s signature.</td>
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<tr>
<td>Indonesia</td>
<td>Continuous</td>
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<tr>
<td></td>
<td>Electoral electronic registry using the Sistem Informasi Data Pemilih, Voter Data Information System (SIDALIH)</td>
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</table>
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According with the methodology of the Course, Mr. Steven Canham, representative of International Foundation of Electoral Systems, presented a general overview of the implementation of technology in the electoral registry.

**Introductory Session**

*The importance of a reliable electoral registry: introducing new technologies.*

*Steven Canham, IFES*

*Moderator: Leda Bandeira, Brazil*

Mr. Canham began his presentation by emphasizing the importance of a reliable electoral registry. The Voter Register establishes the eligibility of citizens to cast a ballot, and ensures equal suffrage across the eligible voting population.

The implementation of the technology in the registry have to consider the basic principles of the electoral registry:

- **Integrity**
  To improve integrity of the register by reducing manipulation, allow all eligible persons to register.

- **Inclusiveness**
  To ensure that all citizens have access to the process

- **Completeness**
  To assist in targeting 100% registration of eligible voters.

- **Accuracy**
  To enhance validity and correctness of data capture

- **Accessibility**
  Limit physical or geographical access

- **Informed Public**
  Eligible voters and stakeholders must be provided with timely information regarding eligibility

- **Transparency**
  Promote public trust in the process through openness of decisions and information, assessment/audit of the list, observation.

- **Security**
  Security of personnel, equipment, and data

- **Private Information**
  Protection of data privacy.

- **Cost Effectiveness**
  Deliver an effective outcome relative to cost including direct and indirect costs.

- **Administrative & Political Feasibility**
  The technologies need to suit a country's administrative, cultural, and political environment

- **Credibility**
  The voter registration has been conducted with integrity, equity, accuracy, and effectiveness

- **Stakeholder participation**
  Stakeholders should be informed regularly and their views considered

- **Sustainability**
  Sustainability of the framework including institutional, financial, human resources, technology, political, and environment
The conclusion of this session were:

a) New Technologies can improve the integrity of the Voter Register, but only if they adhere to and supplement the core Voter Registration principles.

b) Technology must be integrated with the legal and process framework.

c) Ineffective management of the technology implementation and public expectations may undermine public trust in the register.

d) Technology implementation must be transparent and inclusive to ensure that trust is built into the process.

e) Technology on its own is not a “silver bullet”.

Following some questions from the participants:

**Manuel Carrillo, México**
What kind of technology can be used to incorporate new members to the electoral register?

Leda of Brazil:
What type of technology have used for registration of deaths, new records etc? What technology is good or bad?

**Hadar Gumay, Indonesia**
Which are the principles of transparency of an electoral registry?

Steve Canham mentioned some examples of countries that have incorporated new records in their electoral registry: Canada, Yemen, and Nigeria.

They are related with the integrity of the electoral process. General principles of elections. The technology shouldn’t affect any of these principles.

**Ariel Alonso, Argentina**
What kind of technology helps to locate polling station and citizens’ addresses?

Many countries have these problems. Geo-Reference Systems help to find citizens’ addresses.
CASE STUDY: THE IMPORTANCE OF A RELIABLE ELECTORAL REGISTRY: INTRODUCING NEW TECHNOLOGIES

Moderator: Heriberto Quiñonez

Peru

Perú’s participation was conducted by Katiuska Valencia Segovia, National Identification and Civil Registry’s (RENIEC, by its acronym in Spanish) Deputy Manager of the Electoral Registry Processing. She talked about the use of technologies to improve the Electoral Roll through a “Georeferenced” Citizen System implemented by RENIEC. She mentioned RENIEC’s three main general attributions: civil registry, identity registry, and electoral registry.

Then, she mentioned RENIEC’S characteristics and attributions as an electoral body:

- Organizes and carries out all publishing activities regarding the registry list and the electoral roll.
- Updates, maintains, and coordinates the electoral roll’s debugging. Improves the quality of the information contained in the electoral roll.
- Verify the signature’s authenticity in the voter’s card and the existence of a National Identification Number of the citizens, political organizations, and social movements of regional and local reach.

She then mentioned the electoral roll’s characteristics that RENIEC elaborates for each electoral process, such as:

- The electoral roll closes 120 days before the election day
- It is sent to the National Elections Jury (JNE) 90 days before election day
- The JNE then has 10 days to approve the electoral roll

She concluded by praising on the benefits that the Georeference Citizen System has brought upon RENIEC and the way it conducts the electoral roll.
The Use of Technology in the Electoral Process

Ukraine

Mr. Oleksander Stelmakh, Chief of State Electoral Register from Ukraine’s Central Electoral Commission, talked about the electoral registry’s implementation in Ukraine after its creation and approval by the Supreme Rada in 2007. With this, Mr. Stelmakh explained that different bodies were created to support the electoral registry process:

- 27 regional State voter register administration bodies
- 755 State voter register maintenance bodies

Afterwards, he stated the need of acquiring technologic equipment to back up the electoral registry, such as:

- Technical equipment for the data-processing center;
- Hardware-software means of users’ identification;
- All-system software;
- Telecommunication equipment

He explained the various development stages of the electoral registry and the dates in which new innovations were introduced into the registration process:

- To be able to check the voter’s information in the State Register of Voters by means of the Internet was created Personal Area voters.

He mentioned that voting abroad is done through the State voter register maintenance bodies and by the Department of Consular Services of the Foreign Affairs Ministry.

Mr. Stelmakh presented the system’s structure according to the used technology.

The Automatized Information and Technology System (AITS), used in the electoral registry process, is divided in two transmission levels:

1) Ukraine’s Central Electoral Commission (main holder of the electoral registry attributions);
2) And the 27 regional State voter register administration bodies, along with the 755 State voter register maintenance bodies

He clarified that all voters’ information is transferred through the AITS. In conclusion, Mr. Stelmakh emphasized on the fact that anyone using this system needs to be granted access by orders of the Central Electoral Commission to manage all data bases. This enables whoever works with the databases to be accountable of the data verification and security.

Mexico
Mexico’s electoral registry case was presented by INE’s Technological Processes Coordinator, Mr. Alejandro Andrade. His presentation mentioned how the electoral registry is established and its functioning through the National Electoral Registry body.

Mr. Andrade mentioned that the Electoral roll gets updated whenever:

1. Citizens 18 and/or older apply for a new voters card
2. 10 years of validity for the voters ID card so by the renewal process
3. Address change
4. Card’s replacement
5. Correcting information

He mentioned the voters’ card attributions, being the electoral registry’s officially recognized document:

- It is the citizens’ only document that enables their right to vote.
- It is also used as an official identification document so that Mexican citizens may prove their identity.
- INE has encouraged collaboration with public, private and academic institutions to promote the use of the voters’ card as an official identification document.

Afterwards, he described the way in which citizens may register into the electoral roll, mentioning they may do so through the Citizen Assistance Units, which may have three different modalities: fixed, semi-fixed, and mobile.

He concluded by making reference to INE’s filtering and revising systems of the electoral roll, in which:

- Filtering: consists of identifying and excluding from the electoral roll’s database all citizens’ registries confirmed as duplicated, deceased or in suspension of their political rights.
- Revising: it is performed both internally and externally in order to verify the quality of its information, its internal consistency and its congruence with other official and public registries.
Nigeria

Nigeria’s case on electoral registry was presented by the Independent National Electoral Commission’s (INEC) Deputy Director, Mr. Paul Omokore. He emphasized on the fact that the electoral registry process in Nigeria has to be completely reliable and credible in order to guarantee the voters’ trust in a context of continuous electoral fraud.

He mentioned one of INEC’s main attributions: arranging and conducting the registration of persons qualified to vote and prepare, maintain and revise the register of voters for the purpose of any election under this Constitution.

He made a historical review of the efforts in improving the voter registry from 2002 till 2011, year in which the Direct Data Capture (DDC) Machines were implemented. In regards with the software used for the registration process, Mr. Omokore described the program used in such electoral activity, which he also said it was built through the use of Open-Source technologies. He identified some of the challenges in this system:

- High Fingerprint Sensitivity
- Stolen machines, most of them without proper back ups
- Time for Registration Officials to get familiar with machines
- Challenging field technical support
- Poor Queue management
- New settlements in the FCT and other growing cities – need to configure machines for Sub-Units
- Constant updates and challenges of patching the systems
- Power

Mr. Omokore’s conclusions on the subject were:

- Massive turnout of registrants overshot the proposed 500/PU projection for 2011 elections;
- The initial hitches were surmounted by sending regular updates to the field;
- Nigerians demonstrated a lot of patience and understanding;
- With the completion of AFIS, extraction of Post_AFIS + Post_BR has successfully given us a near clean register;
- Regular interaction with Stakeholders has been of tremendous help;
- With the planned distribution of PVCs and CVR, we are sure of a proud registry for the 2015 Elections;
- This is the third attempt at building a veritable electronic register of voters – this should be last in a long time.
**Wednesday, November 12\textsuperscript{nd}, 2014,**

The objective was to examine the implications born out of the sophistication of the voting mechanisms (e-voting) by the introduction of TIC’s.

<table>
<thead>
<tr>
<th>Country</th>
<th>Voting model</th>
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<tbody>
<tr>
<td>Nigeria</td>
<td>Manual</td>
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<tr>
<td>Argentina</td>
<td>Manual(^1)</td>
</tr>
<tr>
<td>Brazil</td>
<td>Electronic</td>
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<tr>
<td>Chile</td>
<td>Manual</td>
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<tr>
<td>Colombia</td>
<td>Manual(^2)</td>
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<td>Costa Rica</td>
<td>Manual(^3)</td>
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<tr>
<td>Ecuador</td>
<td>Manual(^4)</td>
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<td>Mexico</td>
<td>Manual(^5)</td>
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<tr>
<td>Peru</td>
<td>Manual y Electronic(^6) (Internet)</td>
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<tr>
<td>Estonia</td>
<td>Electronic (Internet)</td>
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<tr>
<td>Georgia</td>
<td>Manual</td>
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<td>Lithuania</td>
<td>Manual</td>
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<tr>
<td>Ukraine</td>
<td>Manual</td>
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<tr>
<td>Philippines</td>
<td>Electronic</td>
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<tr>
<td>Indonesia</td>
<td>Manual</td>
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**INTRODUCTORY SESSION**

**Dilemmas on the use of electronic voting**

*Steven Martin, OSCE*

*Moderator: Tarvi Martens, Estonia*

Steven Martin, representative of OSCE, presented this session through the electoral observation’s view. He mentioned that the OSCE has made electoral observation to countries that have introduce new technologies in their electoral process.

They made election observation and technical assistance through the **Office for Democratic Institutions and Human Rights (ODIHR)**:

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\(^1\) Several provinces such as Tierra de Fuego, Mendoza, Córdoba, Chaco, and Salta have carried out elections through this modality.

\(^2\) The electronic voting system has been introduced as a pilot plan since 2006 in some electoral districts.

\(^3\) In the local elections of 2002, a pilot plan was set around 132 polling tables, and during the 2014 general election, this pilot plan was used in 8 polling centers..

\(^4\) Even though the law admits this modality, in practice it has only been applied on a provincial level (in the provinces of Azuay, Santo Domingo de los Tsáchilas and La Morita).

\(^5\) This modality has been applied for elections in San Luis Potosi, Baja California, Coahuila, Jalisco, and the Federal District.

\(^6\) On-site (electronic voting system which uses hardware and software components, allowing the electoral day’s process automation within environments and systems managed by the ONPE), and not on-site (electronic voting system which uses a software managed by the ONPE, allowing the voter cast ballot making use of the internet, with high security standards taken into account)).
300+ observation activities since 1996

Approx. 16 observation missions a year

OSCE defines New Voting Technology (NVT) as tools for conducting elections making use of information and communication technologies in casting, counting, and tabulating votes.

The OSCE has experience with observing NVT in 26 elections in 13 countries. This allows for generating 140 recommendations.

Since there are limited international standards on NVT, the OSCE has developed a Handbook for the Observation of NVT (2013) contributing to the wider knowledge and reference material for authorities and other stakeholders when considering NVT.

There are some assumptions about the use of NVT:

- NVT can help offer additional functionalities to elections such as counting complicated and large volume elections
- NVT creates new challenges - it is not a mean to build trust, but requires trust for proper implementation.
- Choice of any voting technology is a sovereign decision for each State and thus ODIHR does not recommend a specific technology.

Steven Martin also mentioned 7 principles for the observation for NVT:
The Use of Technology in the Electoral Process

a) Secrecy of the Vote  
b) Integrity of Results  
c) Equality of the vote  
d) Universality of the Vote  
e) Transparency  
f) Accountability  
g) Public Confidence

For the introduction and implementation of new technologies, the following aspects have to be considered:

- Feasibility  
- Legal Context  
- Procurement  
- Election Administration  
- Secrecy and Integrity  
- Usability and Accessibility  
- Testing  
- Evaluation and Certification  
- Verification

Finally, Mr. Martin concluded with three basic ideas: proportionality + gradual approach – new voting technologies can be applied in many ways; while they are new they still have to fulfill the existing commitments and obligations for democratic elections; and trust needs to be established through maximum transparency.

After this presentation, some questions were posed:

- Heriberto Quiñonez, Colombia. In the case of Germany, Why it returned to manual voting? Which were the negative aspects?

In the case of Ireland, there was concern about the lack of integral tests nationwide. So, they decided to remove electronic vote, before it was used. In the case of Germany, the decision of the Constitutional Court established that everything should be available for public scrutiny. With the use of electronic voting is not allowed this provision. The voter could not verify if your vote was cast.

- Ricardo Saavedra, Peru. What type of equipment must be used for the electronic voting?

It depends on the identified need for the use of technology. The type of equipment can be decided through a feasibility study. Everything depends on the individual process of each context.
The Use of Technology in the Electoral Process

• What is the main element that must have e-voting to ensure the principles mentioned in the presentation?

The clue is a combination between the integrity of elections and respect for the individual vote.

CASE STUDY. VOTING MECHANISMS AND SCRUTINY

Moderator: Steven Martin

Lithuania

For Lithuania, Jurga Augustaityte, the Central Electoral Commission’s Head of the Information Technology Division, who presented the case on voting mechanisms and scrutiny. She began with a brief introduction of Lithuania’s electoral system and the way Presidential, Parliamentary, EU Parliament, and municipal elections are conducted.

She then explained how may vote in advance in other polling districts, but their votes are specifically assigned and counted in the district they are registered in and how voters residing abroad may vote in the constituency that includes Seimas, the Parliament of the Republic of Lithuania.

She explained the steps taken by voters to cast their ballot on elections day:

• Voter submits the vote at polling district where he/she is registered;
• Voter can vote at other polling districts in his constituency without changes in voter lists (a voter is not transferred to other polling district’s voter list);
• Voter residing abroad votes at Lithuanian diplomatic missions or consulates.
She proceeded to explain the method used in Lithuania for the transmission of electoral results through the use of technologies:

1) Votes are counted manually and the results are entered online. Vote counting protocol is printed and physically signed by the committee members and observers who participate in the election;

2) The polling districts electoral commission transmits the data and publishes it in the CEC website as soon as it is received, not depending on the amount of data collected at that particular moment;

3) The transferred data has several status:
   Preliminary results:
   • entered and transmitted at the polling districts;
   • verified with paper protocol and approved by the constituency election commission;
   Final results approved by the Central Electoral Commission;

4) In case of suspicion that the data on the Internet might not be correct, priority is given to the printed and signed physical (paper-based) protocol.

She identified some of the challenges with the use of the previously mentioned system, including:

• 3 thousands users connection at the same time
• E-government gateway
• Internet connection

Her conclusions were focused on mentioning that during the 2014 Presidential elections, a 100% of Communication Technologies were used to transfer electoral results, while the use of this same technologies was accounted for a 99,9% in creating voters lists.

Chile

Dr. Leopoldo Núñez, Electoral Tribunal’s Chief of the Studies Department, presented Chile’s case. He explained how the revision of the electoral process is divided into three sections: administrative, electoral, and in other scrutiny and voting mechanisms. He then explained the given responsibilities of each one of the previously mentioned divisions.
He mentioned the way the data transfer process is conducted, starting at the polling tables, as well as the needed tools for it:

1) Polling station certificates get digitally captured through a bar code using a computerized system;
2) Those responsible of capturing such certificates have a digital signature as proof of their legitimacy in compliance with the safekeeping of the content.
3) The system is capable of identifying addition mistakes, refuted votes, and non-verified votes.
4) There is a cross check of information between the electoral commissions and the Scrutiny Colleges, carried out by the Tricel system.
5) After cross-checking, matching registries get validated while those non-matching ones are sent to the internal audit area.
6) Once the internal database audit is filtered, this area validates the data, which is then delivered to the raconteurs. The database gets encrypted and from this point forward, it may not suffer any alterations.
7) Each Minister will verify, through provided laptops, all the information related to the encrypted certificates for their analysis.
8) Once the scrutiny is made, a final listing is created with the definite results.

**Colombia**

Dr. Nicolás Farfán, National Director of Management from the National Registry of Civil State’s, introduced the presentation referring the attributions entitled to the National Registry, institution in charge of the electoral management and more specifically, in charge of carrying out the pre-computing of the votes, scrutiny, and digitalization.

Later on, Dr. Farfán explained the use of biometrics and the readiness of the machines used for it, dividing such process in two phases:

- Data processing and machine readiness;
- Training and hiring.
Dr. Farfán stressed out the fact that in order to cast the ballot, it is necessary for the citizen to confirm its identity through a valid document, such being the Citizen Card, providing that such Card holds security components, guaranteeing the documents legitimacy.

He also pointed out the importance of having a voters´ biometric identification system to prevent their identity theft as well as guaranteeing the electoral juries identity at the polling station, by processing a biometrical authentication certificate, which is received afterwards by a jury and stored in a safety bag, which is then taken to its destination.

The polling station certificates must be delivered to the appointed gatherers, who will take them to observation and computing centers afterwards, previously assigned for data gathering.

Dr. Farfán explained details about the use of hardware and software by the scrutiny commissions on a national level.

Regarding software, he mentioned that the results registry and publication is carried out through a web platform which includes the personal support and communications´ hardware and software. Tracking and control of his website requires the following:

- Six present servers with high (public) WEB reception, processing, storage and publication capacity.
- Communication channels
- IT security

**Indonesia**

Dr. Hadar Nafis Gumay, Electoral Commissioner, representing the General Elections Commission, presented Indonesia’s case from a perspective of the country’s general elections. He began with a brief explanation about the electoral system, from the laws endorsing the carrying out of the elections along with the bodies responsible for them, to the temporary nature with which Presidential, Parliamentary, District, and Province elections are held.

He established that from 1955 to 1999, the Presidential election was carried by the House of Representatives, until the new electoral reform was approved on 1999, coming into effect until 2004 with the first popular Presidential election, which had a double-round system.

He presented a brief overview on the Commission’s components and the structure representation; of the components and the amount of members belonging to it on a municipal, sub-district, village, and polling station level; and finally, the attributions and those in charge of the body’s responsibilities.
The Use of Technology in the Electoral Process

abroad.

After this brief introduction, Commissioner Gumay presented Indonesia’s electorate characteristics for those eligible to cast ballot (those who are 17 years or older, married, and registered as eligible voters); he mentioned how the vote is cast; percentages of voter turnout in the last parliamentary elections, and votes casted from abroad (Local: 192.267.116; abroad: 2.709.485).

CASE STUDY. ELECTRONIC VOTING SYSTEMS: CHALLENGES OF ITS INSTRUMENTATION AND BALANCE OF ITS FUNCTIONING

Moderator: Gerardo Martínez

Philippines

Electoral Commissioner Al Parreño, representing the Commission on Elections, mentioned the Commission’s structure and those in charge of the decision making process on electoral matters:

- Independent Constitutional Commission: Tasked to enforce and administer all electoral laws and regulations, and also determines the most suitable voting technology.
- Composed of Seven Independent Commissioners

He pointed out the key political stakeholders within the electoral process, being the main actors:

- Overseas Voters
- Faith Based. Religious groups
- Active Citizens
- Media
- NGOs
- Peace Based. Government agents and Islamic groups devoted to establishing peace agreements.

He explained that the joint collaboration between the Commission on Elections and the political stakeholders derive in the “election automation choice”, which contains the following aspects:

- Philippine Automated Voting System
- Automated System Development
- Impact of Political Actors
- Case Study on Decision Making
Ecuador

Diego Tello National Technical Chief of Electoral Process, from Ecuador’s National Electoral Council’s (CNE), began his presentation by stating the CNE’s particular and general objectives on electronic voting projects, implemented for the elections of local representatives in the Azuay, Santo Domingo, and Pichincha, la Morita sector, provinces.

He mentioned that the components to carry out such activity of the 2014 electoral process were:
- Communication
- Training
- Logistics
- Technology
- Institutional management

He also mentioned that according to Ecuador’s electoral laws, cooperation with other Latin American and Caribbean countries is encouraged, as a strategic objective within the horizontal cooperation outline, in accordance to areas that contribute knowledge exchange and practices within the electoral administration. Within these alliances/agreements, Diego Tello mentioned three prominent ones previously settled between Ecuador and these other countries:
  - Ecuador – Venezuela Agreement
  - Ecuador – Argentina Agreement
  - Ecuador – Russia Agreement

Regarding electronic vote and the challenges analyzed by the CNE, Diego Tello pointed out the following:
  - The objective is the design of solution in electronic voting that adapts to the countries’ needs, through best practices of the implemented projects and the experiences of other countries in the region regarding this subject.
  - Implementing an electronic vote project that covers up to 60% of the polling stations on a national level for the 2017 presidential elections.
The Use of Technology in the Electoral Process

➢ Socialize and raise awareness among the citizens of the advantages that electronic voting could provide.

Mr. Tello’s summarized the main problems faced during the implementation of the e-voting with three different technological systems: 1. Language; 2. Fulfillment of company’s commitments, particularly the timeframe, and 3. Database saturation.

Diego Tello concluded his participation emphasizing on the CNE’s intention to strengthen and widen its cooperation with other countries within the Latin American and the Caribbean region and other regions in the world.

Estonia

Mr. Tarvi Martens Head of the National Electoral Committee of Estonia’s e-Elections Committee, who outlined the electronic voting (or internet voting), which he mentioned was implemented since 2005 and has been effectively used since then in six elections.

Under such premise, Mr. Martens pointed out that by the time the need to implement an Identification Card was a must, so it could serve as an official electoral document to allow the citizens to vote. Therefore, the first Card was issued on 2002, and by 2006, one million Cards had already been distributed.

Mr. Martens continued to show the particular characteristics of internet voting, which include the following:

- All major principles of paper-voting are followed
- I-voting is allowed during 7-day (was: 3-day) period before Voting Day
- The user uses ID-card or Mobile-ID
- Repeated e-voting is allowed
- Manual re-voting is allowed

He explained afterwards that when voting through the internet, citizens may validate their vote through the website: www.valimised.ee. To access this site, they must identify themselves with the card’s electronic reader or with their assigned pin number. Once the vote has been casted, the voter receives a confirmation e-mail along a digital bar code, which they can scan by downloading an Android application to track their vote after.

Mr. Martens concluded his session mentioning the aspects to be contemplated when using this type of technology in the electoral process:

- Keep it as simple as possible
- Build it on secure & stable platforms (Debian)
• Use widely known programming languages
• No fancy user interfaces for server operations

Brazil
Dr. Giuseppe Dutra Janino ICT Secretary Brazil’s representative from the Superior Electoral Court’s, talked about the Brazilian experience on implementing electronic vote in the electoral process, by mentioning the crucial aspects for its functioning:
1.  Standardization
2.  Compliance with Brazilian law
3.  Friendly process
4.  Cost reduction
5.  Perpetuity
6.  Security
7.  Logistical easiness
8.  Autonomy

He then proceeded to go through the evolution of the electronic vote’s implementation from 1989 to 2012; the general overview of the electoral process; the electoral logistics; and the processes’ security and transparency aspects through the use of software and hardware, which complement the electoral process through the following development:
1.  Software is developed in accordance to the prevailing legislation;
2.  All programs are open 180 prior to the election day for analysis by OAB parties and district attorneys;
3.  Programs are digitally signed;
4.  Memory cards are produced to load into the ballots;
5.  Carrying ballots with the already inserted software and data;
6.  Receive votes;
7.  Carrying out of parallel voting;
8.  Carry out the results diffusion through internet

In regards to security and transparency, Dr. Dutra mentioned the performance of public tests, which started in 2009 and that involve the academic community through the establishment of proposals and revisions with no restraints to the internet servers, nor the software of the electoral process’ management bodies.
Dr. Dutra finished by stating that biometric identification is a key part of the process to guarantee security and transparency.
Costa Rica

Esteban Durán Hernández, Electoral Development Area, from the High Electoral Court’s presented the general aspects of Costa Rica’s electronic voting.

He began by talking about the electronic hardware’s implementation background to be used during the 2003 elections through an agreement with Brazil, in which they lent electronic ballot boxes, as well as the implementation of the electronic vote for the voting abroad program during 2014 in collaboration with the OAS.

The eight steps that indicate how to cast an electronic vote.

He mentioned the way the election is carried out through electronic machines, and presented the following hardware as part of such machines:

- Notebook
- Portable printer
- Registry’s list
- Record book
- Electoral code
- UPS
- Stand, ballot and divider
- Monitor
- CPU
- Envelope with dynamic passcode and token
- Envelope to deposit receipts

He finished stating that by 2016, the use of technology for electronic vote in the electoral process will consist of:

- 8 voting centers
- 50 Vote Reception Boards
- 32,500 voters
The Use of Technology in the Electoral Process

Thursday, November 13th, 2014

To identify the challenge of the transmission of the electoral results, in order to reinforce the legitimacy of the electoral process and the EMB’s credibility.

<table>
<thead>
<tr>
<th>Country</th>
<th>Vote counting/ Results transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>--</td>
</tr>
<tr>
<td>Argentina</td>
<td>Scrutiny data recollection and transmission is carried out through computer equipment.</td>
</tr>
<tr>
<td>Brazil</td>
<td>The voting machine carries out the scrutiny by the end of the election day. The total results count is made through satellite technology.</td>
</tr>
<tr>
<td>Chile</td>
<td>Manual scrutiny. The polling table voting certificates are scanned through an IT system. Then the votes gained by each candidate/list at the polling stations get registered and added. The results get published at the Electoral Service’s website.</td>
</tr>
<tr>
<td>Colombia</td>
<td>Manual scrutiny. Scanning of polling table voting certificates and their publication at the site of the electoral authority.</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Manual scrutiny. IT equipment is used for results consolidation. These are transmitted via internet, using lap tops at the polling centers. As part of a pilot test, the Unstructured Supplementary Service Data (USSD), and Interactive Voice Response (IVR) technology is used.</td>
</tr>
<tr>
<td>Ecuador</td>
<td>The polling table voting certificates get scanned and the results get transmitted via GSM, through satellite, or Asymmetric Digital Subscriber Line (ADSL), onto the central servers and data bases to be verified and published afterwards.</td>
</tr>
<tr>
<td>Mexico</td>
<td>Manual scrutiny. Use of a compilation system that gathers all available data in the scrutiny and counting certificates for further collection, transmission and immediate promotion. Then the results may be consulted on the internet.</td>
</tr>
<tr>
<td>Peru</td>
<td>Polling table voting certificates get digitalized for their consolidation and publishing at the electoral authority’s website.</td>
</tr>
<tr>
<td>Estonia</td>
<td>Polling table voting certificates get scanned so they may be later visualized through the internet.</td>
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<tr>
<td>Georgia</td>
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<tr>
<td>Lithuania</td>
<td>ADV software is used to input the polling tables’ results in electronic protocols, as well as for gathering district results to be sent to the electoral authority.</td>
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<tr>
<td>Ukraine</td>
<td>Vybor IT system is used to tabulate results.</td>
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<tr>
<td>The Philippines</td>
<td>Scanning of ballots through the Precinct Count Optical Scan System (PCOS). Results are transmitted electronically</td>
</tr>
<tr>
<td>Indonesia</td>
<td>SITUNG – Ballot Counting Information System</td>
</tr>
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</table>
Mr. Eduardo Nuñez divided his presentation in two sections: a) understanding political relevance and public logic of the election results; and b) political challenges of the technological innovations implementation in electoral results.

The electoral results reflect the popular will through the vote. These have a direct relation with the effectiveness of the electoral system, with the validity of the political representation model and with the public confidence.

A second perspective for analyzing the electoral result is through a technical view. Ranks as a corollary of the process of organization and administration of elections, and involves a process where human and technological factors.

There is some aspects that generate pressure for the electoral management bodies:

1) Technological sophistication which pressures electoral bodies to have quick results. The challenge of managing anxiety and internal pressure.
2) Degree of trust and distrust of citizens in electoral bodies and electoral process. The challenge of managing pressure of political parties.
3) The challenge for managing media and other stakeholders in the electoral process.

The implementation of technology in the electoral process, specially in the transmission of electoral results, have to consider universal principles of electoral integrity such as: security, certainty, transparency and effectiveness.

Dr. Nuñez pointed out citizens concerns by asking: why change what works? The answer of this question has to be explained to the citizenship and strategic stakeholders.

The technological innovation should be synchronized with the legitimacy of the electoral organism. It also need to have a traditional backup in case of contingency. The goal is not the
The Use of Technology in the Electoral Process

technological success by itself, but the assurance of reliability and certainty of the electoral process.

Dr. Nuñez highlighted that technology innovation is at the service of the electoral process. The technology is not the process by itself.

Finally, Dr. Nuñez closed his presentation with the following ideas:

- Implementing systems for the effective transmission of results usually are related with public expectations of speed and accuracy. Electoral bodies should take care of the balance between these expectations and their own technical capacities.
- The integrity of the electoral procedure must be ensured.
- All results transmission process requires the creation of communication scenarios
- Requiring political and communicational strategy. Not only good technology.

CASE STUDY. ELECTORAL RESULTS TRANSMISSION

Moderator: Leopoldo Núñez

Georgia

Mr. George Dzagania, the Head of the Division of Relations with Courts and Electoral Disputes from the Central Election Commission (CEC), presented Georgia’s case on transmission of electoral results.

He presented a general outlook on Georgia’s electoral system and the voting mechanisms to elect members of Parliament, President, and local governments.

- He gave a brief explanation on how the Central Electoral Commission is divided and constituted, indicating that other important electoral bodies derive from it:
  - District Election Commission-DEC
  - Precinct Election Commission-PEC
- He then projected some images from ballot papers samples for each different type of candidacies (governor, municipal, parliamentary). Such ballot papers have the following general characteristics:
  - Color identical to ballot paper type
  - Unique numbering
  - Security features
  - A4 size
The Use of Technology in the Electoral Process

He explained the way in which the voter turnout is tallied on election day, mentioning three basic steps:

1) SMS (short message sending) is sent via Electoral Process Management System (EPMS) on the E-day enabling DECs to view online whether election precincts are open;
2) Election precincts send voter turnout numbers via SMS (as of 10:00, 12:00, 15:00, 17:00, 20:00);
3) Thus, the EPMS administrator may monitor voter’s turnout statistics according to the regions as well as the cities.

EPMS keeps the data base of those present during the election and scans the paper ballots to cross-reference them with the database of the assisting voters.

Mr. Dzagania gave his conclusions in regards to the EMPS, are:

- Ownership
- User-friendly
- Tailored to the CEC

Argentina

Mr. Ariel Shannon, Computer Area Officer, from Argentina’s National Electoral Chamber, provided a brief introduction about the general aspects of Argentina’s political and electoral system, including the voting and scrutiny process of the polling station, which includes:

- Show up with a voter’s card
- Cast ballot
- Polling station authorities. Vote recount
- Scrutiny telegram
- Scrutiny certificates

Once he had explained these elements in the process, he outlined how the data in processed once the polling station results have been sent:

1) Official Post Service
2) Telegram validation, personal identity, integrity of the telegram, polling table number, time of delivery.
3) First load
4) Second load
   - Resolution of incidents
   - Telegrams with definite incidents
   - Telegrams’ file with definite incidents
5) Scanning and codification of telegrams
6) Accepted telegrams’ file

He concluded indicating that the Operation and Control Center in Buenos Aires (COC), receives data from the Data Management Centers (CGD, in Spanish), which are processed and loaded into the dissemination system of provisional results recount.

**Mexico**

For the last presentation, Yuri González Robles, INE’S Deputy Director of Information Technology Security, presented the Preliminary Electoral Results Program (PREP). He started by giving a brief explanation on the general characteristics of such program, as well as clarifying some misconceptions about this program. He presented the PREP’s main objective, which aims to inform the Institute's General Council, the political parties and the citizenship, of the preliminary results of the election as soon as possible, guaranteeing at every time the integrity, accuracy, liability and transparency of the data.

He explained the PREP’s operational process, indicating the different types of reception and transmission centers; about the working hours for the polling stations; and the voting tally sheets. In regards to the use of technology in the electoral process, Deputy Director González presented the type of hardware used to transmit the vote count through credit card terminals, pointing out their characteristics:

- Each credit card terminal conserves all data typed in the internal memory, so it is able to perform an external audit of the data if necessary
- They work under the TCP-IP protocol
- They fulfill safety world standards for electronic transactions. Like the ones used in payment transactions.
- Activated through individual magnetic cards
- Inviolable, in case anyone tries to open it, it deactivates
- It emits a receipt for each record gathered
- Low cost

He also mentioned the kind of information that such machines gather and the security safety they provide. He indicated afterwards the publishing process of the results, which is divided in two: Internal (institutional) and external (citizens).
He concluded by referencing the milestone that technology has brought upon its usage through specialized hardware and software in the electoral results’ transmission process and the advantages it has provided to enable a quicker, safer, and fraud risk-free vote counting process.

Friday November 14th, 2014

Political communication and the use of new technologies

Alberto García Sarubi, National Coordinatio of Social Communication, INE
Moderator: Claudia Corona, México

The principal ideas of Mr. Sarubi presentation were:

- The Political Communication is a key component for the communication between government and citizenship. It is a mean that has a purpose. Through the political communication its possible to awake feelings. It promotes the citizenship to respond.
- INE understood that new technologies rather than a communication tool is an expression mean. Social Networks are examples in which the citizens express themselves.
- An institution not only should send messages through social networks, but also should be receptive to citizen’s comments.
- INE also recognizes the importance of citizens’ political participation. The political participation is essential for every democratic system.
- In Mexico, 9 of 10 surfers access to a social network. This fact is an advantage for INE, because it represents more ways to communicate with the citizens.
- In Mexico, the Internet is not regulated. The social networks are not regulated by INE. It is not possible to stop or to censor any published ideas by the users.
- INE has a proactive social communication policy in which social networks are used as an open channel with the citizens.
The conclusions of the group discussion were presented on the last day:

GROUP DISCUSSION
Electoral Registry Integrity and the Use of Technology

Group 1. Mechanisms for a Reliable Electoral Registry

The group acknowledged the existence of different challenges, according to the characteristics and legal framework of each country. The conclusions were:

- Technology is just a tool, that is why it is necessary to assess its usefulness for the citizens and its suitability for their idiosyncrasy.
- The use of technology is a positive aspect, since it allows to centralize the electoral database, avoiding the duplicity of data and compliance with the legal framework.
- The technology will help meeting deadlines and procedures’ principles.
- Training programs for electoral officials
- Protecting citizens’ personal data.

Group 2. Technologies to guarantee the security of electoral registry

- Technology’s Standardization and Certification
  - It is important to use good practices
  - Certification of facilities and infrastructure
  - Dual function: civil registration and voter registration
  - Reduction of human error
- Security Elements
  - Data Protection Protocols
  - There is no going back once technology has been implemented, because the whole process has improved, for example with georeference and biometrics.
- Data Privacy
  - Several countries have the obligation to share the electoral registry to political parties.
  - Methods to avoid infringing the privacy voter’s data
Grupo 1. The electoral process credibility and the use of electronic vote systems

Advantages

- More credibility, avoiding human intervention:
  - Slowness
  - Errors
  - Fraud
- The voters obtain benefits as time saving.
- Faster in voting and vote counting
- Transparency: fully auditable process at all stages, and the code can be posted in order to political parties and citizens’ audit
- Evolution of the process according evolution of technology.
- Introduction of security and transparency

Considerations

- For the implementation of electronic vote must consider the characteristics of each country’s regulations and infrastructure.
- The implementation of electronic vote should be done gradually. Pilot tests should be performed.
- Voting from abroad could be use as a precedent to implement new technology.
Group 2. Regulations and electronic voting

Considerations to be taken into account:

1. The law have to consider specific elements for the implemententation of electronic vote
2. Problems between national sovereignty and foreign management regarding the electronic vote.
3. Drafting stakeholders’ code of conduct
4. National infrastructure and technology costs
5. Education and training for the use of technology
6. Citizens and political parties as auditors of electronic voting.

Advantages

1. Electronic vote increases the voter’s outcast.
2. Internet encourages more voters and increase the participation
3. It allows voting even in districts where the voter is not registered.
4. Costs decrease
5. Fast vote counting

Conclusions

- It is essential to have constitutional framework and the support from the most representative political and social groups.
- The legal framework will help to aware on the system advantages and to reduce suspicion in its implementation
- The support of all government branches is essential to implement electronic voting
GROUP DISCUSSION
Credibility in the Electoral Result Transmission

Group 1. *Transparency, trust, and promptness in the results transmission.*

Some Considerations:

- Actions taken by a country to contribute to the transparency and reliability not necessarily will have the same results in another country, but they could become possibilities of improvement.
- There is not a unique model to achieve this goal.

Conclusions

- Transparency on the electoral results transmission is not linked to the speed of the electoral results.
- Transparency in the process is strengthened with the publication of data (internet, agreements with Google, use of mass media)
- Political culture challenges: political parties must understand the transmission of electoral results’ system. This builds up trust.
- In many countries, especially in Latin American, have prevailed distrust. Its necessary to strengthen political culture.
- The auditability of the system and openness to stakeholders create transparency and credibility
- Electoral Results Transmission contributes to social peace. Some disputes after election are caused by the lack of confidence in transmission of the electoral results.
- It's necessary to strengthen transparency and reliability to the electoral process through TICS.
Participants comments during the closing session:

The participants manifested the positive way in which the Course complied with their expectations, and established a series of program proposals to be developed in the future by the Community of Democracies’ Working Group on Elections.

The five main suggested topics were: i) civic education and political participation programs; ii) electoral delimitation to locate polling centers near the voters’ residence in order to prevent electoral migration to other constituencies; iii) political parties’ financing, auditing, and access to the media; iv) electronic vote and voting abroad; v) security regulations such as ISO 9000 and 2700.