The Use of
New Voting Technologies (NVT)

Comparative Experiences
in the Implementation of Electronic Voting
Lima, Peru

osce Organization for Security and
Co-operation in Europe

OSCE ODIHR

1—Lack of Voter's Assurance that Vote will be Counted in Accordance with Desires

„Presumably the voting machine **does require an act of faith on the part of the voter** in a mechanical contrivance whose **workings he cannot see**. [...]
Indeed, he has even less assurance that the paper ballot [...] be **counted as he intended**; [...] see his **vote recorded**, **nor does any one else**.“

T. David Zukerman (1925)

Overview

1. Observation of Elections

2. Experience with Observing NVT

3. Methodology for Observing NVT

4. Identified Areas for Improvement

Mandate of OSCE/ODIHR

- **Copenhagen Document 1990**
  Establishes basic criteria for genuine democratic elections

- Paragraph 8 states:
  "The OSCE participating States consider that the presence of observers, both foreign and domestic, can enhance the electoral process for States in which elections are taking place."
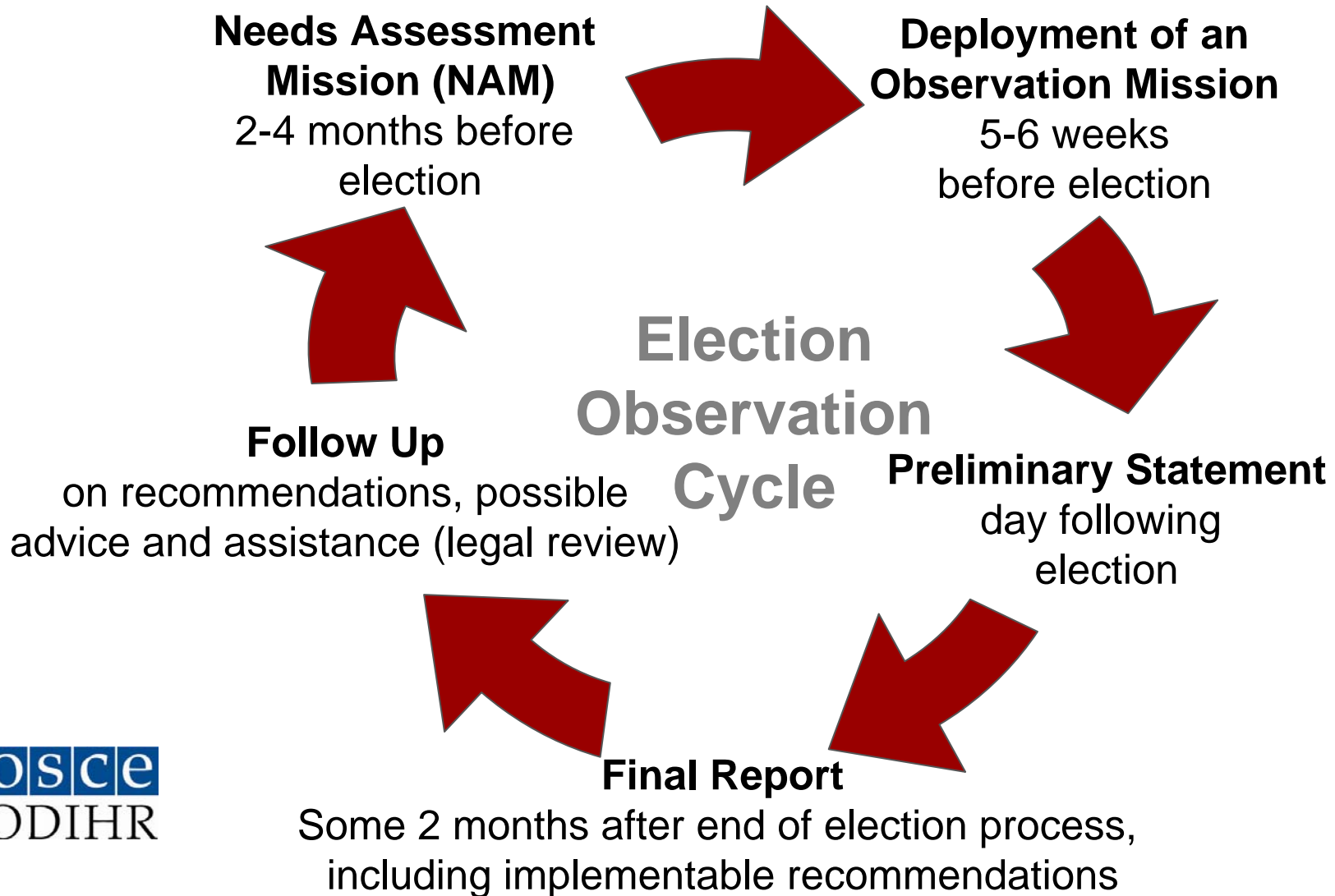
Why Observe Elections

1. <u>Create confidence</u> for contestants & voters

2. <u>Enhance the integrity</u> of the process

3. <u>Deter possible fraud</u> and intimidation

How OSCE/ODIHR Observes Elections

- **Process oriented** ➔ only interested in results to the degree that they are reported honestly and accurately

- **Assess compliance** with international standards
- **Recommend ways** in which the electoral process can be improved

The Election Observation Cycle

Needs Assessment Mission (NAM)
2-4 months before election

Deployment of an Observation Mission
5-6 weeks before election

Follow Up
on recommendations, possible advice and assistance (legal review)

Election Observation Cycle

Preliminary Statement
day following election

Final Report
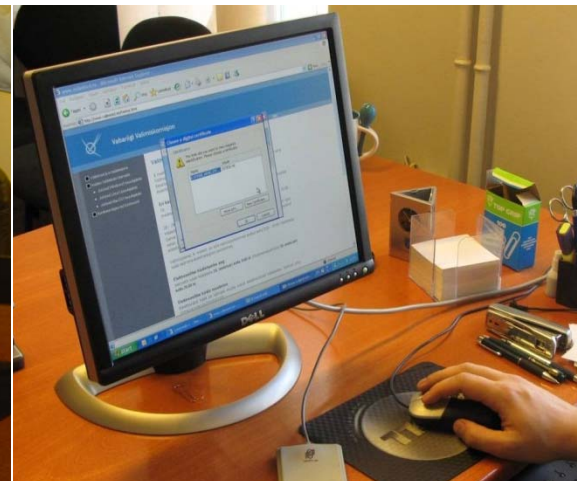Some 2 months after end of election process, including implementable recommendations

Definition

Tools for conducting elections making use of information and communication technologies in casting, counting, and tabulating votes

Ballot Scanners   DRE   Internet Voting

Some Assumptions regards to Observation of NVT

- With NVT **it is not possible to reach the same level of universal acceptance, trust and confidence** to understand as with paper voting.

- NVT can help offer **additional functionalities** to elections, i.e. **counting complicated and large volume elections, supporting handicapped or very remote voters** to participate in elections.

- NVT can **not help to build trust**, **but requires trust** for proper implementation

ODIHR Experience To Date

24 Missions in 13 States with Assessment of NVT

Albania (2013), Belgium (2006, 2007),

Bulgaria (2009), Estonia (2007, 2011),

France (2007, 2012), Kazakhstan (2004, 2005, 2007),

Latvia (2011), Mongolia (2013),

Netherlands (2006, 2010), Norway (2011),

Russia (2011, 2012), Switzerland (2011),
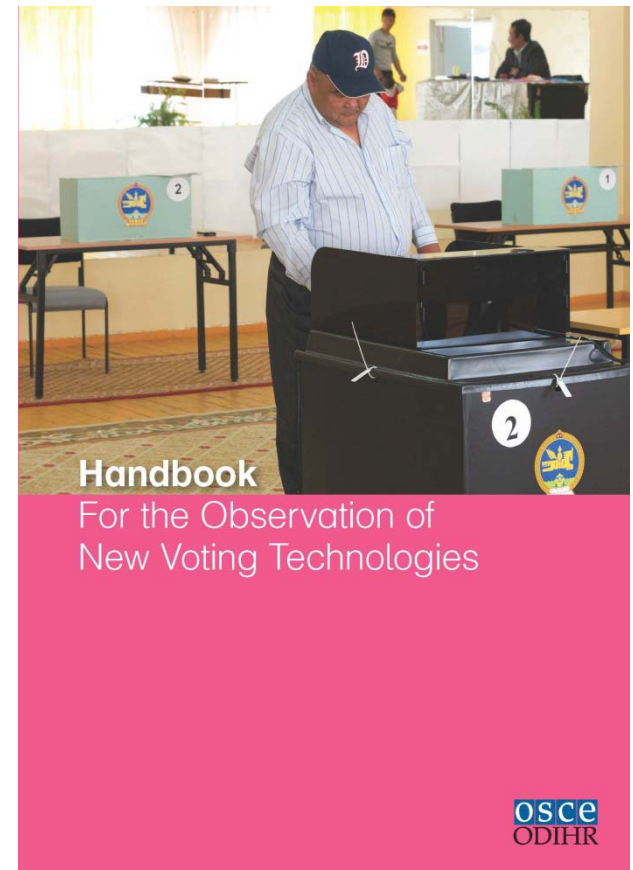
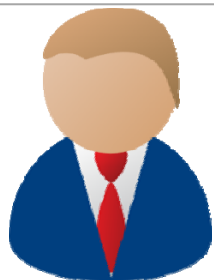United States (2004, 2006, 2008, 2010, 2012).

Missions with Assessment of NVT

🔴 Ballot Scanner   🟡 DRE   🔵 Internet Voting   ⚫ Everything

🟠 Ballot Scanner & DRE   🟣 Ballot Scanner & Internet Voting   🟢 DRE & Internet Voting

Structure

- Principles for NVT Observation

- Role of EOM Analysts

- Analyzing the Context

- NVT-Specific Observation

- Role of LTO/STO
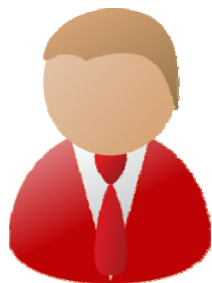
Role of the EOM Analysts

Head of Mission

Deputy Head of Mission

NVT Analyst

Election Analyst

Legal Analyst

LTO Co-Ordinator

Political Analyst

Media Analyst

Seven Principles for Observation of NVT

1. Secrecy of the Vote
2. Integrity of Results
3. Equality of the Vote
4. Universality of the Vote
5. Transparency
6. Accountability
7. Public Confidence

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Analyzing the Context

- Decision making
- Legal Context
- Electoral System
- Electoral Stakeholders

What to look at: NVT-Specificities (I)

- Procurement
- Election Administration
- Multiple Voting Channels
- Oversight
- Risk Management
- Vendors
- Training of Election Officials

What to look at: NVT-Specificities (II)

- Voter Education
- Secrecy
- Usability
- Public Testing
- Certification
- Verifiability
- Audits
- Observer Access

Overall Experience

- Time Schedule quite challenging – NVT starts earlier and finishes later than normal time frames

- Deployed one or more NVT analysts to join the Core Team

- Integrated approach to analyze NVT and to compare it to the existing (paper observation) experience

- More recommendations

- Considerable Follow-up

Legislation

- Further detail the procedures in the law – set-up, start, stop, counting, data destruction - needs to cover all the steps of the whole electoral process

- Formalize clear regulations for invalid ballots

- Important – show to the voter how his/her data is processed, and destroyed after not needed anymore - needs to give guidance to voters, candidates and administration how the system is operated and how it processes data

Oversight & Management

- Formalize a body
  to oversee internet voting
- Technical capacity for
  election management body
- Formalized
  separation of duties
- Develop a
  disaster recovery plan

Voting Process

- Develop time plan / election calendar

- Determine deadlines

- Co-operation with important stakeholders to protect the process against dDoS attacks

- Offer voter interface in multiple languages

- **Consideration of e2e verifiability** 4 voters & public

Secrecy and Integrity

- Use of paper based voter credentials or smart cards

- Quality of printing process, including the potential misuse of data, is of concern

- (Formalized) Separation of Duty

- Management of Secret Keys

- Review and Improvement of Encryption Model

- Meaningful Random Hand-recount of Meaningful Number

Testing, Evaluation, Certification and Auditing

- Conduct end-to-end tests in real world environments to identify problems especially with interfaces

- Use final software

- Compile command-level document including publish it, as basis for audits

- Elaborate detailed specifications for evaluation and with it certification of NVT

- Delegate audit, evaluation and certification to independent competent national bodies

- Publish audit, evaluation and certification reports

Summary

- While NVT are new they still have to fulfill the existing commitments and standards

- Challenges usual timeline

- Requires a team effort

- Observation of NVT requires assessment of context and NVT specifics

Handbook
For the Observation of
New Voting Technologies
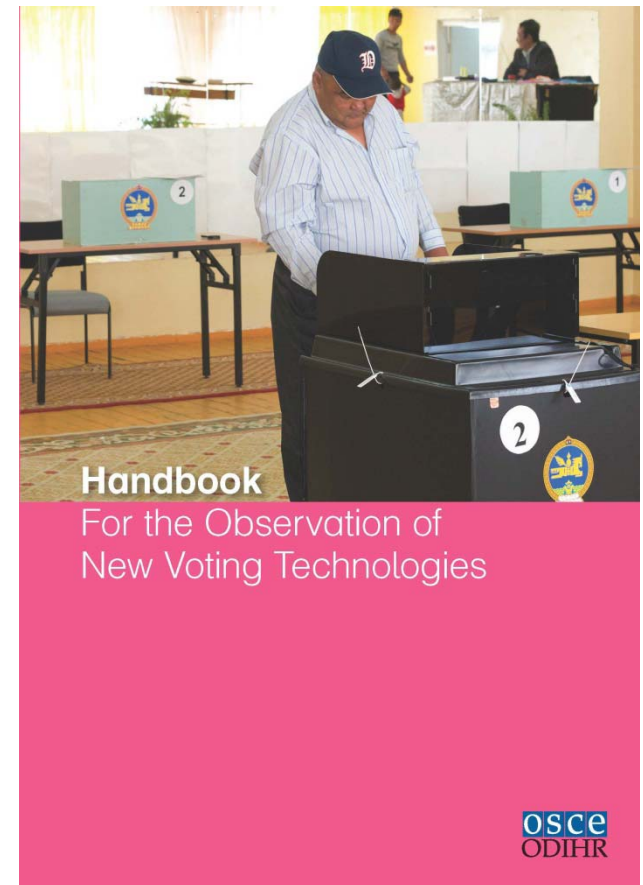
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