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Panel: Voting System Manufacturers Look to the Future

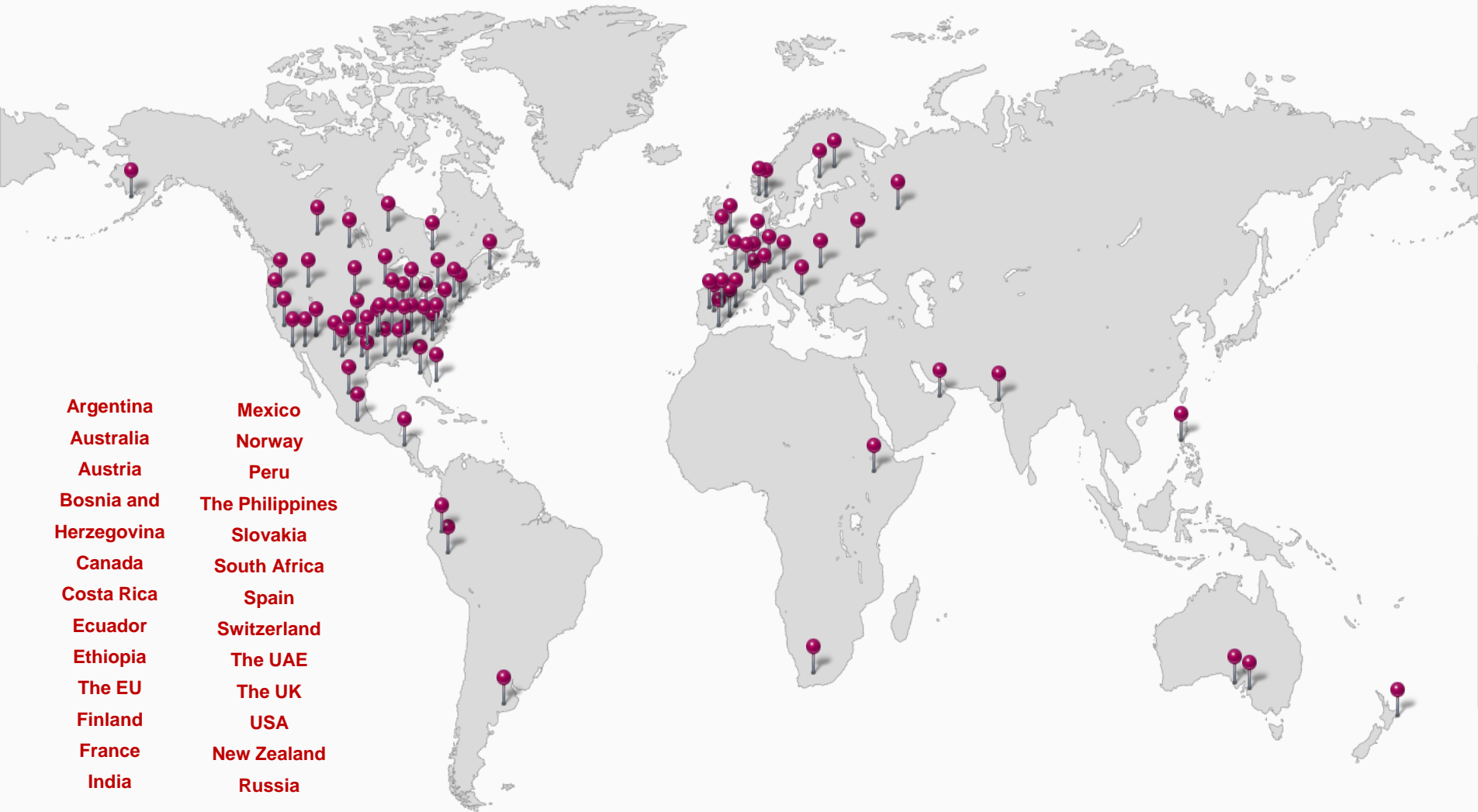## NIST/EAC Future of Voting Systems Symposium

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Election Modernization
Solutions Portfolio

Bosnia & Herzegovina | USA State of North Carolina | USA Los Angeles County, CA | The UK | The Philippines | Norway | Canada Saskatchewan New Democratic Party | Spain | Costa Rica | Ecuador | Russia | USA State of Colorado | Australia

CONTROL DASHBOARD

PRE-ELECTION			ELECTION DAY			POST-ELECTION			
PLANNING & CONFIGURATION	TRAINING & EDUCATION	REGISTRATION	E-VOTING SOLUTIONS	ELECTION DAY MANAGEMENT SYSTEMS		RESULTS MANAGEMENT			CLOSING

PLANNING & CONFIGURATION
- Planning
  - Planning
  - Campaign Finance
  - Promotion Expenses
  - Observer Mngt
- Election Configuration
  - Party/Candidate Config
  - Ballot Config
  - Polling Place Management
  - Voter List Management
  - Pollworker Management
  - Inventory Management

TRAINING & EDUCATION
- Personnel
  - Pollworkers
  - Election observers
- Voter
  - Voter Education

REGISTRATION
- Registration
  - Remote - Online
  - On site - Biometrics

E-VOTING SOLUTIONS
- Remote Voting
  - Online Voting
  - Phone Voting
  - Electronic Ballot Delivery
- On-site Voting
  - Kiosk Voting
  - Phone Voting
  - Scanning

ELECTION DAY MANAGEMENT SYSTEMS
- Support
  - Help Desk
- Voter Management
  - Voter List Mgmt

RESULTS MANAGEMENT
- Results Consolidation
  - Vote Consolidation
  - Electoral Act Scanning
- Tallying
  - Tallying
- Reporting
  - Election Night Reporting

CLOSING
- Auditing
  - Auditing
  - Ticket Mngt
  - Final Reports
  - Action Planning

India State of Gujarat | Austria | Ukraine OSCE/CEC | USA Ventura County, CA | Canada Halifax, NS | UAE | *e-election platform* | USA Santa Clara County, CA | USA Washington, DC | Canada City of Edmonton | Ethiopia | Argentina | Peru

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- Possibility for Disenfranchisement
  - Long Lines
  - Voter Confusion
  - Human Error Potential
  - Coercion/Intimidation
  - Accessibility / Usability Issues
- Fraud Potential
- Expensive
  - Hardware-based
  - Paper-centric

- Examples of processes that have been revolutionized by software & online technology:
  - Shopping
  - Banking
  - Education
  - Photography
  - Securities Trading
  - Printing
- It is time for governments / election officials to also take advantage of online technology.

Continuous Evolution in Voting Needs & Options

- As society and culture has changed, voting has adapted.
  - We must continue to foster this continuous improvement in election technology.
- A more diverse, dispersed electorate must be served.
- Federal government recognized this need with the implementation of HAVA and the MOVE Act.
- There is a great need for accessible, usable voting solutions that are also secure:
  - Everyone has the right to cast to cast a ballot, privately, securely and without assistance.
    - Mobility Challenged / Immobile /Home-bound
    - Blind & Visually-Impaired / Macular Degeneration
    - Neurologically / Psychologically Impaired / PSTD
- The evolution continues.

- A secure, more accessible and efficient voting option

- A system that allows registered voters to opt-in and vote on an internet-connected device securely and confidently

- Technology currently exists to:

  - Authenticate that the voter has the right to vote

  - Confirm that the ballot was submitted correctly and properly counted

  - Assure the privacy and the sanctity of the anonymous vote

  - Ensure the integrity of the election

System Security
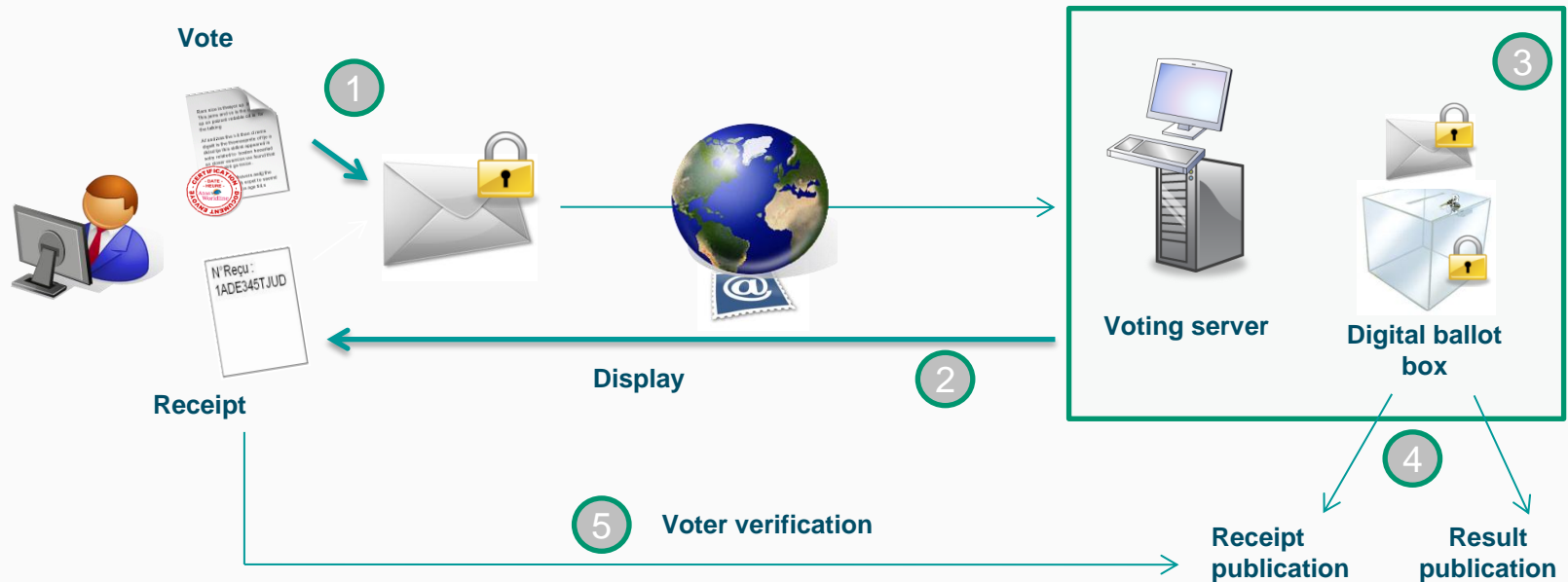
1. Ballot is encrypted using asymmetric cryptography.

2. The voter is provided with a counted as cast voting receipt.

3. The ballot is securely stored in the tamper-proof digital ballot box.

4. The ballots are decrypted by the Election Authority using a mixing process.

5. Voters can verify that their vote was counted.

- Providing an additional voting method
- Less human error potential
- Available for voters who "opt-in"
- Uses existing technology
- Can be implemented in small-scale pilots, over time
- Possibility of increased voter turnout

- Allows jurisdictions to "plug & play", utilizing component solutions from multiple providers:
  - In-polling place voting equipment
  - Electronic pollbooks
  - Electronic ballot delivery solutions
  - By-mail balloting
  - Voter registration systems
  - Election Night Reporting
  - Auditing tools
- SOE utilized EML during 2012 elections for some EBD customers.
- SOE works with data output from all major voting equipment providers with ENR solution; CDF would make process more efficient.

Opportunities for Education

- ## Perceptions of insecurity

- ## Possible changes required of voter verification process – Voter ID laws

- ## Federal & state certification process

  - Current VVSG do not specifically address online voting technologies.
  - Current certification processes address tabulation systems but do not address individual voting channel options live internet voting / electronic ballot delivery or ancillary devices like electronic pollbooks.

- ## Voter Education

- ## Overcoming inertia

- Educate the public

- Demonstrate new technology in a variety of locations and formats

- Provide opportunity for state & local elections officials to participate in the implementation

- Independent verification – before, during and after election

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