SMARTMATIC

Smartmatic Response to eRFI – New Voting System

eRFI Number: 47800-SOS0000035

August 24, 2018

Ms. Veronica Favors, Issuing Officer

State of Georgia

In Re: Electronic Request for Information; Event Name – New Voting System; Event Number – 47800-SOS0000035

Dear Ms. Favors:

Smartmatic is pleased to respond to this solicitation and has been following the State's voting system procurement with keen interest particularly regarding security aspects which have become paramount nationwide.

For the last 3 years, Smartmatic USA has had Georgia Tech Research Institute (GTRI) under contract to support development of our next generation voting technology. Working closely with GTRI on key areas such as security, accessibility, usability and accuracy, has resulted in the development of a voting system that can take Georgia well into the future securely. Our solution has been developed to be compliant with VVSG 1.1 certification requirements – to date, no other vendor has a newly designed system that conforms to this latest federal standard.

VVSG 1.1 represents an improvement over VVSG 1.0 in terms of:

- Enhanced security requirements
- Enhanced accessibility requirements
- Enhanced usability requirements
- Enhanced accuracy requirements

VVSG 1.1 provides a continuous improvement path for vendors to ensure the integrity and sanctity of U.S. elections now and into the future. To date, no voting system has been deployed to VVSG 1.1 – it requires a complete ground up design which vendors approved to VVSG 1.0 have not attempted to pursue: Smartmatic is the only company to initiate a complete development effort focused on achieving VVSG 1.1 requirements.

Current security concerns should be addressed by voting system technology designed and built to the most rigorous standards that look to mitigate threats today and into tomorrow.

Current accessibility concerns should be addressed by voting system technology designed and built to ensure the full-range of challenges many of our citizens' face are addressed and do so in a way that allows them to vote unassisted.

Current usability concerns should be addressed by voting system technology designed and built to make voting easy, intuitive, and less complicated for both the voter and poll workers.

Current accuracy concerns should be addressed by a voting system with robust and secure auditing capabilities and paper-trail to ensure results are both correct and verifiable.

This is why Smartmatic embarked on the challenge of achieving VVSG 1.1 requirements. While VVSG 1.0 is adequate, it did not envision the challenges of today's and tomorrow' election environment with regard to security. VVSG 1.1 requires substantial work and effort to achieve – Smartmatic is doing the hard and costly thing, but the right thing.

Smartmatic USA, located in Boca Raton, Florida, and part of Smartmatic SGO, headquarter in London, United Kingdom, is pleased to respond to the above eRFI. Smartmatic is incorporated in Delaware and is a registered and approved vendor with the United Kingdom Ministry of Defense and the US Department of Defense – NATO Commercial and Government Entity Code (NCAGE) XXXXX, EIN XXXXXXXXX, DUNS XXXXXXXXX. The Company has over 600+ specialists dedicated to the development of leading and next generation election technology and services. Within the group of professionals are experienced US personnel – our lead Certification Director formerly led the testing & certification efforts at an EAC approved testing laboratory. Other US personnel have extensive experience in the development, implementation and support of voting technology throughout the

Due to our skills, experience and financial capabilities, Smartmatic USA was recently awarded 7+ years contract with Los Angeles County, the largest electoral jurisdiction in the Country. Los Angeles has over 5.2M registered voters and 5,000 polling locations. We will be providing them 31,500 voting machines – this represents the single largest election procurement in the Unites States to date. The Los Angeles project requires Smartmatic to complete design, development, California Voting System Standards certification, manufacturing, implementation and support in time for the March 2020 primary election. All Smartmatic employees on the project were (are) subject to and have undergone FBI background checks and respective State Police background checks - security is taken very seriously by both Los Angeles County and Smartmatic. No one on the project is exempt from background checks.

Our eRFI response is comprehensive in nature. It will address the robust portfolio of products and services we can offer to Georgia – we look forward to demonstrating at the upcoming SAFE Commission meeting:

- Election Management System
- In-person Voting Machines

- Precinct Voting Machines & Tabulation
- Election Night Reporting
- Elections Logistics Management
- Ballot-on-Demand

Smartmatic can address all requirements identified within the eRFI in a highly cost-effective and reliable manner. Our technology represents a leap in what is currently available in the US market.

All inquiries to this response should be directed to Mr. XXXX XXXXXXXXX, Business Development/Sales Executive for Smartmatic USA. Mr. XXXXXXXXX is responsible for all questions related to content contained in this document. His direct number and email is +01.XXX.XXX.XXXX / XXXX.XXXXXXXXX@XXXXXXXXXX.XXX.
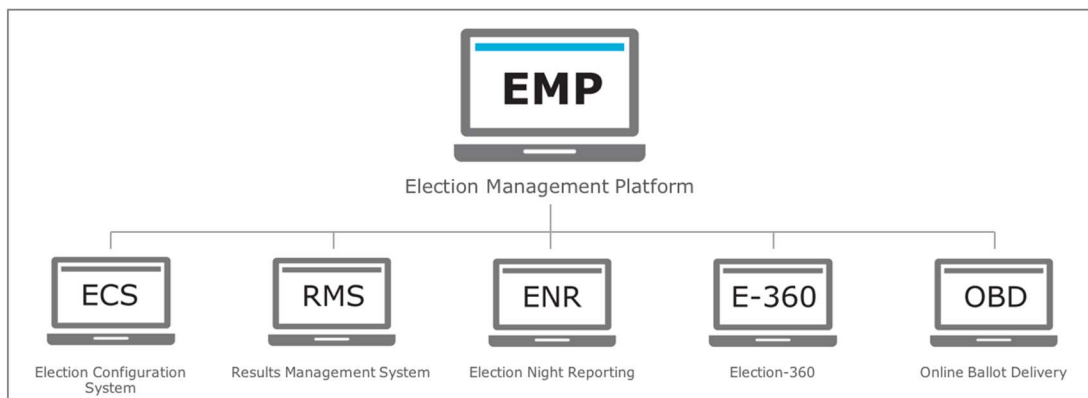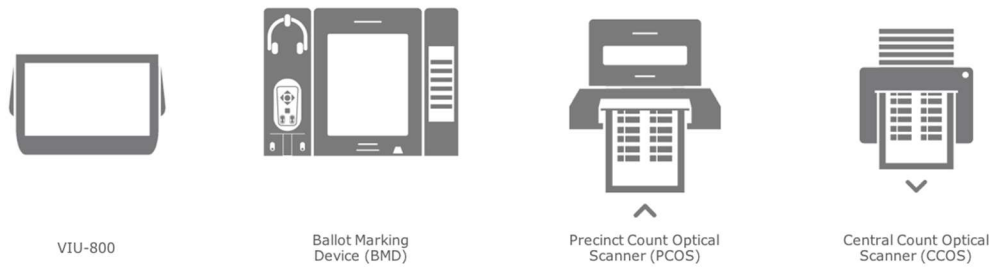
Best regards,

[signature redacted]

1 Explain how your solution meets our needs for the following voting system components:

- Election Management System

- Ballot Marking Devices

- Digital Scanners & Tabulators

- High Speed Scanners and Tabulators

- Statewide Electronic Pollbook System

Answer:

Smartmatic has developed a set of products that fully integrates to provide an optimal experience to users, either it is the pollworker or the voter, in terms of usability, accuracy and security. The products that Smartmatic offers to cover Georgia needs are:

VIU-800   Ballot Marking   Precinct Count Optical   Central Count Optical
                       Device (BMD)   Scanner (PCOS)   Scanner (CCOS)

EMP

Election Management Platform

ECS	RMS	ENR	E-360	OBD
Election Configuration System	Results Management System	Election Night Reporting	Election-360	Online Ballot Delivery

1.1 ELECTION MANAGEMENT SYSTEM: ELECTION MANAGEMENT PLATFORM (EMP)

To properly design, plan and manage the millions of details involved in running an election, Smartmatic offers the State and Counties a comprehensive Election Management Platform improving efficiency and performance. An intuitive, workflow-oriented user interface that guides the election official through each process, providing ease of use, while at the same time increasing accuracy and efficiency.

Smartmatic's EMP is not only based on our extensive experience in supporting elections around the world, it also leverages the latest concepts and best practices in user experience design and software development.

Differentiating ourselves from other available systems in the market, Smartmatic has built its EMP ensuring the following points of value:

- Every part of the system is optimized for usability and has embedded instructions that always guide the user, acknowledging that it is not a system that is used every day.

- The user interface notifies users at all times where they are in the process, what has been done, what can be done, and how far the user is from their goals.

- The system is designed to be collaborative, allowing different users to perform different roles in the same system during election preparation.

ECS - As the core of the EMP, the ECS allows the State and Counties to efficiently manage jurisdictional data, create elections, configure ballot styles, manage important election preparation milestones, and generate the configuration of the voting equipment.

RMS - People want immediate information, and that is why we offer the State and Counties a way to close the gap between the reception of the results, the monitoring of the process, and tabulation of the results. Quality and speed of the process are key factors for the State and Counties to know the preliminary results in less time.

ENR - Smartmatic recognizes that the effective and timely delivery of election night results is a highly visible and important part of the modern democratic process. Even if the voting and tabulation processes are perfectly orchestrated, it is the results that are "seen" as the important ones, and therefore, become the measurement by which the entire process is evaluated. Our ENR system is highly visual, presents the results in the most appealing way and the system provides not just data, but useful information.

E-360 - E-360 is the ultimate platform for managing elections, enabling the effective planning, tracking and control of every process of an election in real time. The platform gives the State and Counties full visibility of all election logistics (e.g. delivery of election material) and operational processes (e.g. opening of polling places) and the ability to manage and resolve any incidents that occur (e.g., replacing damaged ballots, failed voting machines). It is a tool that enables structured communication with poll workers, field technicians, call-center personnel, etc. to ensure the prompt resolution of any issues that surface both before and during an election.

OBD - Smartmatic's fully accessible OBD system can be used to pre-mark ballots at home, bring the printed pre-marked ballot or save it on a smart phone, and then vote at the polling place by scanning the QR code. Utilizing the option of pre-marking ballots at home, not only makes it easier and more convenient for voters, it will also provide significant time savings at the polling place.

1.2 BALLOT MARKING DEVICES + DIGITAL SCANNERS & TABULATORS:

Smartmatic's in-precinct solution offers all voters and poll workers a convenient, independent and secure election experience.

- The PCOS: Smartmatic's PCOS **SAES-1800plus** rapidly and accurately scans and reads paper ballots. After the voter confirms their selection, the scanner encrypts and saves the vote securely and anonymously, ensuring the voter's privacy and the integrity of the vote.

- The BMD: Our **A4-600** is a combination of a BMD and a Digital Scanner and Tabulator. It guarantees independent voting for any type of voter and provides a printed vote record with the use of an innovative Cut & Drop printer. The vote record is stored in two different and independent instances, in the device memory storage and in a printed format that can be read by humans and secondarily also in QR barcode format. The Cut & Drop printer includes also a scanner that performs two scanning processes: an OCR of the text printed and the QR barcode reading. The voting application performs a triple comparison of the selections made: temporary record on memory versus the QR scanned selections versus the OCR scanned selections. This way the system corroborates that the vote has been cast as intended. The BMD is a fully accessible voting solution, which provides the voter an optimized voting experience that adapts to their needs.

Some of the key benefits of both voting machines are:

1. **Ergonomic and integrated hardware design**: The design of the hardware and the use of the large screen allows both the voter and the poll worker easy access, a convenient election experience, and a front approach, increasing privacy and reducing distractions.

2. **Easy set up**: Our voting machines have been designed in such a way that they are easy to carry and can be set up by one person.

3. **An intuitive and self-explanatory user interface** guides voters and poll workers throughout their processes with clear instructions, offering convenience and minimizing errors.

4. **Customizable:** Supported messages and languages, behavior parameters and validations, ballot handling in the PCOS, and some voting experience timeouts are completely customizable (during the configuration of the election event) according to the State and County's needs.

5. **Secure, auditable and traceable**: The highest and strongest levels of cryptographic suites, digital signatures, data redundancy and access control based on different roles and profiles are implemented in the Smartmatic solution. We never tabulate from barcodes.

6. **Highly secure transmission capacity:** Smartmatic's voting devices are capable of transmitting the consolidated results package to the **RMS** via wireless technologies, such as GSM/GPRS/3G/4G USB modem connected through the USB ports, or also via Ethernet-based wired technologies, such as VSAT, BGAN, and DSL. It is important to note that the voting devices are not connected to the network while the election is open. The equipment has no embedded modem to allow network connectivity.

7. **Easily customizable instructions for the user:** instructions for the voter are easily customizable in multiple languages, by changing the resources files in the **ECS** during the data loading.

1.3   HIGH SPEED SCANNERS AND TABULATORS: CCOS

The Smartmatic's **CCOS** solution is based on a high-speed COTS scanner, providing a County with a scalable and cost-effective solution. To complement our **CCOS** device, Smartmatic offers custom-made ballot processing software that allows a County to accurately process and tabulate large numbers of ballots in a timely manner.

Our CCOS solution processes all Vote-by-Mail ballots. It supports 2 types of ballots:

1. The traditional paper ballot manually marked by the voter. These ballots are delivered to the voter and returned by mail to be processed with our **CCOS** solution.

2. In order to facilitate voting for voters wishing to Vote-by-Mail, Smartmatic is offering a more usable and accessible option as second remote voting channel. Our **Online Ballot Delivery (OBD)** system allows voters to access their ballot at home via any web-enabled device (desktop, laptop, smartphone or tablet), mark their ballot and then print their ballot.

1.4 STATEWIDE ELECTRONIC POLLBOOK SYSTEM

Smartmatic´s VIU-800 is a fully integrated, ergonomic, portable and purpose specific device that equips poll-workers with advanced tools to properly manage the operation at polling locations, increase transparency in polling location operations, and eliminate critical vulnerabilities and other common problems in polling location operation.

The VIU-800 platform is the perfect tool that simplifies several complex election processes due its superior usability. Thus, making it easier for poll workers to perform their duties during Election Day. Optionally, and depending on the specific model of the series VIU-800 (due to the embedded peripherals), the VIU can be used for:

- **Voter Authentication:** allows poll-workers to search voters within the voter list, and then verify the voter´s identity based on their information in the voter registration system.

- **e-Voting Support:** allows poll-workers to enable a voting session on a e-voting machine to each authorized voter, either through secure token activation (e.g. smartcard or barcode) or direct connection to the voting machine. Other related functionalities also include the consolidation and secure transmission of electronic results from e-voting machines for central tally.

- **Results Tabulation & Transmission:** allows poll-workers to manually capture (transcription) the election results from the results form, capture and attach a proofing image of the results form, and secure transmission of these for central tally.

- **Election Management** (Polling Site Event/Incident Reporting): the system automatically records reports all important events/milestones from the election event (e.g. Poll-Worker device setup, Opening of Poll, Closing of Polls), and also allows poll-workers to record and report relevant incidents that occur during the operation (e.g. electoral material arrived incomplete or damaged, poll-worker officials absences, etc) for further support from the help desk.

Smartmatic either uses contact, or contactless smart cards to activate a voting session on the BMD. The information on the smart card is very basic. It contains the ballot style for the voter, any accessibility options, provisional flag, associated provisional ID, and a digital signature.

2 Describe how your solution would accommodate each of the proposed methods of in-person voting described in Section 3.4. Discuss the pros and cons of each method as it relates to your solution.

Answer:

According to the description of the three alternatives for in-person voting methods, Smartmatic solution can be used in any of the three methods, with some slightly modifications:

2.1 METHOD 1

In-person (early and election day) voting using PCOS and BMD. Giving the voter the option to use either of those in the following way:
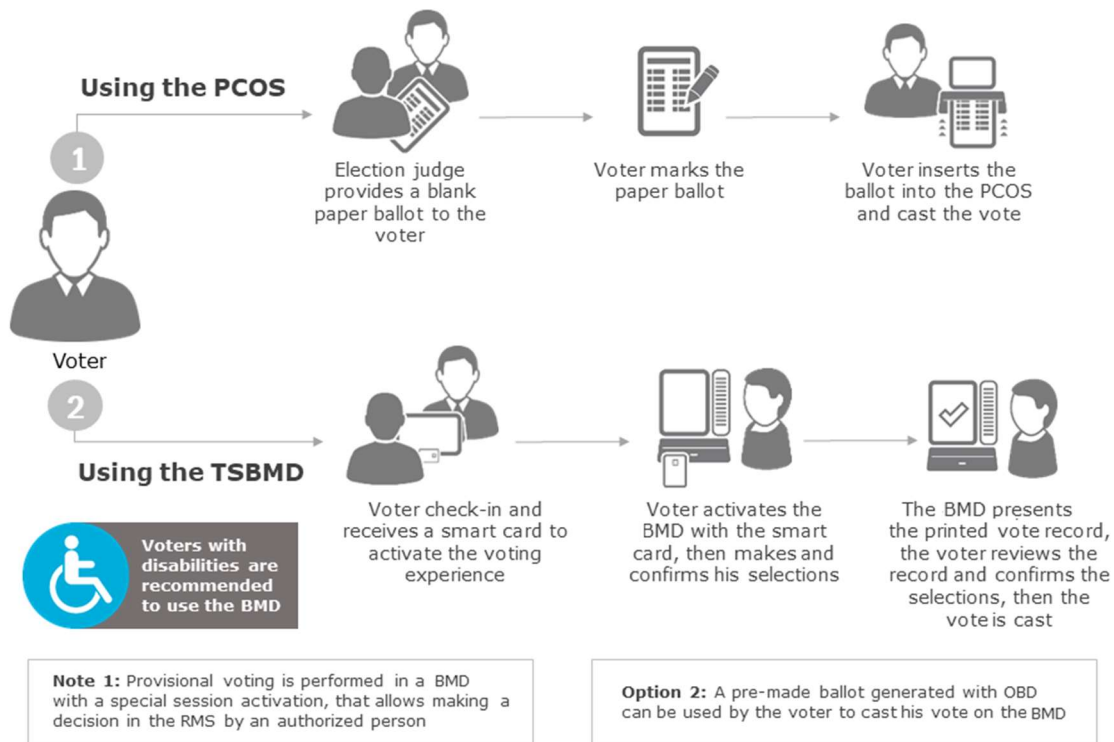
As it can be observed on the above diagram, the difference between our offer for this method and the way the State of Georgia foresees it, is that using Smartmatic's BMD, it is not necessary to introduce a paper blank ballot to mark the choices, and then retrieving the now marked paper ballot to be inserted into a PCOS for actual casting the vote. Smartmatic's BMD manages it all in the same equipment, without paper ballots, saving time, simplifying the logistics and operation, simplifying the voter experience and increasing the efficiency and accuracy by

eliminating manual steps in the process from authentication to casting the vote. Even though, in the event that the State decides to implement this voting method, we offer our PCOS and BMD solutions. The advantages of using our systems are:

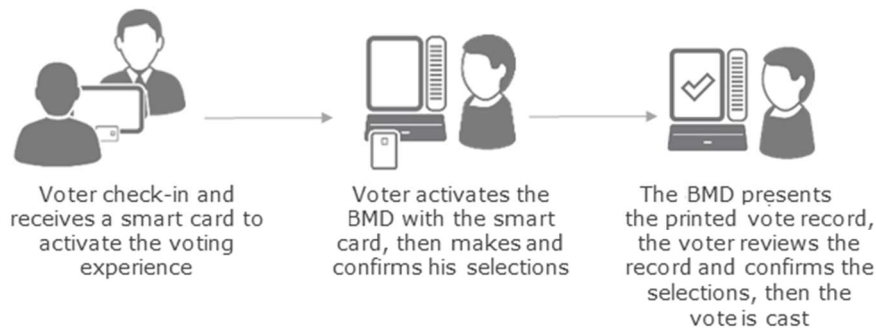| PCOS	BMD
Our software is able to provide the voter the opportunity to review their selections again before recording the vote. After the voter confirms their selections, the vote is recorded and the paper ballot is stored inside the ballot box for audit purposes. **The PCOS can scan in one pass single or double-sided ballots** inserted by the voter in any portrait orientation (supporting ballot sheets from 11" up to 19" long), and can be configured at the discretion of the jurisdiction to handle all possible ballot scenarios as required. For instance, configuring the behavior of the machine when accepting, rejecting or diverting a ballot under certain conditions, like invalid or unread ballots, or to alert the voter or poll worker to request further instructions. Another differentiation is that, considering that the ballots marked by the voters are paper-based, the system offers the option (during election configuration) to store in the voting device, aside of the image of the scanned ballots, a vote receipt of the selections read, facilitating the manual recounting of ballots, and random auditing processes of the election equipment that tabulate the votes and generate the election results.	**Smartmatic's BMD machine allows the voter to record their vote directly on to the machine's display, without needing a physical paper ballot to mark their selections.** Once the identification and authentication phase has been completed, the poll worker creates a smart card with the corresponding ballot style and gives it to the voter. The smart card allows the voter to activate the voting experience in the BMD machine and see the available contests and candidates for the election. The voter is given the option to make selections in each of the contests (this can be done through the tactile display, or through the audio tactile interface (ATI)), and the voting machine will accurately record the selections made. For Smartmatic it is not enough to just complete the voter task. We believe that the voting experience should be a convenient process for the voter, and we provide that convenience by guiding the voter throughout the whole voting experience, and by adapting the experience to the needs of each voter. Furthermore, our solution protects voter privacy, and provides all necessary mechanisms to allow the voter to verify that their vote is being cast according to their will. One of the primary strengths of the Smartmatic's BMD voting device is that it was

PCOS	BMD
By combining a scanner, which has a bottom slot to divert the ballot, and a ballot box specially designed to accommodate paper ballots in two buckets, **Smartmatic's PCOS provides a County with a way to physically segregate the ballots**, which is more convenient for supporting post-electoral audit processes than digital segregation.	specifically designed to assist voters with disabilities. Its ATI component is developed to serve voters with disabilities who cannot directly interact with the touchscreen.

In relation with the CONS of this voting method:

- By keeping the option of using PCOS, it is not only required to invest in two different products to be located at the polling place, meaning increasing costs of equipment, peripherals and consumables; but also, increasing the complexity on the readiness, logistics, training and even technical assistance by having to provide services to two different models of voting machines.

- When using the PCOS, voters are forced to execute two steps in order to properly cast their votes: filling manually the paper ballot and then introducing it into the PCOS.

2.2 METHOD 2

In-person (early and election day) voting is conducted solely with BMD. Based on the Smartmatic's BMD A4-600 in the following way:

Voter check-in and receives a smart card to activate the voting experience

Voter activates the BMD with the smart card, then makes and confirms his selections

The BMD presents the printed vote record, the voter reviews the record and confirms the selections, then the vote is cast

Note 1: Provisional voting is performed in a BMD with a special session activation, that allows making a decision in the RMS by an authorized person

Option 2: A pre-made ballot generated with OBD can be used by the voter to cast his vote on the BMD
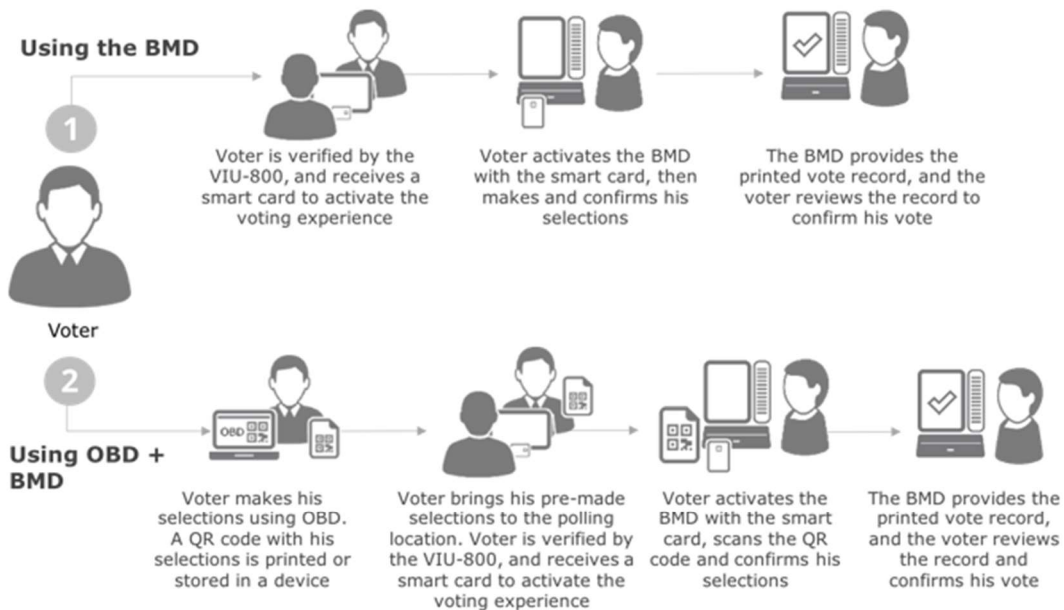
We don't foresee any disadvantage from our solution to this voting method, only advantages:

- **Simplicity** of the election planning and deployment - by only managing one type of voting device at polling places, as stated previously, it simplifies the planning, readiness, logistics, training, and technical support.

- **Cost savings** - only one voting machine model to be acquired, reducing services costs and since no paper ballots are needed, the amount saved on the paper acquisition and ballot printing is very significant, given that paper ballots must be printed without knowing in certain how many of them will actually be used.

- **No more paper handling** - at the end of the voter experience, the voting machine prints and shows the voter their selection, and upon confirmation, the vote is cast. This is done with the use of the Cut & Drop printer attached to the BMD and allows the voter to verify the paper record behind the glass of the Cut & Drop printer.

- **Simplified Voter experience** - this is what we consider the main benefit of our BMD system. The voter is not required to perform multiple steps for casting his vote, therefore investing more time to complete his vote**. Smartmatic's simplified process is particularly beneficial for voters with mobility impairments.** Regardless the voter is voting visually or aurally, they can verify the printed selections without having to handle the ballot and decide to approve or reject the paper record. If the voter approves the ballot, the voting machine generates an electronic ballot cast record, prints an approval mark and a unique code to facilitate risk-limiting audits. Finally, the machine drops the printed receipt in the ballot box. Otherwise, when the voter chooses to reject the paper record, the voting machine also drops it in the ballot box marking it as rejected.

- **Increased Accessibility** - Smartmatic's BMD voting device accommodates all needs of voters with disabilities. Its ATI component is developed to serve voters with disabilities who cannot directly interact with the touchscreen. By combining hardware and software components in the voting solution, Smartmatic's BMD machine offers several voting experiences (audio, audiovisual, Sip&Puff, buddy buttons) that allow users with limitations to be able to exercise their right to vote independently, meaning that no assistance from the poll worker or any other person is needed.
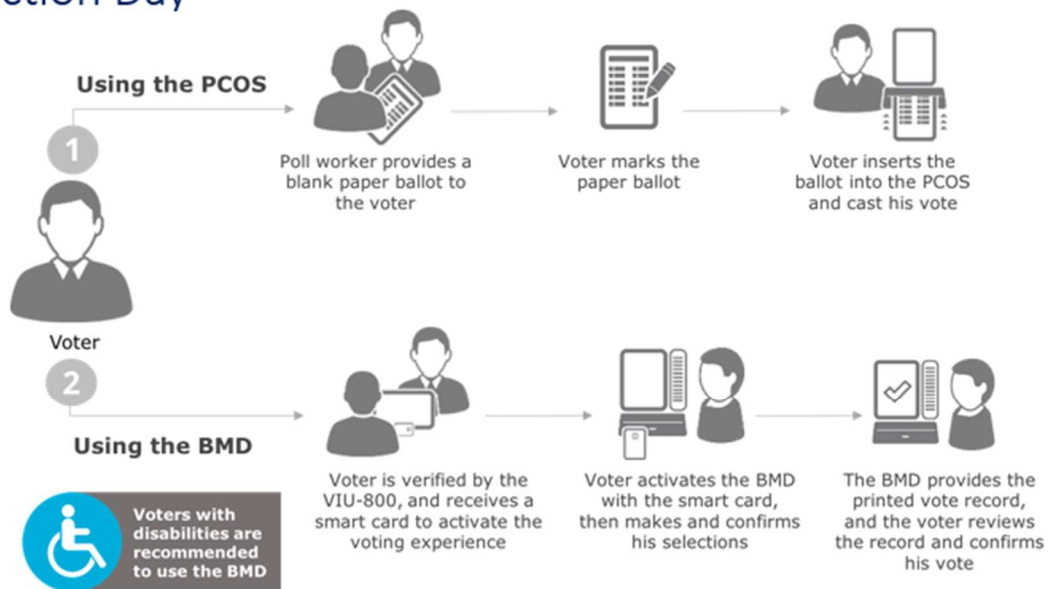
2.3 METHOD 3

Absentee in-person (early) voting conducted solely with BMD, while Election day voting is primarily conducted with optical scan paper ballots marked by hand. BMD available to be used as needed. For this method, Smartmatic highly recommends the use of the solution OBD, in combination with the BMD and PCOS, as follows:

Early voting

Using the BMD

1

Voter

Voter is verified by the VIU-800, and receives a smart card to activate the voting experience

Voter activates the BMD with the smart card, then makes and confirms his selections

The BMD provides the printed vote record, and the voter reviews the record to confirm his vote

2

Using OBD + BMD

Voter makes his selections using OBD. A QR code with his selections is printed or stored in a device

Voter brings his pre-made selections to the polling location. Voter is verified by the VIU-800, and receives a smart card to activate the voting experience

Voter activates the BMD with the smart card, scans the QR code and confirms his selections

The BMD provides the printed vote record, and the voter reviews the record and confirms his vote

Election Day

Using the PCOS

1

Voter

Poll worker provides a blank paper ballot to the voter

Voter marks the paper ballot

Voter inserts the ballot into the PCOS and cast his vote

2

Using the BMD

Voters with disabilities are recommended to use the BMD

Voter is verified by the VIU-800, and receives a smart card to activate the voting experience

Voter activates the BMD with the smart card, then makes and confirms his selections

The BMD provides the printed vote record, and the voter reviews the record and confirms his vote

Note 1: Provisional voting is performed in a BMD with a special session activation, that allows making a decision in the RMS by an authorized person

Note 2: A pre-made ballot generated with OBD can be used by the voter to cast his vote on the BMD

The main advantage of using the solution proposed by Smartmatic for this in-person method is that using the OBD for the early voting, makes the process of voting much more usable and accessible, while reducing the chance of errors in marking a ballot. The interface was designed

to meet the latest standards in web accessibility WCAG 2.0. This online tool uses the same usability and accessibility principals that were used to create the voting experience in the BMD. **The voter can access their ballot anytime, from any location, using a computer, tablet, or smartphone device.** Whatever interface (touch, voice, keyboard, etc.) the voter uses to interact with the Internet on a daily basis, this same method can be used to add a write-in candidate to their selections.

As in relation with the BMD and PCOS, once again, even when Smartmatic can offer those products to comply with the voting method finally decided by the State our recommendation is the usage of only the BMD, simplifying the voting process for the voters and thus, increasing the accuracy and efficiency of the whole election.

The Smartmatic solution is advantageous regardless of which of the three voting methods is chosen. Some methods described in the RFI have Pros and Cons relative to all system offerings:

	PROS	CONS
Method 2	Equipment is standardized across all voters. For the Smartmatic solution, which carries a VVPAT, no subsequent scanning is needed.	
Method 1&3		Will require Ballot on Demand to cover quantity and style demands during Early Voting

3 Describe the paper stocks associated with your proposed solution. What are its storage requirements in regards to climate and space?

Answer:

The thermal papers used both in the PCOS and the BMD are commercial thermal paper with the following storage specs:

- **Shelf Life** - Storage of thermal products in a dark place at a relative humidity between 45% and 65% and a temperature below 77°F (25ºC) will assure satisfactory performance for at least three years from the date of manufacture.

- **Image Life** - Once thermal products have been imaged on the recommended equipment, the image will remain legible for at least seven years, assuming the documents are properly stored with compatible materials under normal filing conditions, with a relative humidity between 45% and 65%, as well as a temperature below 77°F (25°C).

- **Fade Resistance** - The thermal paper use dye and coreactant technology to form an image. The combination is slightly sensitive to ultraviolet (UV) light and may exhibit some image decline with extended exposure to office light or shorter exposure to intense UV light. The stability of the image will depend upon the degree to which the image was originally developed, the individual product design, the intensity of the UV light and the character of UV (percent of UV range in a light source). Sheet discoloration may also occur with prolonged exposure to UV light.

- **Contact Storage** - We recommend that thermal grades not be exposed for long periods to certain vinyl's, plastics, shrink wraps, adhesives, wet-toner copies or certain carbon papers. An exception to these general guidelines would be topcoated tag, ticket and label grades. Topcoated grades are more resistant to these incompatible materials, but images can still be affected with prolonged exposure.

It is important to note that most thermal papers, regardless of the manufacturer, are susceptible to many of these indicated items. These incompatible substances are common for all thermal products.

The paper rolls are packed in corrugated cardboard box containing 32 rolls. Dimensions: 15 1/2" x 15 1/2" x 6 3/8".

4   **Please provide a number of scanners and ballot-marking devices that Georgia would need for each proposed method of in-person voting described in Section 3.4, keeping in mind that currently voters are allowed to vote at any early voting location in the county during absentee in-person voting.**

Answer:

Below is a table depicting the estimated equipment numbers. This table bears in mind that the A4 Electronic Ballot Marker and the SAES 1800 Precinct Count Optical Scanner can both accept voters from any portion of the County for Early Voting. In general, we use a ratio of 250 voters per BMD (which closely matches the State's current allotment of DREs) and 500 voters per in-person optical scanner. The information in the RFI is scant compared to the data that Smartmatic will seek to analyze for the formal Proposal, so the numbers shown below will likely vary from a final solution set. We also assume that BMDs used in Early Voting can be turned around and used for Election Day voting.

	Electronic Ballot Marker	Precinct Count Optical Scanner	
Method 1	A4 = x,xxx + xxx = x,xxx	SAES1800 = x,xxx + xxx = x,xxx	Based on the information in the RFI we would propose one BMD per polling place plus an additional allotment of x00 to aid with Early Vote, then one or two (depending on size) precinct scanners for each polling place, plus an additional allotment of x00 scanners for Early Voting.
Method 2	A4 = xx,xxx	SAES1800 < xxx	Method 2, since we propose a BMD with VVPAT, this voting method yields similar numbers to today's system. We would expect to replace some portion of the AccuVote scanner population with Central Count scanners, leaving Precinct Scanners to act as Central Count only in smaller Counties.

Method 3	A4 = x,xxx	SAES1800 = x,xxx	Using a 50% Early Vote population, two week Early Voting period (recognizing that many voters wait until the last day or two of Early Voting to cast their ballot) and five million voters, 2.5 million divided by the xxx voters per unit spread over two weeks yields a x,000 BMD quantity (1 per polling place plus additional for Early Voting) and a x,000 scanner quantity. For the precinct scanners, we would place one in every polling site, plus an additional scanner for every x00-x00 registered voters at that site/precinct.

5   Depending on the method of in-person voting described in Section 3.4 that Georgia adopts, it may have a need for ballot-on-demand printing capability. Please describe your solution to our potential need for ballot-on-demand printing.

Answer:

Ballot on Demand will be needed with all but voting Method 2 depicted in the RFI, as Methods 1 and 3 carry an optical scan component for Early Vote. Ballot on Demand may be desirable in larger polling sites for Election Day as well. Smartmatic has a Ballot on Demand solution that allows polling place workers to rapidly look up and subsequently print the voter's ballot, using high quality laser printers, and on the same ballot stock as used by commercial printers for the optical scan ballots.

This solution is managed through the VIU electronic pollbook and thus does not require additional equipment beyond the ballot printer itself. Training is easier since the same unit is utilized for voter look-up, voter card activation, and when needed, ballot on demand. The VIU family come equipped with USB ports making the connection to a printer easy for the pollworker. The VIU was designed to physically secure this connection; and the USB port is under a door, allowing for both a tamper resistant and tamper evident connection to the printer.

6 Explain how your solution meets each of the basic requirements in Section 3.5.

Answer:

The Smartmatic system is the first for the United States market that has been developed, from its inception, to meet VVSG 1.1 requirements. Additionally, the different components of the voting system have been successfully deployed at the international level, often in far larger geographies and with far greater numbers of voters. For more details please refer to question 23.

Responding to the features and functionalities expressed in section 3.5:

- **Quickly and accurately audit voting records** - Smartmatic's voting system guarantees the vote is cast as intended by the voter by allowing the voter to first review the selections made prior to casting the vote, then verifying their paper record, the human readable portion of which is tabulated **(no tabulation from barcodes)**. The vote record is stored in two different and independent instances, in the device memory storage and in a printed format that can be read by humans and also in QR format. The cut&drop printer of our BMD includes also a scanner that performs two scanning processes: an OCR of the text printed and the QR barcode reading. The voting application performs a triple comparison of the selections made:

  1. The temporary record in memory
  2. The QR scanned selections Versus and
  3. The OCR scanned selections, which is voter verifiable

  This way the system corroborates that the vote has been cast as intended. Once the voter confirms, the vote is recorded permanently on the memory media and the vote is actually recorded as cast. In the other hand, at the end of the election day, when the polls are closed, the voting machines tally the votes and generate a results report which can be verified by counting manually the printed vote records. Another method to audit the voting records is through the audit logs. Every Smartmatic's system maintains immutable internal audit logs, in which all actions performed by every user, exempting those that violate voter privacy, are recorded. Each entry includes information, such as the type of event, date and time stamp **(compliant with ISO 8601 and VVSG 1.1),** the user who executed the transaction, and description of the event. All log entries in our systems have been written in such a way that they are easily understood, avoiding the use of codes and confusing language. By using the audit logs, can be validated the

number of votes recorded (not the vote content), and that value can be contrasted with the vote count generated by the machine in the result report and with the voters authenticated by the Pollbook system.

- **Support overlapping and concurrent elections** - One of the most relevant benefits of our ECS is the capability to easily and quickly import information relating to geography, precincts, districts, offices, candidates, polling places and voting machines. The format design is very simple, it requests information of the geography, for example name of the County, name of all townships and all precincts per townships, requests information of districts, and so on. **Once all the information is in the system, our solution keeps this information in the Jurisdiction Manager component, where all information resides, which can be shared later among election events**. This information only has to be added once to the system, and it can then be reused between one election event and another. Furthermore, it can be updated at any time without affecting any election event previously created. Once this is done, election events can be created for the whole County or an event in a local jurisdiction, such as townships, or any other local jurisdiction defined in the geography, no matter if they are overlapping or concurrent in time. The creation of an election event is very simple; the election officer provides basic information of the election event, such as its name, date, type (if it is a primary or general election) and selects the contest that applies to that election event from the contests previously defined. With this, the election event is created with the jurisdiction information (geography, precincts, districts, and polling places). Moreover, the election event can be created from a template previously created by the election officer. The template of an election event contains a specific group of contests. Most of the contests defined for a general election are usually the same for the next general election, so the use of the templates previously created makes the process more efficient, faster and easier.

- **Write-in candidate capability** - Smartmatic's electoral platform supports write-in candidates features. From the ECS, Smartmatic has provided features in our ballot designer that will allow the election official to customize the write-in areas of the ballot to provide a higher level of usability to the voter. For instance, the write-in area can be adjusted in size to provide more space for the voter to write their candidate's name and/or elements like boarders can be placed to ensure the voter writes the name of their candidate in the appropriate area. The process for adding a write-in candidate to the ballot is the same for in-person or vote-by-mail. The voter simply writes the candidate's name in the area provided on the ballot. When a ballot with a write-in is scanned, either on a PCOS or CCOS, a digital image is created for each write-in. As for the BMD, the write-in process has been designed to maximize accessibility for users

with cognitive and/or visual limitations by providing intuitive controls and contextual guidance throughout the voting experience. By touching the write-in option or navigating to it using the audio tactile interface (ATI), the software displays a keyboard that allows the voter to enter their preferred candidate's name. Once the voter has reviewed and confirmed their selections, the printed vote record is produced, which includes the name of the write-in candidate. The voter can verify their write-ins by visually inspecting the printed vote record or if using the audio features of the BMD have the write-ins read to them.

- **Encryption and digital signatures as security measures** - regardless of the architecture, for Smartmatic it has always been clear that all sensitive data (defined as candidate and contest information, system identification, configuration files, votes, etc.) always need to be protected. All this information is encrypted once it is first loaded into the EMP. This information remains encrypted until it is transferred to the USB memories. **All data are encrypted with AES 256-bit, and digitally signed under the X.509 standards, which are the strongest and most commonly used industry encryption standards.** To explain further, sensitive data are digitally signed using the XML Signature Syntax and Processing Recommendation by W3C (http://www.w3.org/TR/xmldsig-core/) using SHA and RSA (2048 bits or higher) algorithms. During the preparation of the election, signed and encrypted files are stored on the external memory of the voting machines (BMD, PCOS, and CCOS), where the machines decrypt the content of the memories, and verify that the signature of the digital records is authentic, for which it validates that the signature is correct and that the certificate used to validate the signature comes from a trusted source. At the end of the election, the results package transmitted to the RMS is digitally signed and encrypted using CMS (PKSC7) with EC-DSA and RSA-2048. All our algorithms comply with FIPS 140-2 standard.

7   Describe how your proposed solution provides unofficial results on Election Night at the polling place.

Answer:

The Smartmatic solution offer a method for consolidating results at the polling place from all the devices. poll workers use a specially configured poll worker smart card to perform all important tasks in the voting machines, such as the opening and closing of voting. Once the poll worker opens each voting machine, the ID of each machine is stored in the poll worker card, so this way we know how many machines have been deployed in that precinct. This allows our software to provide a simple and guided process to the poll worker, informing the poll worker of the machines that have been closed and of the ones still pending.

When polls are closed, the poll worker start closing the election in the machines, one by one, the results for each machine are stored temporarily in the smart card. **The poll worker continues closing all voting machines, guided through this whole process by our system, clearly stating the number of pending machines, thereby ensuring that no voting machines are left out of the results consolidation for that precinct.** When the last voting machine is closed, the software automatically detects that all machines in the precinct have been closed, the result files temporarily store in the smart card are then copied into that voting machine memory device and the consolidated results are generated accordingly and the report is printed. If configured, the system then offers the option to transmit the unofficial results to the **RMS**. For this, an external modem shall be connected to the USB port of the machine.

8   Describe how your proposed solution transfers data collected from Ballot Marking Devices, Digital Scanners, High Speed Scanners, and Tabulators to the Election Management System and vice versa.

A. Include a description of the essential peripherals that are used in the data transfer process (i.e. flash drives, memory cards, and other items that will have to be replaced periodically). Are these items proprietary and are replacements purchased directly from the vendor or are they commercially available?

Answer:

Transferring the data from the **ECS** to the voting devices is done after the election event is created and configured using the **ECS**, the system generates the information for all the individual voting units automatically, and at the same time by a few clicks from the election officer. Once all the ballots are configured and the behaviors for the machines set, the system is ready to create election media. The media is created one after another by inserting the media when the onscreen guidance instructs the user to do so. A label identifying the election media is printed automatically, so that it can be attached to the media. The media varies depending on the type of voting device as follows:
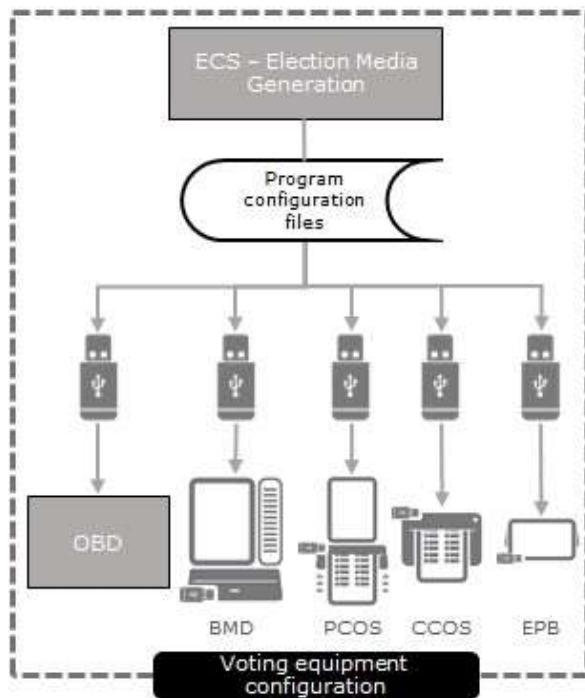
- **BMD** - USB memory drive, which can be commercially acquired

- **PCOS**- SD card drive, which can be commercially acquired

In the other hand, **after the election closes, Smartmatic's voting devices offer flexible ways to transfer the consolidated results package to the RMS in the following ways:**

- Via USB memory which is connected to the USB port. Results are saved into the USB memory. With one USB memory is possible to consolidate and generate aggregated results from all the machines in the polling place. Finally, the result file can be imported into the **RMS**.

- Via wireless technologies, such as GSM/GPRS/3G/4G external modem connected to the USB port. It is important to say that the voting machines do not have embedded network modem.

The results package is encrypted and digitally signed.

In case of using wireless technologies, the modem can be any commercially available that can connect to the USB port of the machine.

As for the USB memory flash for consolidation, it can be commercially acquired. Although it needs to be configured and initialized through the ECS.
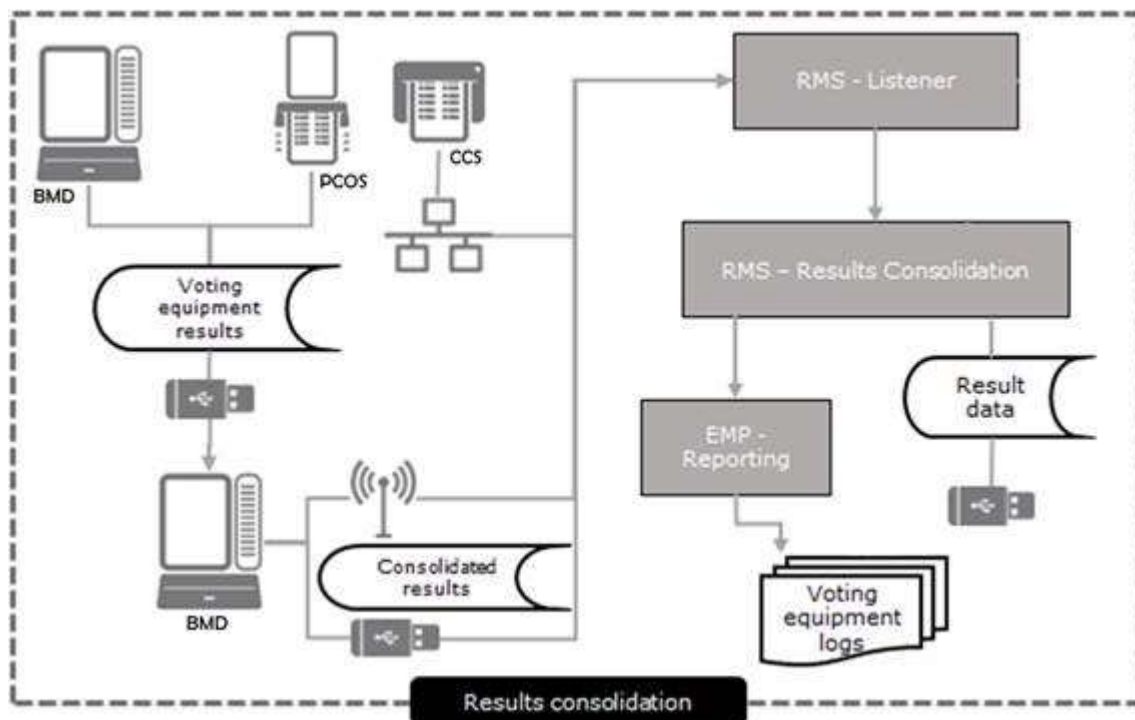
9   Does your solution include Election Night Reporting capabilities? If so, please describe your Election Night Reporting solution, including security features.

Answer:

Yes, Smartmatic recognizes that the effective and timely delivery of election night results is a highly visible and important part of the modern democratic process. We understand that an ENR is a function that the voter is unaware of most of the time. However, for a few hours on election night, it becomes a central focus of attention and a pivot point of satisfaction; all eyes are on the election results from the Election Day through to the following morning. Failure to make timely and accurate results available, not only creates frustration, but may reduce confidence in the people and process itself. Even if the voting and tabulation processes are perfectly orchestrated, it is the results that are "seen" as the important ones, and therefore, become the measurement by which the entire process is evaluated.

The **ENR** is physically separated from the **RMS**, the results database is never compromised. **RMS** pushes raw data to the **ENR**, and the latter formats the data to be shown in an user-friendly manner. **ENR** is usually installed in an elastic environment to guarantee high availability.

Smartmatic's ENR yields several significant benefits:

- **Security** and data integrity are maintained;
- Elections teams retain complete control over results and updates when made public;
- **Accuracy** is enhanced, mitigating potential human error;
- All requirements regarding voting system security and isolation are supported;
- Daily functions and services of primary websites are secured from heavy traffic loads;
- Software can be installed, configured, managed and maintained on State and/or County secured servers;
- Constituent satisfaction is maintained across browsers and devices;
- Constituent service requests are reduced, freeing staff to do work in service of their communities.

The layout and look and feel of the publication site is flexible, examples of areas that can be configured are:

1. Results by counties and precincts, managing filters to access to the desired information.

2. Tabulated graph results and statistics.

3. Share information over social media networks.

4. Display highlight information in an attractive way: sliders, tickers, and so on.

5. Downloading results in raw format

10   Georgia plans to begin using the new voting system by the 2020 Presidential Preference Primary, which was last held in March. Please provide an approximate timeline to implement your proposed solution.

Answer:

Smartmatic is no stranger to large voting system deployments. We have successfully manufactured equipment for and managed elections in **The Philippines (50 million registered voters), manufacturing and deploying 92,000 voting machines over 7,000+ islands, (many of which have intermittent or no electrical power).**   In addition**, we are the voting system vendor for Los Angeles County, the largest electoral county jurisdiction in the United State, (5.2 million registered voters) over 4,000 square miles of geography.**   We will be completing the County's development of SW & HW, as well as required certification in time for the March 2020 primary election: This entails producing 31,500 voting machines and providing ALL required services to implement and support.

We will bring this expertise to Georgia. In summary, upon award we will station a team in the Atlanta area. This team will work with State staff to manage the back-office infrastructure of the Statewide deployment, to include ballot layout and Election Night Reporting. Smartmatic has studied how various State agencies have divided the State into regions and has used this to divide the State into XX regions. XXXXXXXXXXXX XXXXXXX forms XXX XXXXXXX other more central Counties forming XXX XXXXXX, XXXXX Counties that form more of the XXXXXXX XXXXXXXX area forming XXXXXXX XXXXXX). Other regions include the Atlantic coastal area, as an example.

After a short time to mobilize, the Atlanta regional team will be expanded and XXXXXXXXXX XXX XXXX **teams will be** XXXX XXXX, XXXX XX XXX **regions** XXXXXXX XXX **regions, plus the** XXXXX X **regions).** Each of the XXX XXXXX teams will have a goal to complete XX County XXXXXXXXX XX XXXX, which includes the pment acceptance cycle. This allows for a deployment timeframe of XXX XXX, which we deem to be adequate to maintain quality

control over the project while maintaining a reasonable timeframe for deployment. XXXXX XX XXXXX XXXX XXX XXXX XXXXX XXXXX XX XXXXXX, the team in XXX XXX XXXXX regions will deploy those XXX XXXXX alongside State and Smartmatic staff assigned to monitor the overall project, correct any issues if they emerge, and assign/reassign the regional teams for maximum efficiency. Regional team members, who will be drawn from top caliber technical recruitment firms as well as Smartmatic staff, will remain on the project to train County staff regarding all aspects of system use.

The Gantt chart below provides a graphical view of the expected timeline, starting from an assumed award in March 2019 through preparation, legacy system disposal, warehouse updates, equipment receipt and acceptance, training, a mock election, Presidential Preference ballot layout, equipment preparation and pre-election test, to Election Day in March of 2020. We also anticipate a likely certification effort concurrent to the deployment process, as requirements will manifest once Smartmatic and State staff begin working together to ensure the success of elections run on the new system.

		Name	Duration	Start	Finish
1		Georgia Procurement Cycle	66 days	3/4/19 8:00 AM	6/3/19 5:00 PM
2		Award Date	1 day	6/4/19 8:00 AM	6/4/19 5:00 PM
3		System Completes EAC Certification	180 days	1/7/19 9:00 AM	9/16/19 9:00 AM
4		System Completes Georgia Certification	20 days	9/30/19 7:00 AM	10/25/19 5:00 PM
5		Stand up State Interface Project Team	20 days	6/10/19 7:00 AM	7/5/19 5:00 PM
6		Stand up Regional Teams	20 days	9/9/19 7:00 AM	10/4/19 5:00 PM
7		Manufacturing Readiness, In-Person Units	60 days	6/24/19 7:00 AM	9/13/19 5:00 PM
8		In-person unit Manufacture	80 days	9/9/19 7:00 AM	12/27/19 5:00 PM
9		Procure and Install CCOS and EMS computers	70 days	8/5/19 7:00 AM	11/8/19 5:00 PM
10		County Warehouse upgrade, acceptance	70 days	10/7/19 8:00 AM	1/10/20 5:00 PM
11		County training	70 days	11/4/19 8:00 AM	2/7/20 5:00 PM
12		election coding, Primary	30 days	12/9/19 8:00 AM	1/17/20 5:00 PM
13		pre-LAT, Primary	15 days	1/27/20 8:00 AM	2/14/20 5:00 PM
14		EV and ED, Primary	11 days	2/18/20 8:00 AM	3/3/20 5:00 PM

11   Georgia has a fairly centralized election creation process where the state builds the ballots for the counties. How does your election management system work efficiently in this state-centered model? Describe how your proposed solution transfers election data and ballot information created at a state level to local jurisdictions for execution, including security features.

Answer:

As stated previously, one of the most relevant benefits of our ECS is the capability to easily and quickly import information relating to geography, precincts, districts, offices, candidates, polling places and voting machines. By having the template completed, the election officer can use the Import Data component of the ECS in order to load all the election data. After that, the system automatically validates the information and verifies if it is well formed. When all the information is in the system, our solution keeps this information in the Jurisdiction Manager component. This information only has to be added once to the system, and it can then be reused between one election event and another. The ECS supports multiple instances that can be installed at different and independent platforms. Furthermore, it can be updated at any time without affecting any election event previously created in the same or in other instance. Once this is done, election events can be created for the whole County or an event in a local jurisdiction, such as townships, or any other local jurisdiction defined in the geography.

Moreover, the creation of another instance of the ECS can be done at any time, so part of the election event creation can be done at state level and then duplicated into other jurisdictions instances to be installed on their corresponding platforms, so the jurisdiction officer can continue with the event creation for local elections or specific ballot designs, machines behavior, voter experience for the BMD, etc. Finally, the system is ready to create election media for configuring the machines.

12   Describe the security features of your proposed solution including, but not limited to, cyber security; physical security; and data integrity verification and validation.

Answer:

Smartmatic has counted over 3.7 billion votes in 5 continents around the world (including the US), with zero errors and zero security breaches. This is the result of a unique approach in the industry. We're the only vendor that has introduced a trully comprehensive approach to security, where from conceptualization and design, up to implementation and testing, we have built security into our system from the ground up. More importantly, we have done so in cooperation with independent trusted third parties at every stage of the process.

One of the keys to this comprehensive approach, is that we have gone beyond pure technical aspects, and also covered the process and context ruling the election technology (POLICY), and be sure that there is an **objective** and **transparent** security conversation with our customers, voters, academics, activists and basically every election stakeholder:

From a TECHNOLOGY point of view, we have designed our system to cover the following aspects:
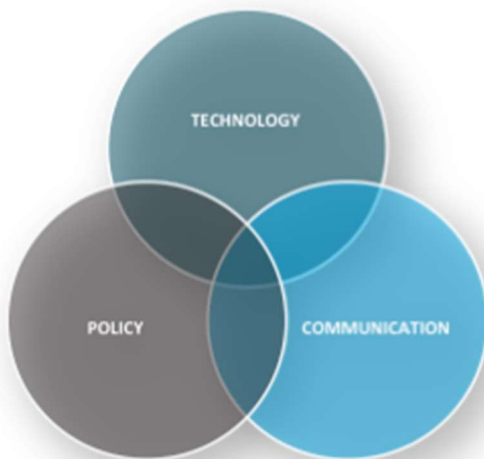
- Confidentiality
- Integrity
- Availability
- Access Control
- Auditability
- Physical Security

At the RFP stage, we would like to share with the State, all details and considerations we have gone through in each of these areas, as well as the details in terms of third party independent validation. In addition, we will also share our efforts and proposal in terms of POLICY, and COMMUNICATION.

Some of the basic practices including currently in our system are explained below. The more elaborated list with more details will be provided at RFP stage as mentioned.

- **User authorization and authentication access control:** Access and privileges to all components in our solution are managed through credentials that are defined during the preparation of the electoral event. The County will be able to create users and provide them with access to the desired features of the EMP or the voting devices. After that, **only authorized users can access the components of the voting system,** herewith avoiding malicious access or manipulation of the front-end components. Smartmatic's solution has been designed to manage multi-level user authorization and authentication access control features, which include digital signing and encryption providing adequate security against unauthorized access. In terms of user authentication, our ECS offers single sign-on (SSO) as an access control method, which allows the County to mitigate the risk for access to 3rd-party sites (passwords not stored or managed externally), and simplifies the experience of the users, reducing time spent re-entering passwords for the same identity.

- **Sensitive data:** regardless of the architecture, for Smartmatic it has always been clear that all sensitive data (defined as candidate and contest information, system identification, configuration files, votes, etc.) always need to be protected. All this information is encrypted once it is first loaded into the EMP. This information remains encrypted until it is transferred to the USB/SD memories**. All data are encrypted with AES 256-bit, and digitally signed under the X.509 standards, which are the strongest and most commonly used industry encryption standards.** During the preparation of the election, signed and encrypted files are stored on the external memory of the voting machines (BMD, PCOS, and CCOS), where the machines decrypt the content of the memories, and verify that the signature of the digital records is authentic, for which it validates that the signature is correct and that the certificate used to validate the signature comes from a trusted source.

- **Voting devices ports:** our voting devices were designed including the strictest security measures to ensure the secrecy of the vote. It has provisions for sealing, as well as tamper evidence, all ports and connectors are protected, even when there are devices plugged in. This feature prevents unauthorized removal of the devices and avoids the ports to be exposed to dust or water during transportation.

- **Network transmission (LAN and VPN):** LAN security will be based on the premises network architecture. Different zones will be created (External, DMZ, Internal, Users) and the communication between these zones will be filtered and inspected in the firewall location. Workstations will be in the user's zone, separated from the servers. Transmissions from the External Zone (machines in the polling places, etc.) will be received in servers located in the DMZ. Information received in the DMZ will be stored

in the servers connected in the Internal zone. An encrypted LAN-to-LAN VPN using firewalls in both extremes will be created between the client HQ and the warehouse. The use of the firewall as a control element will allow for the opening/closing of the traffic, only when needed from the External Zone. To protect the data, all the communication will be authenticated and encrypted between the source and the destination. **From the voting/counting machines to the servers in the HQ, data will be secured using an SSL/TLS tunnel and digital certificates.** In the administrative communication between the workstations and the servers, the SSH protocol will be used, which encrypts and authenticates the users before allowing a connection. **Communication between applications servers will be authenticated and encrypted as well using an SSL/TLS tunnel.** There will be no direct connection to the Internet on any server, and where Internet connection is required to make the election results public, the Internet link will be connected only to a firewall with specific rules to deny any connection from the exterior to any equipment in the user, internal or DMZ zones.

- **Websites protection:** Web applications are further configured to follow web industry standard best practices to avoid security attacks, such as SQL and XML injection and buffer overflow. In addition, as part of our quality assurance processes, we use several tools, such as Kali Linux, to perform penetration testing that allows us to validate the correct application of those practices.

- **Audit logs:** The components under the scope of the solution that Smartmatic offers to the County are capable of maintaining immutable and non-erasable activity logs. Activity logs show all actions that happen in the system, including information, such as the type of event, date and time stamp (comply with ISO 8601), the user who executed the transaction, and description of the event. Having this information, the County will be able to reconstruct events if an unusual situation happens, identifying fraudulent or erroneous changes to the voting system, during any phase of the election, which is a valuable tool to support the post-electoral auditing process, including risk-limiting audits. A risk-limiting audit involves manually examining portions of an audit trail, which voters have had the opportunity to verify, ensuring that their recorded selections are accurate. Solutions which do not produce voter verifiable paper records, such as paperless touchscreen voting devices, cannot be audited this way. However, **since our BMD prints a paper record containing an Audit Identifier (AID), our solution is able to support comparison risk-limiting audits for the ballots cast in a BMD at polling locations.** Our solution can add this AID after the vote is cast, thus preventing the potential threat from violating voter privacy. Once the official results are available on the RMS, the election official can compare a

randomly chosen paper record, with a digital image of the vote and its interpreted votes, by searching the AID printed on the vote receipt by the BMD. The same abilities exist in the CCOS solution as well.

- **Secrecy of voters:** Smartmatic's voting machines strongly protect the sanctity and secrecy of the voter's vote, through two main mechanisms:

a. **Shuffling the vote file system:** using a simple algorithm, the voting machine scrambles the contents of the file system, every time that a vote is cast, so that no external registry of the order in which voters used the machine can be used to trace a vote to a voter. This process guarantees the County that the shuffling occurs in both the logical (file system tables) and physical (disk sectors) instances.

b. **Ballot Secrecy:** no personal information is ever recorded into the system, which makes it impossible for the voting machine to know who is voting at any given point in time.

   These two mechanisms ensure to the County that the record of the vote cannot be traced to the voter.

13 Describe the accessibility features of your proposed solution for voters with disabilities.

Answer:

One of Smartmatic's BMD voting device primary strengths is that it was specifically designed to simplify the voter experience, considering especially voters with disabilities. **The main advantage of our voting system is that no paper handling is required.** At the end of the voter experience, the voting machine prints and shows the voter their selection, and upon confirmation, the vote is cast. This is done with the use of the Cut & Drop printer attached to the BMD and allows the voter to verify the paper record behind the glass of the Cut & Drop printer.

This process is particularly beneficial for voters with mobility impairments, through its ATI component which was developed to serve voters with disabilities who cannot directly interact with the touchscreen. **Regardless the voter is voting visually or aurally (headphones), they can verify the printed selections without having to handle the ballot and decide to approve or reject the paper record.** If the voter approves the ballot, the voting machine generates an electronic ballot cast record, prints an approval mark and a unique code to facilitate risk-limiting audits. Finally, the machine drops the printed receipt in the ballot box. Otherwise, when the voter chooses to reject the paper record, the voting machine also drops it in the ballot box marking it as rejected.

User limitations to interact with the screen include:

- Illiteracy, by not being able to read the text on the screen.
- Cognitive limitations.
- Blindness or severe visual impairment
- Moderate visual impairments, our software includes several features and cues to aid the user to have a better visualization of the choices on the screen.
- Moderate mobility impairments in the upper or lower limbs.
- Severe mobility impairments in the upper or lower limbs.

By combining hardware and software components in the voting solution, Smartmatic's BMD machine offers several voting experiences that allow users with such limitations to be able to exercise their right to vote **independently**, meaning that no assistance from the poll worker or any other person is needed:

- **Audio voting experience**: within this experience, the voter interacts with the software through the ATI device to move through the ballot (contests and choices), make selections and even review the selections. In this scenario, the voter uses a stereo headphone connected to the ATI device to hear the audio files (instructions, choices and contest names) played by the software. As soon as the audio voting experience starts, the voting screen turns black, providing the voter total privacy.

- **Audiovisual voting experience**: the main difference in comparison to the previous one, is that the voting screen is available to provide feedback to the voter, such as current contest and options selected so far.

- **Sip&Puff voting experience**: within this experience, the voter interacts with the software through a Sip&Puff switch connected to the ATI device, to move through the ballot (contests and choices), make selections and even review the selections.

- **Buddy buttons voting experience:** within this experience, the voter interacts with the software through two buddy buttons connected to the ATI device to move through the ballot (contests and choices), make selections and even review the selections.

Our system provides all voters with clear guidance to be able to operate the machine and cast their vote independently.

14 **Have any third party groups vetted the accessibility and/or security features of your proposed solution? If so, please provide their assessments.**

Answer:

Yes, XXXXXXX XXXX XXXXXXXX XXXXXXXX has assessed the system for both

accessibility and security features, and we will provide such assessments as part of any

Formal Proposal.

15 **Does your solution include decommissioning of the existing voting system, including DREs, optical scanners, and electronic pollbooks? If so, please describe your decommissioning process.**

Answer:

Yes, our solution includes decommissioning of the existing voting system, Smartmatic will use licensed providers who will give a Certificate of destruction for the voting equipment.

16   Provide a recommendation for a training plan that takes into account all stakeholders, which includes – at the minimum – state users, county election officials, voters, and voter advocacy entities.

Answer:

Smartmatic has a proven approach to training County staff and election workers, **having trained as many as 46,000 pollworkers for one national election**. Smartmatic understands that, while lessons from training can be applied broadly, each approach to training must be individually crafted and implemented. Smartmatic also understands the unique challenges that come with training election workers. Concepts surrounding adult learning are well understood by Smartmatic. We proactively customize our training materials to take into account the training needs of the election jurisdiction, and offer training materials in a variety of media to respond to the various learning styles of trainees. We ensure that our training programs, train-the-trainer sessions, or written training materials are clear, concise, and informative so that the trainees can absorb concepts easily and thoroughly.

Although this is a statewide deployment, Smartmatic recognizes that each County is different and represents different challenges. While the Central (Atlanta Area) Regional Team will train the State and Atlanta Area County staff, Smartmatic intends to use the experience of each regional team and will share best practices among various County teams when developing and refining training materials and methods. Variations in training models are made in response to a myriad of factors, including how the County is staffed, election worker skillsets, and how voting equipment will be used. Adaptability is at the core of Smartmatic's approach. Smartmatic expects that regional teams will work with Counties to combine some training sessions. We have found that having a varied group of trainees can provide a richer flow of ideas and, if training class sizes are appropriately limited to an appropriate trainer-trainee ratio, can yield a better experience for all trainees.

Despite our experience in developing training materials for elections throughout the world, we fully expect that each training team will customize their approach, methods, and materials based upon real-world experience in training sessions as they happen. It is this type of dynamic training model, coupled with Smartmatic's proven training methods, that makes Smartmatic's training sessions more effective than other election system vendors.

Smartmatic generally provides instructor-led classes to provide an intimate and robust delivery of the materials to trainees. This approach is augmented by making training materials available via the internet. Online training materials can be used by trainees and others to reference

information at times convenient to them, to review concepts covered in training sessions, and gain added insight into themes presented by trainers.

Smartmatic also understands the need to connect with and train members of the voter advocacy community. Training voter advocates on voting systems is sometimes avoided by election management bodies. Providing specific training to these types of stakeholders, however, can demystify the process and can greatly increase the effectiveness of third-party voter education efforts. Ensuring that voter advocates possess accurate information about the operation of the voting equipment can be invaluable in helping marginalized voters, including language minority populations and voters with physical challenges, successfully navigate the system and successfully cast their ballots.

17 **Describe the usable components (e.g., paper and ink) of your voting system solution, including whether or not they are proprietary, have to be replaced by purchasing directly from you, or can be replaced commercially through other vendors?**

Answer:

Consumable	BMD	PCOS	Pollbok	CCOS
Smartcard	PVC. Type ID-1 (ISO 7810) EEPROM memory 8K - 256K Commercial	PVC. Type ID-1 (ISO 7810) EEPROM memory 8K - 256K Commercial	PVC. Type ID-1 (ISO 7810) EEPROM memory 8K - 256K Commercial	PVC. Type ID-1 (ISO 7810) EEPROM memory 8K - 256K Commercial
Memory Device	USB 2.0. Two options: 1. Commercial 2. Proprietary, with trapezoidal form factor matching the trapezoidal funnel in the storage compartment of the machine	SD Commercial	USB 2.0 Commercial	USB 2.0 Commercial
Ballot Box	Propietary from Smartmatic	Propietary from Smartmatic	N/A	N/A
Paper	• Thermal • Width: 3 1/8 in • Weight: 266.53 lb/in2	• Thermal • Width: 3 1/8 in • Weight: 266.53 lb/in2	• Thermal • Width: 3 1/8 in • Weight: 266.53 lb/in2	N/A

Consumable	BMD	PCOS	Pollbok	CCOS
	• Thickness: 0.0032in (82μm) • Commercial	• Thickness: 0.0032in (82μm) • Commercial	• Thickness: 0.0032in (82μm) • Commercial	
Paper Ballots	N/A	• Ballot size of 8,5 x 14-35 inches • Paper width: 2.28in (58mm) • Paper thickness: 0.0023-0.0039 in (60-100 μm) • Commercial paper	N/A	• Paper weight of 110-pound text or 60-pound cover Commercial
Pen Markers	N/A	Fast drying, fade and water-resistant ink Hazardous ingredients according to 91/155/EEC: • INK: Alcohol base, according to RoHS legislation • NIB: Acrylic Fiber 0.012 in (0.5 mm) • Barrels, Cap, Plugs: Polypropylene Reservoirs: polyester fiber Commercial	N/A	N/A

18   For budget purposes, please provide an estimated cost of your voting system solution, including hardware, software, any necessary licenses, peripherals, implementation, decommissioning, training, and maintenance.

Answer:

Smartmatic's prices are provided and based on a range which is dependent on quantities of product/services and/or configuration required.

The following are estimated costs for budgetary purposes – subject to change based on State's actual identified needs and requirements:

Equipment & SW (voting machines, peripheral HW, electronic pollbooks, election night reporting, EMS, licenses)	$XX to $XX Million
Services & warranties (decommissioning, implementation, training & maintenance)	$XX to$XX Million

19 **For budget purposes, is there an option to lease equipment instead of purchasing equipment under your solution? If so, please provide an estimated cost to lease each component of your proposed solution where leasing is an option and whether the leasing option includes updates to the software.**

Answer:

Smartmatic can provide multiple forms of financing that is best suited for the State – we have the financial wherewithal to do so. Details of any financing requires the State to identify more comprehensive information to provide the best financing solution.   Details of any financing would require and be very helpful for the State to identify more comprehensive information for us to provide the very best Financing solution.

20 **Describe your proposed solution's technical support system, including, but not limited to, how it will provide ongoing software and system support; conduct regular source code auditing and analysis; escrow source code; share information about source code auditing and reviews; share information about each code release; and offer security enhancements for state and local officials.**

Answer:

Smartmatic has a development organization that never ceases to bring improvements to the product. We would anticipate a software update immediately after the first election cycle, to optimize the system after the State and Smartmatic obtain feedback from that first use. Following that **the State would be able to take advantage of software upgrades as defined by contract**, which would likely yield an update cycle of XX to XX XXX. Smartmatic's voting machines are able to provide file listings and associated hash values quickly and easily, facilitating audits of the software in deployed units. Together the State and Counties could publish an audit plan and schedule so that, independent of Smartmatic, the Counties could audit the integrity of their equipment. Smartmatic is willing to escrow code to the State, with release triggers representing the norms for voting systems (bankruptcy of the system provider, election contest, etc).

In a similar spirit of collaboration and openness, Smartmatic will share changes associated with all code releases to the State and Counties, and will provide to them the recommended practices for securing their system. Smartmatic is a member of the DHS Elections Infrastructure Sector Coordinating Council and as such receives up to date information regarding emerging election security threats. We will continually synthesize that threat information into policy and tactical actions that our customers can take, then publish recommended actions to the Counties.

21   Describe the physical and power attributes of your Ballot Marking Devices, Digital Scanners & Tabulators, High Speed Scanners and Tabulators, and Statewide Electronic Pollbook System, including but not limited to:

- Dimensions;
- Weight;
- Battery backup system capabilities; and
- Power needs and ability to daisy chain equipment to a power source.

Answer:

Smartmatic in-precinct equipment (BMD and PCOS voting machines, and Pollbook device) have an internal battery that ensures the continuation of voting during the loss of power at the polling place. **If the polling place experiences a loss of power, our devices will automatically switch to the internal battery.** This process is seamless and unnoticeable; however, the poll worker can easily recognize that the equipment is running on battery due to the battery status indicator located at the bottom of the screen. The internal battery provides enough power to all components to allow continued operation for at least six hours for voting machines and two hours for Pollbook system with default manufacturing battery option (nevertheless the battery capacity can be increased at manufacturing stage). When the electrical power returns to the polling place, the equipment will automatically switch back to AC power and begin charging the internal battery again.

Smartmatic's voting machines are deployed with a daisy chain connector and cord, allowing the connection of multiples voting machines to a single outlet, which reduces the struggle of managing and routing multiple long power cords.

The voting machines operates with the electrical supply ordinarily found in polling places (Nominal 120 Vac/60Hz/1 phase). **The products are VVSG 1.1 compliant, thereby will withstand all voltage dips and surges, electrostatic and electromagnetic disruptions, lightning surges, and voltage peaks in excess of commercial requirements without any disruptions of normal operation or loss of data.**

Attribute	Pollbook (VIU-810)	EMB (A4-600)	PCOS (SAES-1800)	CCOS
Power Input	19V @ 3.42Amp ~90W	100-240V @ 50-60Hz 1.2A max	100-240V @ 50-60Hz 1.2A max	100-240V @ 50-60Hz 1.2A max
Dimensions	Width (in): 9.53 Height (in): 4.92 Depth (in): 9.88	Width (in): 29.92 (includes VVPAT) Height (in): 21.26 only the machine / 48.11 Including stand Depth (in): 22.05	Width (in): 15.75 Height (in): 4.76 Depth (in): 15.55	Width (in): 22.2 Height (in): 14.8 Depth (in): 15.55
Weight	4.5 lb	55 lb (includes the VVPAT, ATI and case with stand)	22 lb	86 lb

22   Describe any special storage requirements associated with the components of your proposed solution including climate control specifications and stacking restrictions.

Answer:

There are no special storage requirements. Smartmatic's BMD and PCOS voting machines will be delivered to the County in their own carry cases, which are also used for storage, ensuring optimal stackability.

The carry case has been designed to offer enough internal space to include one BMD or PCOS machine with the necessary components for standard operation in the polling place. There is a designated space within the carry case to include consumables, such as the thermal printer's paper roll, tamper evident seals, etc. No special component is required to store or stack the voting machines. The overall dimensions of the case allow for the maximum usage of standard American pallets in case of stacking with a forklift (space to include two units for each stacking level). Voting machines can be stacked up to 8 levels. Smartmatic's TSBMD and PCOS voting machines, when packed in the carrying case, are able to withstand high and low storage temperatures, ranging from -4 °F to +140 °F and relative humidity from 5% to 85%, equivalent to MIL-STD-810D requirements.
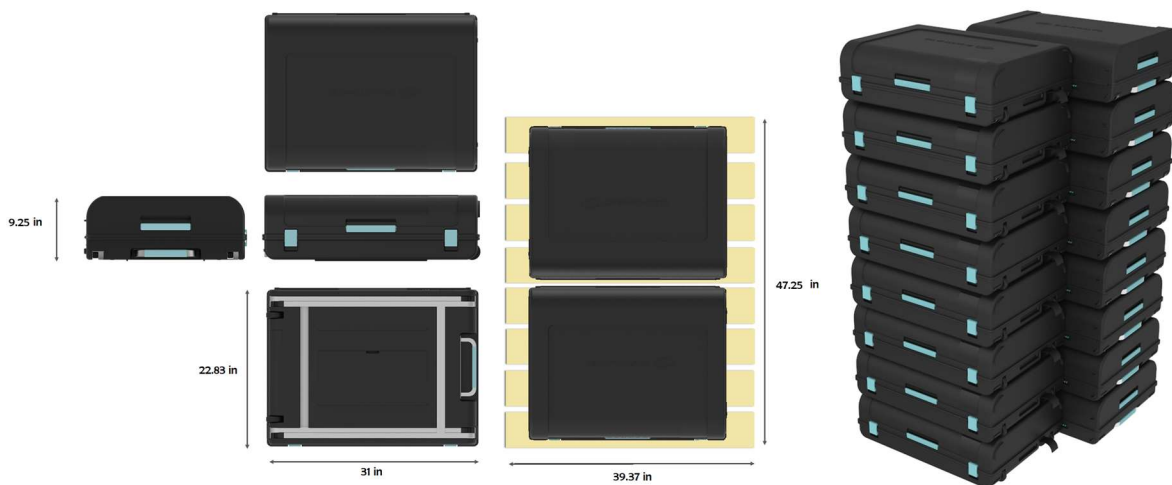
23 In what states and jurisdictions therein, has your proposed solution been installed?

Answer:

Founded in the United States in 2000, Smartmatic is the world's leading provider of voting technology and services.

Smartmatic has overseen elections in five continents, processing over **3.7 billion votes**.

The company serves its customers with a network of **600 employees** distributed in **15 offices** around the world. Smartmatic's headquarters are located in London, United Kingdom.

Below you will find a summary of the some of the main projects Smartmatic has completed around the world:

23.1 ITALY'S FIRST FULLY AUTOMATED ELECTION – LOMBARDY AUTONOMY REFERENDUM 2017

Date: October 22, 2017
Location: Region of Lombardy, Italy
Client: Region of Lombardy

On October 22, the Italian region of Lombardy held an autonomy referendum. To organize such crucial vote, Smartmatic supplied its A4-210 voting machine, designed to facilitate a secure and convenient vote in simple elections (e.g. referenda).

Polling stations	2,842
Software (Voting, Tallying, Consolidation and Publication)	Yes
Software E-360	Yes
Voting machines	24,700
Registered voters	7,895,484
Voting machines with external printers	1,300
Support operators	6,600

23.2 THE PHILIPPINE'S GENERAL ELECTION 2016

Date: May 09, 2016
Location: The Philippines
Client: COMELEC, the highest election authority in the country

For the third consecutive time, the maximum election authority of the Republic of the Philippines (COMELEC), contracted Smartmatic for the provision of election technology and services.

The services performed by Smartmatic included the deployment of staff and equipment, ballot printing, voter training, telecommunications and project management, among many other services. Over 46,000 technicians and field staff were deployed to work with the 92,509 vote counting machines used in 36,805 polling centres.

According to a Philippine pollster -Pulse Asia- 92% of Filipino voters considered the publication of results to be very fast, 93% of them said that voting was easy, and 89% perceived the results as credible. Nearly 9 in 10 Filipinos want their future elections to be automated. Immediately after this election the Filipino Peso gained 2,6% in value.

Polling stations	36,805
Automated	36,805
Voting machines	92,509
Software (Voting, Tallying, Consolidation and Publication)	Yes
Software E-360	Yes
Machines replaced	< 0.20%
Turnout	82%
Printed ballots	56,962,428
Registered voters	55,736,801
Offices to be elected	18,025
Field staff	> 46.000
Geography	7,107 islands

23.3 2014 ELECTIONS FOR THE EUROPEAN, REGIONAL AND FEDERAL PARLIAMENTS IN BELGIUM

Date: May 25, 2014
Location: Belgium
Client: Belgian Ministry of the Interior

In 2014 Belgium elected representatives to the European Parliament and also representatives to the country's Regional and Federal Parliaments.

During these complex elections Smartmatic participated as a technology supplier and operator.

The Smartmatic technology included:

Voting machines	17,457

Software (Voting, Tallying, Consolidation and Publication)	Yes
Software E-360	Yes
Machines for poll station presidents	3,725
Electronic urns, e-URN	3,725
USB drives	8,400
Smart Cards	185,000
Votes cast	7,500,000
List and preferential votes cast	14 to 16 million

23.4 BRAZIL´S SUPPLEMENTARY MUNICIPAL ELECTION 2012

Date: October 07, 2012
Location: Brazil
Client: The Supreme Electoral Court (TSE), highest electoral authority in the country

Brazil hired the services of Smartmatic to support the deployment and configuration of satellite devices that enabled voice and data communications in the country's 15 most isolated states. Additionally, Smartmatic offered election support and maintenance to the batteries in the machines used during the municipal elections. These services implied the hiring and training of 14,000 technicians in 27 states and 5,568 municipalities, who worked at the 480,000 polling stations.

Kits requested	1,252
Backup kits (5%)	67
SMSat type 1	1,137
SMSat type 2	182
Extra batteries for the SMSat type 1	65
Extra batteries for the SMSat type 2	19
Minutes of the type 1 package	1,137
Minutes of the type 2 package	182
Transmission software	Yes

23.5 BELGIUM'S PROVINCIAL AND MUNICIPAL ELECTIONS 2012

Date: October 14, 2012
Location: Belgium
Client: Flanders and Brussels

Smartmatic participated as a technology supplier and operator for 3,340 polling stations distributed across 153 communes in the regions of Flanders (308 municipalities) and Brussels - Capital (19 municipalities).

Voting machines	17,400
Software (Voting, Tallying, Consolidation and Publication)	Yes
Software E-360	Yes
Machines for poll station presidents	3,700
Electronic urns, e-URN	3,700
USB drives	8,400
Smart Cards	17,300

23.6 Chicago – Primary Elections 2006

Date: 2006
Location: Cook County and the City of Chicago
Client: City of Chicago Board of Elections and Cook County

Smartmatic designed and deployed voting technology to facilitate voting, results transmission, vote tallying and other crucial tasks of election administration.

The Edge2Plus, a touchscreen voting machine specifically designed and manufactured for the US market, was sold in 2005 to the City of Chicago and Cook County, IL.

Registered voters	
City of Chicago	1,298,872
Cook County	1,383,846
Precincts (City of Chicago and Cook County)	3,404
Technology devices	11,422
Software (Voting, Tallying, Consolidation and Publication)	Yes
Software E-360	Yes
On-site operators support	+50 per election

24 On-line Ballot Delivery, An Additional Innovative Solution

If desired as part of a Proposal, Smartmatic will offer its On-line Ballot Delivery (OBD) system as a second channel for remote voting. The Smartmatic OBD solution is engineered for customers who want to implement a remote online ballot delivery platform, which offers convenience to mark ballots anywhere. OBD is a fully accessible web-based platform, which allows eligible voters to access their ballot via any web-enabled device (desktop, laptop, smartphone and tablet), mark their selections and produce a printed, scannable ballot, or a unique, cryptographically secured ballot with a QR code summary of their selections. The printed version of this ballot can be sent in an envelope for vote-by-mail, and either a printed version or a digital one can be taken to a polling place to be scanned by a BMD for rapid and instantaneous vote validation and casting.

In addition, Smartmatic proposes using this electronic ballot delivery solution for military service personnel and overseas voters. The Board could benefit by using OBD as their electronic ballot delivery solution, because this product is fully integrated with the voting solution we are proposing. In addition, OBD not only reaches overseas voters in a more usable and accessible manner, but also brings that benefit to all voters either voting by mail in early voting or in-person during Election Day