

An Atlantic Council Report:  
**Democracy Rebooted**  
The Future of Technology in Elections

**Comments and Feedback by  
the TrustTheVote Project**

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## Our Take—An Executive Summary

We appreciate the Atlantic Council’s production of research consuming a year and culminating in their Report, *Democracy Rebooted*. There are some great ideas, points, and suggestions contained therein. We understand that any production of this size requires prioritization, trade-offs, and yes, “*leaving pieces on the cutting room floor*.”

However, we note the Report’s “Forward” opens with this paragraph:

**F**rom small start-ups to major corporations, technology has disrupted and revolutionized business, civil society, and our daily behavior. Technology has infiltrated the most ordinary tasks—like calling a taxi—and created extraordinary possibilities—like students in rural villages streaming classes taught a world away. As both consumers and citizens, people have come to expect the world to keep pace with modern technology.

We submit that these elements from above:

- “*technology has disrupted and revolutionized business, civil society...*”
- “*like students in rural villages streaming classes taught a world away.*”
- “*people have come to expect the world to keep pace with modern technology.*”

...all describe the power of open source software in society today. But let’s back up and ask ourselves, “Given the fact that we only have so much room to publish this year long study” (*which is comprised of 21 pages of substantive content*), “what content really addresses the title, ‘[Democracy Rebooted: The Future of Technology in Elections](#)?’”

We believe that if the title is accurately suggestive of the content, then we should not expect a number of elements that were missing in favor of focusing on a single theme: the global need for, and benefit of “*paperless electronic voting*.”<sup>1</sup>

While we sincerely appreciate the work that the author clearly put into this production, we believe the Report could have been significantly fortified given the following observations:

- A. **Fuzziness of Terms and Phrases.** There was a blurring of the concepts and definition of eVoting. From our perspective, **eVoting**—*perhaps better termed “digital voting”*—addresses the used of digital means to cast and count ballots. We think there is a discussion opportunity missed in the Report about if and how to conduct evidenced-based eVoting, including the ability to audit.

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<sup>1</sup> We clearly understand that research efforts of this magnitude require funding to complete. We also understand that inevitably this may require accepting funding from sources, some which may have pecuniary interest in the subject matter. For example, we’ve seen this played out for years in pharmaceutical research. It is an unfortunate truth that no matter what one intends (*and to be sure, the Atlantic Council has a clause in their underwriter’s agreement addressing research independence*), the optics of the result are undeniable. This Report, which despite its title, focuses exclusively on a single question regarding a specific technology in voting, which is the focus of Smartmatic products, rather than the broader topic of election administration.

- B. [Lacking in Discussion of Evidenced-based Elections](#) (*need and value*). We note in the Forward, the author points out the opportunity to proactively ensure “*implementation of technology strengthens democracy.*” We assume that a strong democracy is predicated on verifiable elections. However, no substantive discussion is presented on the ability to ensure verification and transparency in elections conducted with eVoting technologies (*e.g., the lack of an audit trail*). We were very hopeful this Report would spend some content examining how to address that and what the innovation opportunities are.
- C. [Lacking in Discussion of Alternative Models for Innovation](#). This comes back to what we set forth at the beginning. There are different ways to bring about innovation in elections administration. We had hoped for two things out of this Report: [1] discussion about innovation throughout the ecosystem and how incremental steps of innovation could improve the voter experience throughout the process and not simply train on voting machinery; and [2] the concept of public ownership through open source principles. The OSET Foundation is in its 9<sup>th</sup> year of work to create publicly owned election technology as critical democracy infrastructure. We’re surprised the topic was *not addressed at all* as an ingredient to innovate electoral processes. There are several projects and efforts underway besides the work of the TrustTheVote Project. Rice University and Travis County have been working on technology to innovate voting called [STARVote](#), and it is open source. LA County—the author’s former jurisdiction—has a significant open source based effort underway. San Francisco City and County also announced late last year of an open source initiative. And it’s global in nature: there’s also [FreeAndFair.us](#), [Prime III](#), [Scantegrity](#), and [Coasca](#). The International Foundation for Elections System (IFES) is known to be interested in open source (*publicly owned*) alternatives. The Knight Foundation and Democracy Fund both are backing open source initiatives. Add to that International IDEA noted the TrustTheVote™ Project during a Stockholm workshop in September 2013 as “*the only project of its kind to bring transparency, open source, and public ownership to electoral technology.*” there is plenty of growing effort in this alternative ownership model that qualified for at least an endnote or footnote in the Report.

With that set forth as a summary of our view of this Report, the balance of this paper turns attention, in outline form for easy reference to the content, to a section-by-section, consideration of the Report. We emphasize there is much goodness in the content, and as you will read, we agree with several points. There are a few points that we respectfully disagree with and we explain why.

## Reviewing the Content—Section by Section

What follows is our review of the content of the Atlantic Council Democracy Rebooted Report. This is a very useful work by a global election expert [Conny B. McCormack](#) intended to catalyze a discussion about “*the future of technology in elections.*”

### 1. Forward and Introduction

- 1.1. We agree that election technology is lagging. However, the entire ecosystem is over-due for innovation and not simply the casting and counting of ballots. In fact, if we wish to bring operational efficiencies and innovation to the polling place, we believe innovations need to take place throughout the ecosystem, especially when so much of the election administration aspect drives the ultimate polling place experience for voters and officials alike.

- 1.2. As veteran technologists, we're not as convinced as some might believe that the "*machinery is there*" – rather we believe there is much to be done to improve all aspects of election administration, including the process of voting.
  - 1.2.1. The digital age is shifting the infrastructure from legacy physical data centers to virtual, cloud-based, zero-footprint data centers. An innovation nowhere discussed in the Report.
  - 1.2.2. New technology can support innovations from digital ballot distribution to vote centers, and many processes for both voters and officials alike.
  - 1.2.3. We believe there are enormous opportunities for improvement across the entire ecosystem regardless of a locality's choices for ballot counting and casting.
  - 1.2.4. In terms of voter-facing technology as it may apply to engagement and turn-out, here too, we believe two things:
    - 1.2.4.1. That civic education (*at least in the U.S.*) is imperative to instill for new generations the sanctity of ballot secrecy, the importance of voter anonymity, the value of the ballot as an artifact for the foreseeable future; the perspective that while speed is convenient it need not be the only measure of trust or integrity because sometimes accuracy demands care which may require some latency in reporting; and
    - 1.2.4.2. There is much to be done to improve the experience of voting surrounding the actual casting of ballots before, during, and after that exercise.
  - 1.2.5. We also believe significant R&D lies ahead in order to develop user-friendly, verifiable, accurate, secure and transparent digital ballot-casting—directly and remotely.
  - 1.2.6. Most important: we emphasize another remark in the Forward that there is a proactive opportunity to ensure the *implementation of technology strengthens democracy*—with our highlighted emphasis on the those five words (*especially "strengthens"*). We believe the Report lacked substantive discussion on this specific point because a strong democracy makes evidenced-based elections a priority.
- 1.3. We are neutral on whether participation is a key point — that's a political issue. From an American viewpoint for instance, some segments of the U.S. polity place high emphasis on participation and some acceptance of risk of fraud. Other segments place high emphasis on fraud prevention and integrity of election results, with some acceptance of risks of disenfranchisement. In most cases risks are not assessed, but simply assumed as low.
  - 1.3.1. Rather than participation — *which is an outcome* — we believe there should be a focus on technology enablement of (a) enhanced access to voting and ability to provide equal access; (b) transparency of outcomes, enabling observers to make their own judgments on election validity and equal access, based on open public data.

- 1.4. New technology can improve the many existing methods of ballot casting and counting to bring about more ease and convenience without requiring a locality to alter its choice of method.
  - 1.4.1. The key point for us is that as much as “technocrats” (*not necessarily technologists*) perceive that ease and convenience can only be achieved by what we refer to as “smartphone voting” there remain some tall technical obstacles to overcome both in the integrity architecture and the user experience.
  - 1.4.2. In the mean time and as a progressive pathway of innovation there is much that can be done up to that point of *individual* remote ballot casting. (*“Individual” added to distinguish the remote casting from a vote center, which while bearing many of the technical challenges of individual remote, presents a venue where some integrity assurance infrastructure can be put into place.*)
- 1.5. The example presented by **Susan Molinari** of **Google** regarding the Voter Information Project (VIP) is an excellent early example of new voter services enabled by open data. It is the proverbial “*tip of the iceberg.*”
  - 1.5.1. It illuminates (*for us and our cause*) an over-arching principle essential to electoral innovation: the development of open-data and protocol standards—here and globally, as well as standards for system architectures, design guidelines, and certification processes.
- 1.6. However, we take exception to the point about an inability to vote if the voter is *not* within four blocks of their residence—especially since it seemed to be directed at the U.S. experience (notwithstanding the final dependent clause “*but in a war-torn country you can still use an ATM.*”)
  - 1.6.1. Nearly every U.S. jurisdiction has some alternative means of access to the ballot besides in-person precinct voting, ranging from no-fault and/or permanent absentee, to vote centers and even early voting.
  - 1.6.2. The challenge in the U.S. is the wide variation from state to state and even county to county in what options are available, how or whether its funded, and how well that’s communicated to the voters.

## 2. Technology in the Election Process

- 2.1. Online Voter Registration (OVR) is a success story for new technology in elections.
  - 2.1.1. It’s important to ensure that OVR implementations do not introduce new types of integrity compromises or increase the attack surface for existing problems. Some implementations have had some initial problems. No need to name names; they know who they are.
- 2.2. Similarly, digital poll books (“DPBs”) are important advances to increase ease and convenience for both sides of the table, however our same caveat applies. DPBs create new technical requirements for data protection, which if not carefully addressed, can open new methods of fraud and disenfranchisement. We’ll avoid the technical rabbit-hole, but this involves for instance, tampering with voter check-in log data.

- 2.3. Likewise the same cautions and considerations apply for election result data compilation and dissemination. Great opportunities, but not without the need for integrity-centric design.
- 2.4. We strongly agree that society collectively characterizes its digital interactions in their day-to-day activities differently than from their civic duty to vote and are wary of sweeping change.
  - 2.4.1. The back-and-forth of platform adoption and decision in the Netherlands is a good example of this.
- 2.5. Considering rate of adoption of digital voting we need to carefully (*in the U.S.*) define “e-voting” for which there is important distinction from other nations.
  - 2.5.1. We note that many countries surveyed in the report illustrate a tension between the two extremes of in-person ballot casting: from hand-marked hand-counted (“HM/HC”) to paperless digital ballot casting where audit and recount is difficult if not impossible.
  - 2.5.2. In the U.S. HM/HC is limited to a few jurisdictions for local-only elections. Paperless digital voting has been on the way out for several years—first with the introduction of VVPATs, and then with the migration to OpScan count of paper generated ballots by hand marking or by accessible ballot marking devices.
  - 2.5.3. So, if by “e-voting” we’re referring to use of digital systems in some aspect of ballot counting and casting, then e-voting has been widely and nearly universally implemented in the U.S. at least—but not globally (*although the largest Democracy in the world, India, does engage forms of digital means today.*)
  - 2.5.4. So then, why have other countries been slow to follow an adoption-curve similar to the U.S. experience?
    - 2.5.4.1. First, the U.S. is unique in its decentralized governments and election administration, and local choice for nearly every aspect of election administration. Add to that, HAVA legislation played a role in expediting digital adoption.
    - 2.5.4.2. Parliamentary democracies, especially those with strong central or federal electoral bodies, are vastly different than the U.S. with differing needs, objectives, and traditions all creating a different cost/benefit calculus for the use of technology.
    - 2.5.4.3. Our largest concern remains with regard to adoption of digital voting: *if there is no way to audit machine counts, then accuracy and transparency are moot.*

### 3. Why Use Digital Voting?

- 3.1. We agree with the Report’s four principle benefits and advantages.
  - 3.1.1. We are not convinced in our work that “digital means” necessarily will prevent fraud; it certainly can aid in fraud detection and possibly prevention, but without integrity-centric design no amount of digital “innovation” will necessarily reduce fraud, let alone improve integrity.

- 3.1.2. Yes, ballot spoilage can certainly be reduced and under-voting or over-voting can be detected and flagged.
- 3.1.3. Speed creates a perception of trustworthy results. Speed may well create a sense of confidence, and delays may well foment suspicion, but we believe that is more a product of the transparency of the process. We are all for speed, but will trade accuracy for speed if the choice is required.
- 3.1.4. Accessibility certainly enhances inclusion, and in the U.S. accessibility is compulsory. We are proponents of providing digital means for those with accessibility challenges to participate. Our issue remains with such devices that have insufficient (*or lack of*) means to audit the process of balloting.
- 3.1.5. We reiterate an earlier point about integrity and emphasize our neutrality over the perception of security in digital voting systems. Security assurance of any all-digital system is impossible, which makes risk management difficult. In the U.S., the challenges of system security assurance are mitigated through ballot audits that can detect errors to a degree of statistical confidence chosen by election officials. But by definition, that eliminates the notion of 100% digital system (*i.e., the absence of any paper artifact*).
- 3.1.6. We have a disagreement with a point made on Page 7 of the Report, regarding a “*widespread misunderstanding*” about the susceptibility of stand-alone machinery to manipulation. The assertion is incorrect in principle and practice. That machinery is not connected to any external network is *not* dispositive of the issue in the slightest. Individual machines can, and are compromised by viral infections that can be introduced at any stage of preparation or maintenance of machinery. The most glaring and notorious example of this may be **Stuxnet**<sup>2</sup> a work reportedly of American and Israeli cyber intelligence operations—which is the famous virus introduced by a USB memory stick that ultimately caused the meltdown of Iranian nuclear reactors by infecting computer equipment that *was never connected to any network*. There are numerous examples of this class of machine compromise. Therefore, we respectfully (*and strenuously*) disagree with this discussion on Page 7 of the Report. The media *does* concentrate on web-related malicious hacking, indeed, but that is because the public most easily relates and contextualizes those attacks given their reliance on the World Wide Web. The distinction is valid, but such a focus makes stand alone equipment *no less* vulnerable.
- 3.1.6.1. Another such malware surfaced just three days ago, and was reported<sup>3</sup> in a popular technical news journal. Here is an excerpt: “This one is unlike the others. This alarmingly stealthy Trojan cannot be copied or replicated and can set up residence in a computer without the user ever having a clue.

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<sup>2</sup> <https://en.wikipedia.org/wiki/Stuxnet>

<sup>3</sup> <http://www.techtimes.com/articles/144306/20160326/smooth-criminal-meet-usb-thief-a-malware-that-can-attack-systems-without-leaving-any-trace.htm>

Nicknamed 'USB Thief' by security experts from the ESET antivirus firm, this new USB Trojan is equipped with self-protecting mechanisms that enable it to escape detection. It can even infiltrate “air-gapped” systems, making it an exceptionally useful tool in industrial as well as cyber espionage.

In relation to this malware's ability to access air-gapped computers; that is, computers *not* connected to the Internet for security reasons, the Trojan is introduced to a system via USB devices that contain portable installers of widely-used applications such as Firefox, NotePad++, and TrueCrypt. USB Thief exploits this trend by penetrating the command chain of these applications either as a plugin or a dynamically linked library (DLL), which is why each time you run the application, the Trojan is also executed in the background.”

- 3.1.7. We agree with the challenges of clear comparative cost analysis in order to make an informed choice. We are in the midst of an industry analysis of elections technology now with the Wharton School at the University of Pennsylvania to examine some of these cost issues.
- 3.1.8. In the U.S. HAVA legislation mandated adoption of digital technology and provided considerable funding to offset the costs. Today, the mandate remains, but the funds have been expended. There was no plan for update, upgrade, and continual innovation. That was left to the States in exchange for the initial resources of HAVA. Now, the cost-benefit is a local matter, with widely varying views driven by financial analysis, policy discourse, and politics.

#### 4. Global Application of Digital Voting

- 4.1. Of course, there is not a lot of experience from the U.S. that is applicable to parliamentary democracies with strong central or federal apolitical elections bodies. And just because something may work in the U.S. does not suggest its automatically applicable abroad.
- 4.2. In the Netherlands and Ireland, hand count of ballots is feasible (*though perhaps missing benefits of OpScan count with risk limiting audits*), while in the U.S. few if any election officials consider it feasible above the level of purely local village or township elections. Use of election technology for ballot counting is de facto required in the U.S.
  - 4.2.1. We're also a little concerned about the completeness in research and reporting on the Netherlands efforts. According to an academic article<sup>4</sup> by a British researcher: *In 2013 the government set up a new committee to investigate if e-voting could and should be used. This committee published a report called 'Every vote counts – Electronic voting and counting', in December 2013. The committee concluded that it would benefit the election process to use electronic means to count votes and preferably also to cast votes. The committee presented*

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<sup>4</sup> [http://www.e-voting.cc/wp-content/uploads/downloads/2014/10/evote2014\\_loeber\\_p43-46.pdf](http://www.e-voting.cc/wp-content/uploads/downloads/2014/10/evote2014_loeber_p43-46.pdf)

*a model using a vote printer and vote counter. This model allows voters with a physical disability to vote without help while the use of the vote counter eliminated the problems with the inaccuracy of hand counting. It is possible to check the integrity of the system because the printed votes can be hand counted to verify the tally by the vote counter.*

- 4.2.2. However, the Atlantic Council Report did not mention that this Dutch committee recommended OpScan of paper ballots marked by computer.<sup>5</sup> The report identified cost as the key barrier to procuring a new system. Based on calculations from a Belgian cost assessment, reintroducing electronic voting equipment for the Netherlands' twelve million voters was estimated at \$100 million Euros (*approximately \$110 million USD*).<sup>6</sup>
- 4.2.3. So, it's noteworthy that there is opportunity for e-Voting to include a paper artifact for verification purposes. Incidentally, we also dislike excessive paper-costs, but a paper audit trail is very different from producing reams of blank ballots never used.
- 4.3. Brazil's use of paperless voting follows in some sense the U.S. path in the late 19th century to use mechanical means (*lever machines*) in response to a desire to combat endemic fraud in paper ballot hand counting.
  - 4.3.1. That experience shed new light on another requirement of U.S. voting — the production of evidence for recounts and the resolution of disputes by losers.
  - 4.3.2. New clarity on that requirement has led to the desire for OpScan rapid counting in many states. Brazilian politics and culture may not require the production of evidence in that same way as in some U.S. states.
- 4.4. India's digital voting machinery also respond to a different cost/risk model, where the use of EVMs outweigh the difficulties of HM/HC in India's large complex multi-language mixed-literacy electorate, despite the lack of evidence for resolution of disputes.
- 4.5. Estonia's example has little applicability to the U.S. Leaving aside the grave technical difficulties of iVoting, Estonia's election requirements differ from those of the U.S. in many ways.
  - 4.5.1. One is a prior smart-card based universal national ID card developed for e-Gov — Estonia had essentially already completed one of the major investments in a prerequisite for iVoting. The prospect of a similar investment in the U.S. however, is remote.

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<sup>5</sup> Leontine Loeber, "E-voting in the Netherlands; Past, Current, Future," University of East Anglia, Oct. 2014, [http://www.e-voting.cc/wp-content/uploads/downloads/2014/10/evote2014\\_loeber\\_p43-46.pdf](http://www.e-voting.cc/wp-content/uploads/downloads/2014/10/evote2014_loeber_p43-46.pdf).

<sup>6</sup> Eddy Habben Jansen, *Electronic Voting in the Netherlands*, The Hague, Netherlands, Feb 2012, <https://www.prodemos.nl/content/download/5147/25693/file/Electronic%20Voting%20in%20the%20Netherlands.pdf>.

- 4.5.2. Scale is another difference. Again, with e-Gov already in place for this small country, it was feasible to set up the IT infrastructure for iVoting both technical, procedural, and human. Few if any U.S. localities could say the same.
- 4.5.3. One more among many differentiators is *risk tolerance*. Estonia’s government accepts the risks from cyber-attack on its e-Gov systems, has made investments in cyber-defenses, and in preparedness for attack and system un-availability — as shown in response to the attacks of April 2007. In the U.S. by contrast, the court of public opinion would never willingly accept the near certainty of cyber-attack on iVoting systems, and few elections bodies would or could budget for the level of cyber-defense capability that is typical of large U.S. corporations.

## 5. The Way Forward

- 5.1. We certainly agree with a multi-stakeholder consensus-building model, which we employ at the TrustTheVote Project, and utilize a meritocratic process rather than strive for impossible unanimous support.
- 5.2. The question of whether new generations will want (*or demand*) digital innovations lest they abandon participation is a topic deserving empirical study—and no such study exists yet.
  - 5.2.1. We’re formulating such a study now to examine millennial voter sentiment to attempt to gain insight on what exactly this important and large population really wants (*or demands*) out of their voting experience. We’re preparing and soon to launch such a study as a collaborative effort with Tufts and Georgetown—for the U.S. at least.
  - 5.2.2. We believe, however, the “*jury is out*” on the extent to which ballot casting and counting methods will negatively (*let alone positively*) impact voter participation. There are many innovations that can and must be introduced to provide for ease and convenience to the process and civic duty of voting—up to the actual point of just how many different *digital* ways there are to cast a ballot.
  - 5.2.3. As far as enfranchising a mobile population, Vote Centers can mitigate the slight inconvenience our civic duty and civil right extracts from us (*at least in the U.S.*). At the very least we imagine those (*non-military*) who plan or find themselves absent on Election Day in the vast majority of U.S. jurisdictions can plan ahead utilizing absentee processes. For military overseas voters, every effort (*digital and otherwise*) should be taken to protect their ability to participate.

## 6. Recommendations

- 6.1. We agree on the need for financial analysis. While our Wharton collaboration will not completely address this analysis, it will provide some basis for such an analysis. What we believe is necessary is a method that can be repeatedly performed for different jurisdictions, with different cost components and benefits.

- 6.1.1. We differ from the Report on the notion that there is a debate on the use of digital technology in elections. Here again, we need to pause and observe that the issue may balance on choice of terms — “elections” verses “voting.” If we’re discussing the actual process of “voting” we are more in agreement.
- 6.1.2. The debate to the extent it deservedly exists should be about the means and methods to ensure verification, accuracy, security, and transparency in the application of digital means to ballot casting and counting. We believe that evidenced-based elections technology is essential to achieve this “V.A.S.T” mandate.
- 6.1.3. Regardless, we maintain there is a wide range of election administration tasks both inward (official) facing and outward (*voter*) facing that can benefit from digital innovation—much of it coming in the form of zero-footprint data center opportunities from voter registration and services, to ballot design, layout and distribution, to election management systems, and to results reporting and analytics.
- 6.2. We further agree on the opportunity of establishing international standards and guidelines. We’re deeply engaged in U.S.-centric efforts in this regard, but are maintaining a global view as we begin working with jurisdictions outside of the U.S.
  - 6.2.1. Turning to page 18 first column, first full paragraph beginning with “*Some companies, in particular those with a track record...*” It would be helpful to explain what “*self-regulate to acceptable standards*” means in this context. We’re unaware of “*acceptable standards*” and it would be great to better understand who or what entity has opined on the definitions of “*standards*” and “*acceptable.*”
- 6.3. Finally, we completely agree on the importance and value of apolitical independent, and intellectually honest electoral management bodies (EMBs).

## In Closing

Some closing comments are in order here and in part address the Report and in part address the Round Table to discuss this Report on Tuesday, 29 March 2016.

1. **Considering the Larger Picture.** We sincerely believe that a report and survey of genuine innovations in election technology is warranted. We are approaching the Atlantic Council about working with our 9-year old Silicon Valley based nonprofit election technology research institute to do precisely that, as a complement to the work of the Report. We expected technology innovation to be more addressed in the Report. In fact, a point we are confident the author and the Atlantic Council agree with us on is that the Report narrowly focused on the challenges and opportunities of ballot casting and counting using digital (*electronic*) technology. There is nothing wrong with that focus, except the title led us (*and many we’ve spoken with*) to anticipate more and something different.
2. **Keeping Sight of a Fundamental Point.** The Round Table also brought a point to light insofar as observing that there is actually a plurality of issues raised by the Report. These issues include both principles and technology. One such “principle” that the OSET Foundation’s Co-founder and Chief Development Officer attempted with limited success to bring up at the Round Table concerns the notion of election

technology being categorized as “*critical (democracy) infrastructure*.” If that is the case, then perhaps there is an argument that this infrastructure—specifically the software layer—should be a public asset held in the public trust. That does *not* suggest the demise of the commercial industry to deliver, deploy, service, and support the resulting technology. On the contrary, we believe it rejuvenates and recharges the currently flagging industry to do so. Importantly, such ownership is enabled by open source principles of the software source code (*and vice versa*), but the notions of open source should *not* be the focus here and an over-emphasis on the principles of open source allows the discussion to run astray. Such is what unintentionally happened at the Round Table.

3. **A More Important Issue of Adoption.** A related point exists about election officials and EMBs concern for how a public (*open source*) infrastructure would be maintained—who would they call in the event of problems or required technical support or maintenance? This is a business opportunity that we are convinced (*from what we’ve witnessed in similar industries*) will be fully met by both market incumbents with the greatest experience and domain expertise, to new market entrants who will launch with or quickly acquire the necessary domain-specific knowledge. The fact remains; the core of election technology is service and support. Zero-footprint cloud-based technology and new modular, componentized commodity hardware based systems present ripe opportunity for an increasingly service-oriented technology world. EMBs and election officials will call the same commercial providers who will deliver new technology based on the publicly owned open source software technology.

We anticipate that existing vendors of products and services today will evolve their business to deliver new products and technology—especially if customers demand it. To this extent, the cost-savings, outright ownership, and transparency characteristics alone could be sufficient demand drivers.

Consider an analogy. Suppose that a new type of open source computer chip was developed and made available, either by an academic or nonprofit research institute or even Intel®. Would adoption of the new chip be inhibited by a customer’s concern as to who would support the technology? Of course not. The customer would look to the vendor who sold and/or delivered a computer integrating that open source chip technology. It is no different here. Open source in election technology is like “*Intel® Inside™*” (*to borrow the chip-maker’s service mark for explanatory purposes here.*) The same is true of the open source software that permeates many digital devices today and nearly all web sites (*e.g. all Android™-based smartphones and tablets*).

4. **What Exactly Was Left on the Cutting Room Floor?** Many readers will, by this point of reading this document, have already learned of the remark by the Report’s author regarding having dropped consideration of open source innovations as part of the future of election technology on the proverbial “*cutting room floor*.” Without a doubt after 9-years of diligent selfless efforts by the TrustTheVote Project Core Team, several contributors—most who have never been paid, and some 4-dozen others were all left feeling a bit diminished, marginalized, and irrelevant by Ms. McCormack’s remark that discussion of open source innovations was forced to the cutting room floor for the sake of other priorities and limitations in scope and size of the Report. However, through a (*perhaps*) poorly framed remark by Mr. Miller, Ms. McCormack was able to avoid the real issue with her reply. The real issue that was left on the cutting room floor was (*is*) a principle of how government should prioritize the software technology of election administration as a critical public asset. Open source

is simply a vehicle to achieve public ownership. We believe this was more than worthy of consideration in the Report. That concept should be the catalyst for an important, maybe imperative conversation. The conversation should be about how to inject real innovation into elections technology, while simultaneously improving the ease, convenience, and integrity of election systems and technology, as well as revitalizing a flagging industry to deliver, deploy, and maintain that technology. This does not even consider the considerable cost-savings potential of shifting the software layer from a black box to a glass-box element. We can only hope that this topic of discussion will have another opportunity to be raised.

5. [A Clarification on Proposed Mandates Verses Principles](#). It is also possible that some may misconstrue part of Mr. Miller’s remarks about the public ownership idea and critical democracy infrastructure concept. We are *not* taking the position that making the (software) technology layer of elections administration publicly owned should compel elections jurisdictions to adopt, adapt, and deploy it. Not at all. Public ownership and critical democracy infrastructure are suggested policy principles that can foster a conversation about how to prioritize the funding and support for this imperative component of democracy administration.
6. [Technology in Elections is More Than Voting](#). We also want to re-emphasize a remark made by [Sam Derheimer](#) of the [Pew Charitable Trusts](#) at the Round Table that election technology is more than voting, and there are many opportunities to greatly innovate the process of elections leading up to the polling place and ballot casting and counting. Innovating the technology of those processes and tools helps the polling place experience. In fact, the polling place experience of casting and counting ballots depends on these surrounding services and their innovation. Thus, we believe that consideration of innovation in the process of voting necessarily must include these collateral processes. Such is a driver of the TrustTheVote Project. While in the lab we’re at work on casting and counting, we are primarily focused on election administration tools such as voter registration, voter services, ballot design, layout and distribution, digital poll book, election management systems, and election results and analytic reporting services. Some of these tools are already being used in production.

Finally, we thank [Conny B. McCormack](#) and the [Atlantic Council](#) again for their important work on the Report, [Democracy Rebooted: The Future of Technology in Elections](#).

Notwithstanding:

1. The inevitable optics of having had an eVoting vendor support the research; or
2. The limited view of election technology to the paperless world of digital ballot casting and counting; or even
3. The unintentional marginalizing of the aspect of election technology innovation during the Round Table itself;

the Report is catalyzing an imperative conversation of how to innovate this critical democracy infrastructure in the digital age.

This is particularly important in the U.S. where we have severely aging and at-risk obsolete machinery; where trust is paramount; and where citizens are increasingly disillusioned by unchecked campaign finance, hyper-partisanship, and increasing tribalism of politics. And this is equally, perhaps even more important globally where there are similar and different problems in different parts of the world.

We appreciate the opportunity to participate in that conversation, and the opportunity to advocate for the principles of open source, public ownership of important aspects of electoral technology as “*critical democracy infrastructure*,” and evidenced-based elections.

Respectfully,

**The TrustTheVote Project Core Team**

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