

**HOUSE . . . . . No. 103**

---

**The Commonwealth of Massachusetts**

PRESENTED BY:

*Nicholas A. Boldyga*

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:*

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act relative improving voting systems and expanding accessibility.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Nicholas A. Boldyga</i>	<i>3rd Hampden</i>	<i>2/19/2021</i>

**HOUSE . . . . . No. 103**

By Mr. Boldyga of Southwick, a petition (accompanied by bill, House, No. 103) of Nicholas A. Boldyga for legislation to establish a commission to investigate blockchain technology, so-called, applications and systems for possible beneficial use to the Commonwealth including, but not limited to, the conduct of elections. Advanced Information Technology, the Internet and Cybersecurity.

**The Commonwealth of Massachusetts**

**In the One Hundred and Ninety-Second General Court  
(2021-2022)**

An Act relative improving voting systems and expanding accessibility.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

1 SECTION 1. This bill would establish a committee to study the feasibility and  
2 practicality of using blockchain technology to secure data and datasets developed from data  
3 received from the general public, and for related government functions to improve election  
4 integrity, election accessibility and trust in the Commonwealth's voting process.

5 SECTION 2. (a) A "blockchain" is hereby understood to be a series of mathematically-  
6 related units of data in which each new unit, or block, contains a hash of, and verifies through a  
7 previously designated protocol or series of instructions, all data in the series of data units  
8 preceding the newest unit.

9 (b) "Blockchain technology" is hereby understood to mean the technology, comprised of  
10 systems, methods and processes, by which an algorithmic system containing data which is  
11 verified by decentralized, distributed, mathematic-based consensus achieved among participants

12 within a network of linked computers in accordance with a previously-established rule set or  
13 protocol, is used to receive data, store data in its original state, revise and supplement data into  
14 updated states without changing any original state of data and retrieve and process said data.

15 SECTION 3. (a) The commission or body established by this bill would be charged with  
16 the objective of studying the feasibility, from a cost, public responsiveness and technology  
17 standpoint, of the Commonwealth adopting computer systems using or based on blockchain  
18 technology for certain government purposes.

19 (b) It is believed that blockchain technology applications and systems may be of  
20 particular beneficial use to the Commonwealth including, but not limited to, the conduct of  
21 elections, maintenance of databases for registered corporate entities, registered voters, licensed  
22 drivers and licensed businesses or individuals, and disbursement of certain government benefits.

23 SECTION 4. (a) The commission or body shall study the feasibility of developing or  
24 using a specialized blockchain network comprised of multiple, independent, autonomous  
25 blockchains which in turn are connected by one or more "linking" blockchains. The linking  
26 mechanisms would permit certain designated datasets to be shared or updated as instructed,  
27 while "fencing off" the remainder of datasets so they would be updated only by actions within  
28 their respective hosting blockchain.

29 SECTION 5. VOTING APPLICATIONS. (a) The commission shall be charged with  
30 exploring the feasibility of using a blockchain system to conduct a verifiable public office  
31 election which meets the core principles of furthering the integrity of core government functions,  
32 the confidence of the general public in the fair, efficient and objective conduct of said core  
33 government functions and said integrity.

34 (b) Any "voting" or "election" government function involves multiple datasets, of which  
35 each such dataset contains separate information from or about members of the general public,  
36 and it is believed at least three discreet datasets are needed to comprise the blockchain system  
37 which is the focus of this Section.

38 (c) One dataset comprises voter identity information, including name, address, political  
39 party registration if designated, and a record of the voter's participation in prior elections, and  
40 this dataset is envisioned as being contained within one wholly independent blockchain.

41 (d) The second dataset would ideally be a second blockchain, linked to the first  
42 blockchain, and upon which second blockchain vote choices from participating and eligible  
43 registered voters, as well as a record of participation or non-participation from all registered  
44 voters within the dataset of the first blockchain, would be recorded upon and by said second  
45 blockchain.

46 (e) The third dataset would ideally be a third blockchain, linked to the second blockchain  
47 but not to the first said blockchain, which third blockchain would engage in the tabulation  
48 function to yield the outcome.

49 (f) After each such public election, the blockchain referred to in this Section as the first  
50 blockchain can be used as the ongoing "present state" of each county's voter registration  
51 database. The second and third blockchains can be retired after the election event has concluded  
52 and final results are certified.