



ARTIFICIAL INTELLIGENCE WORLD SOCIETY – G7 SUMMIT INITIATIVE
THE NEXT GENERATION DEMOCRACY – AI WORLD SOCIETY (AIWS)

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I. AIWS MODEL

The world has entered what has been labeled the New Society and Economy Revolution, one that is centered on Artificial Intelligence (AI). Some analysts have predicted that it will be hugely disruptive, that machines will take over jobs now done by people, and that the resulting efficiencies will result in a shrinking of workplace opportunities. Other analysts note that previous industrial revolutions created unanticipated opportunities with the result that the disruptive effects were offset by creative responses.

Largely neglected in assessments of AI's impact are the possibilities it presents for improving governance – in all its forms. This brief addresses this topic, looking into the future from the perspective of how it could strengthen government functioning and how it could contribute to a more responsible and empowered citizenry. We use the term AI World Society (AIWS) to describe the future shape of governance.

The AIWS Model envisions a society where creativity, tolerance, democracy, the rule of law, and individual rights are recognized and promoted; where AI is used to assist and improve government decision-making; and where AI is a means of giving citizens a larger voice in their governing.

The Boston Global Forum is presenting this brief to the G-7 Summit in recognition of its members' leadership in technology, innovation, democracy, rule of law and the protection of rights of individuals. They are among the countries best situated to be pioneers in the proper use of AI in governing.

AIWS is an initiative of the Boston Global Forum and is being developed in collaboration with the World Leadership Alliance-Club de Madrid (WLA-CdM).

The WLA-CdM is the world's largest assembly of democratic former heads of state and government. They offer their experience, convening power, and access to current leaders to address today's global challenges, focusing on and fostering democratic values and leadership worldwide. The Boston Global Forum is currently working with the World Leadership Alliance-Club de Madrid on the role of AI in democratic government.

The two institutions will be collaborating on a first discussion on AI and democratic governance that will take place in Vietnam in July 2019. In October, the WLA-CdM will be organizing its 2019 Policy Dialogue on Technological Transformation and the Future of Democracy: How can Artificial Intelligence drive democratic governance? It will take place in Madrid with the participation of the Boston Global Forum. Both discussions are part of WLA-CdM's **Next Generation Democracy** initiative, a program aimed at better enabling democracy to meet the expectations and needs of all citizens, preserving their freedom and dignity while securing a sustainable future. The Boston Global Forum will share the findings

II. AI AND GOVERNMENT (AI-GOVERNMENT)

Overview. Government is the use of communication and information technology for improving the performance of public sector agencies. AI-Government transcends E-Government by applying AI to assist decision making for public sector functions – notably provision of public services, performance of civic functions, and evaluation of public officials.

AI-Government Model. At the core of AI-Government is the National Decision Making and Data Center (NDMD). NDMD collects, stores, analyzes, and applies massive amounts of data relevant to the provision of public services and the evaluation of public programs and officials. It does not replace governance by humans or human decisional processes but guides and informs them, while providing an objective basis for service provision and evaluation.

NDMD is a centralized system for data collection and analysis, through which government services are evaluated, coordinated, and allocated. However, local governments are a key component of the model. Many of the services are delivered through local units, which also provide data for the NDMD and, through interaction with the local population, serve as a feedback mechanism that informs centralized decision making. AI supported public services would span major policy functions, including:

- AI for healthcare, social services
- AI for law, legal services.
- AI for education
- AI for tourism
- AI for public transportation
- AI for labor
- AI for agriculture, fishing, and natural resource management
- AI for public finance

Goals of AI-Government. Pursuit of AI-Government by a government would improve both the quality of its public services; would increase the efficiency and accountability of its administrative units and personnel; would place it at the forefront of the AI Age, enabling it to be a model for other countries; would stimulate the development within its borders of AI experts and firms; would improve the AI literacy of its population; would contribute to the development of norms and standards governing the development and use of AI; and would contribute to an AI culture that encourages and recognizes innovation, creativity, and dedication.

Structure of AI-Government. National Decision Making and Data Center (NDMD) lies at the core of AI-Government. NDMD is the “brain” that supports AI decision-making and is a signature feature AI-Government. It would link to all units of government and would collect data from ministries, departments, sub-national governments, cities and towns, schools, and other administrative units. NDMD would serve as the basis for automated public service functions. It would be a broad-based support system for public sector decision-making

Tasks required to develop AI-Government. To create AI-Government, a country would need to pursue numerous tasks, including:

- Building a National Decision Making and Data Center (NDMD)
- Creating regulations for automated public services
- Providing mechanisms to evaluate the performance of leaders or officials
- Facilitating feedback from civil society
- Setting rules for decision making in all units of government
- Setting regulations to collect data from all levels of government
- Setting rules on the protection of personal data, self determination, and privacy.
- Setting rules on the incorporation of democracy, fundamental rights, and the rule of law in the design of AI programmes used in the context of AI Government
- Establishing the right to human decision making, thus providing a basis of appeal to adverse automated decision making and granting the right to a full explanation of the functioning, purposes and impact of any automated decision making program.
- Establishing an AI audit and competence center for respect for these rules and assist the judiciary and the legislature with technical support and explanations of any AI system, and carries out detailed compliance audits on demand.
- Establishing a taskforce for implementation and evaluation.
- Creating automated public services assisted by AI in areas such as health, education, legal services, public transportation, tourism, labor, agriculture, public finance, and public housing.

Early Strategy for Developing AI-Government. A first step in the development of AI-government would be assembling visionary experts who understand what it would take to create and implement AI-Government. Planning for the NDMD would also be an early priority, given the central place it will occupy in AI-Government. Bringing other actors (firms, universities, think tanks, non-governmental organizations, etc.) into the process at an early stage would also be a priority, both to get their perspectives and cooperation in the effort.

The AIWS Index for Government. AI-Government is accompanied by an AIWS Index, which would serve as a metric for assessing a country's progress toward AI-government. The Index includes a number of components, weighted differently by the level of importance. The Index would be scored in a way that countries would rank higher when their AI initiatives promote more efficient and equitable services, respect core principles of data protection and protection of privacy, foster tolerance, innovation and creativity, encourage citizen participation and empowerment, and contribute to the advancement of the rule of law, democracy, and fundamental rights. Among the factors to be taken into account when assessing a country's government through the AIWS index are:

- **Transparency.** Ethical codes, standards, laws, regulations, structures, algorithms, practices, etc. are publicly available. Equally, all AI programs are publicly available and auditable of the data collected, subject only to data protection and privacy rules.
- **Compliance.** Degree to which the government adheres to the ethical codes, standards, laws, etc. pertaining to AI-Government and the degree to which government officials and the judiciary enforce rules in society and protect the rights of individuals.
- **Implementation.** Progress in developing and implementing AI-Government.
- **Non-discrimination.** Degree to which AI-government is based on principle of equal opportunity - that it is not designed to advantage or disadvantage particular citizens, firms, groups, etc.

- **Justice:** Degree to which AI-government fights poverty and unequal distribution of income, opportunities, and justice in a society.
- **Integrity.** Degree to which AI-Government constrains corruption, bribery, piracy, etc.
- **Education.** Degree to which the government educates citizens in AI practices and in behaviors, such as tolerance, innovation and creativity, that promote social progress and inclusivity.
- **Universality.** Degree to which AI-Government extends and reaches out to all people in the country.
- **Empowerment.** Degree to which AI-Government enhances citizen participation and citizen control of government.

III. AI-CITIZEN

AI-Citizen Definition: AI-citizen refers to people who live and work legally in a country and who respect the common global values set forth by the United Nations.

Overview. AI-Government affects the public through improvement of public services, such as health care and education. This impact, however, deals only with individuals as subjects – recipients of government action. AI also has the capacity to empower individuals and make them more responsible for their actions. In this sense, AI is a mechanism for enhancing individuals as citizens rather than merely as subjects.

As we envision the AI World Society (AIWS), it is a society where innovation, creativity and dedication are promoted and given material support, and in which individuals who contribute to society through innovation, creativity and dedication are heard, recognized and rewarded.

We also envision it as a society that increases citizens' opportunities to influence governmental decisions and to hold government accountable for its actions. Citizen participation is not a substitute for representative institutions, but the AIWS model expands the range of decisions in which citizens are directly and materially involved. AI in this context should support the self organization of citizens in structures of civil society and those for political action, thus contributing to a more vibrant and open society and a living democracy.

Goals of AI-Citizen. AI-Citizen would seek to nurture innovation, creativity and dedication and the ability to organize for a common purpose; develop a mechanism for rewarding innovation, creativity and dedication, getting organized for public interest purposes; develop ways for individuals to participate more fully and actively in government decisions, parliamentary and other democratic activity and civil society; and provide ways for individuals to hold government and other actors accountable for decisions affecting them and society generally.

Structure of AI-Citizen. In addition to an education system that would impart AI literacy and an understanding related to the rules necessary to ensure that AI services the public interest, and promote values and knowledge aimed at nurturing innovation, creativity and dedication, and democratic engagement, AI-Citizen would be supported through four systems:

- **AI-Citizen Support Center (AICS).** This system is designed to assist citizens' decision making. It would provide unbiased, easy access to information relevant to the decisions that citizens make.
- **AI-Citizen Voice.** This system is a channel through which citizens can make their views known, not only on policy positions but on the performance of government units and programs. It would also allow people to organize collectively, rather than only voicing their interests individually and in isolation from others.

- **Social Value Reward (SVR) System.** This system would provide a way for citizens to track their contributions to society, as well as a way for society to acknowledge those contributions. It would allocate reward based on citizens' adherence to norms such as their dedication and their innovative, creative contributions. It stands in sharp contrast to China's "social credit" system, which is a mechanism of state control. Based on a blockchain system, SVR would not have government input or be accessible by government. Reward would be allocated by civic-minded non-governmental organizations. The system is used to recognize and honor citizens for their contributions to society. Punitive action is prohibited. SVR would also permit citizens to evaluate the leaders of governmental institutions, governments, non-government organizations, and firms for their contributions to society. SVR would accord with The European Union's General Data Protection Regulation (GDPR) and The Ethics Guidelines for Trustworthy Artificial Intelligence (AI) issued by the European Commission's High-Level Expert Group on Artificial Intelligence.

Tasks required to develop AI-Citizen. To develop the AI-Citizen, a country must pursue numerous tasks, including

- Developing the AI-Citizen Support Center (AICS)
- Developing the AI-Citizen Voice system
- Developing the Social Value Reward (SVR) system
- Creating standards for assessing citizen dedication, innovation and creativity
- Helping citizens to understand and apply the standards in their daily lives
- Ensuring that citizens are equal in their opportunities to contribute social value
- Ensuring that the education system fosters dedication, innovation and creativity
- Ensuring that AI literacy is part of the education system.

- Preparing citizens to have a larger voice in governing
- Developing methods for giving citizens a greater voice in governance
- Developing methods by which citizens can more fully hold government accountable.

Early Strategy for Developing AI-Citizen. A first step in the development of AI-Citizen would be assembling the wide range of experts (everyone from computer scientists to ethicists) who address the challenge of establishing AI-Citizen. Planning for the Social Value Reward (SVR) system would not be an early priority, but its eventual development should be taken into account in early stages. Bringing other actors (firms, universities, think tanks, non-governmental organizations, etc.) into the process at an early stage would also be a priority, both to get their perspectives and cooperation in the effort.

IV. SUMMARY

Although Artificial Intelligence can be a destructive technology and has the risk of concentrating power and subordinating individual interest to machine-derived decisions, it also holds out the promise of improved governance and empowered citizens. For that promise to be realized, the Boston Global Forum believes that there needs to be a deliberate effort to work AI into the governing process in a way that enhances governance while strengthening citizenship, supporting democracy, and upholding fundamental individual rights and the rule of law.

In this brief, we have outlined a vision of how that can happen: AI-Government and AI-Citizen. The AIWS Model we propose envisions a society where innovation, creativity and dedication, democracy, individual rights and the rule of law are recognized and promoted, where AI is used to assist and improve government decision-making to make progress towards a more socially inclusive and just society in which citizens have a larger voice in their governing. We urge the G-7 countries to assume leadership on these issues.