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1. Risks in the use of AI in electoral contexts

- Artificial Intelligence has the potential to significantly improve the decision-making of individuals, groups, and institutions, and it can contribute to more objective, timely, cost-effective, and less discriminatory outcomes. However, there are important risks to consider in the adoption of AI, as has been observed in areas other than the electoral field. Of the various risks that can be identified, I want to point out three, which are related with the design, use and transparency of AI systems, and which are relevant in electoral contexts.
- First, AI is not an entirely neutral, unbiased or accurate technology, despite that is precisely what is often perceived. In any case, AI is as neutral, unbiased, or accurate as those who design it. This is because human judgment inevitably intervenes in the design of AI systems, and this can inevitably generate discriminatory or inaccurate results, which could be expanded with the use of AI. This bias in AI systems may stem from the quality of the information and data used, or the design of algorithms on which AI is based.
- A second risk has to do with the misuse of AI. An example is “automation (outomaishon) bias”, that is, when too much weight is given to the results of an AI system, without questioning them or taking the time to properly interpret what their results mean. Other misuses of AI systems include the use of incomplete, biased, or misleading information, or using an AI system for a purpose other than that for which it was originally designed.
- A third risk is opacity or lack of transparency, in many cases associated to the complexity of AI systems and their algorithms. Sometimes, even if AI models are open, their processing logic can be difficult to understand given their level of complexity. This could happen especially in machine learning systems, in which AI systems adapt and change the original model, based on new inputs. Thus, AI systems can become "black boxes", because of the difficulty to explain how they achieve the results they get.
- Any of these problems represent serious risks for the administration of electoral processes, because, depending on the uses given to AI systems, they can, for example, have a negative impact on the elaboration and purification of the voter registry and therefore restrict the right to vote; they can limit or deny access to

identification instruments that allow voting if adequate verification mechanisms of documentary requirements are not incorporated; or biased information about elections and their development could be provided, if the appropriate elements of context are not introduced.

2. Ethical principles regarding the use of AI according to UNESCO, relevant for electoral contexts

- Considering the abovementioned risks, it is particularly important to bring to this discussion the ethical implications of using AI system. I suggest following the recommendation UNESCO issued on this regard, which was adopted by the 193 State Members of the General Conference of UNESCO in November of 2021. Let me share with you only a selection of these ethical principles that UNESCO has developed; principles which, given their implications, I consider most relevant for EMBs and the organization of elections.

1 *Human rights*. New technologies, such as AI, must offer new opportunities for the defense and exercise of human rights, and not restrict them. In the electoral context, AI must aim at facilitating or expanding the exercise of political rights, especially the right to a free, secret, and informed vote.

2 *Inclusion and diversity*. New technologies, like AI, must ensure that they respect, promote, and protect human diversity and social inclusion. This can be achieved by promoting the active participation of all people and groups, regardless of race, gender, age, language, religion, political opinion, nationality, ethnic or social origin, economic status, disability, or any other condition. EMBs must guide the implementation of new technologies, including AI, to guarantee the greatest possible inclusion in the exercise of political rights and promote the participation of the plurality of political expressions that belong to a community.

3 *Proportionality*. AI systems does not necessarily, by themselves, ensure positive impacts in the life of people and societies. AI tools must be justified based on three criteria: (1) to be appropriate and proportional to the achievement of a legitimate institutional objective; (2) they must not violate or abuse any human right, and (3) they must be appropriate to each context and supported by rigorous scientific foundations.

When considering the use of AI, EMBs must ensure that the economic investment and the social and political impact of the implementation of AI systems are proportional and adequate to the fulfilment of their constitutional mandate, that they do not affect, but rather expand, the exercise of the right to vote, and that they recognize the diversity of contexts in which this technology could be used in each country.

- 4 *Protection, security, right to privacy and data protection.* The use of AI must guarantee conditions of security and protection for those who implement and use it, including data protection and privacy mechanisms, based on extensive training for developers and users, among other instruments. Similarly, the use of AI must guarantee the right to privacy, essential for the protection of human dignity, and people's agency and autonomy.
- 5 *Human oversight and determination.* Although AI is a technology that makes certain activities more efficient by automating processes, the final decision regarding the scope of such automation (and transfer of control) must rest with people. AI systems or tools should never replace the responsibility and accountability that belongs to humans.
- 6 *Transparency and explainability.* All people must have access to complete information when a decision, activity or procedure in which they participate is based, in part or in whole, on AI systems. At the same time, they must have the opportunity to request and receive clarification regarding such technologies. This is about making technology in general and AI tools in particular as intelligible as possible. This facilitates the adoption of technological tools and confidence in their use, and in the institutions that use them. It is also a matter of transparency.
- 7 *Knowledge, awareness, and literacy.* It is necessary to generate procedures and learning spaces on the use and impact of AI systems, both within the EMBs and among citizens, to understand its effects on human rights, freedom of expression and informed voting. Based on this same principle, the INE has promoted many initiatives in the field of digital citizenship, along with technological platforms, like Facebook, and with UNESCO.
- 8 *Collaboration and multi-actor governance.* EMBs must build spaces for dialogue between the different areas within them when adopting new technologies, especially if they could become so impactful as AI systems. For several years, the INE implemented a Working Group on Technologies where institutional technological needs are addressed, including their relevance, potential risks, and opportunities.

3. Criteria that the INE follows for the adoption of new technologies

- Indeed, the National Electoral Institute of Mexico has always promoted the use of technologies to provide greater certainty, transparency, effectiveness, and efficiency in the organization of elections, the promotion of voting and citizen participation in electoral processes.

- For the INE, all instrumentation of new technology, including of course AI systems, must comply with a set of general principles that, although they do not constitute a formal rule for the adoption of technologies, are part of the institutional practice and learning processes. These general principles are the following:
 - 1 That the changes and new technologies to be adopted provide greater certainty to the organization of elections, and to the general work of the INE, and expand or improve the opportunities for citizens to exercise their political rights.
 - 2 That new technologies be implemented gradually, learning from subsequent stages of implementation, which incrementally expand their scope; in other words, that they are not implemented radically and fully from one election to another.
 - 3 That new technologies are implemented based on clearly justified operational foundations and always anchored to a regulatory basis that give them legal support and certainty.
 - 4 That the technological changes to be implemented have the support and acceptance of all relevant political actors, particularly regarding those changes that entail greater adjustments to the organization of elections, including, among others, the procedures to build, change and purge the Electoral Registry, which is the basis for the issuing of the voting ID in Mexico, without which it is not possible to vote. This ID is the instrument that guarantees the democratic principle of "one person, one vote". In addition, in Mexico, the voting ID is the main official identification mechanism for people 18 years of age and older.
 - 5 That any process of change or adoption of new technologies be transparent in its process of implementation, evaluation and results, which is the basis for institutional learning, and to understand its contribution to the electoral process as a whole.
 - 6 One final and very important principle for the INE in the adoption of new technologies is what we call public pedagogy. We are convinced in the INE that EMBs must strengthen their explanatory muscle to help citizens understand the intricacies and complexities of how elections are organized—because they have become very complex indeed—, and how technologies can work in their favor.

4. Examples of projects promoted by the INE that make use of AI tools

- Under these principles, the INE has begun to implement some very specific initiatives which use Artificial Intelligence tools as part of their design or implementation. The vast majority of these are projects still in development. In all cases, they are aimed at further facilitating citizen participation in the exercise of their vote and broadening knowledge about electoral processes. These initiatives are the following:

- *Electoral Districting.* Despite what happens in other countries, like the US, in Mexico electoral circumscription delimitation happens essentially in an automatic way. We have designed an AI tool that allows us to have a primary districting taking in count the national census, communication ways, geographic considerations, indigenous population in order to maintain their integrity, and geometrical compacity, all of them with a specific predetermined proportional weight, to define the drawing of each one of the 300 federal electoral districts. That is the basis for a further discussion including political parties representatives to decide the final districts' boundaries.
- *Virtual assistant Chatbot called "INÉs".*
This is a computer tool that allows promoting and strengthening communication between the INE and citizens. The tool operates through an automated conversation on WhatsApp (supported by AI) and works from preloaded messages to issue immediate and automatic responses to the most frequently asked questions by citizens. The topics covered are, among others, the following: registration to the Electoral Registry, renewal and delivery of voting IDs (both for citizens residing in Mexico and Mexicans abroad), correction of personal data in the Electoral Registry, health protocols in the voting ID issuing offices, and how, when and where to participate in elections.

The INÉs chatbot was used for the first time in the 2021 federal election and in the popular consultation of the same year. In these two processes the chatbot registered more than half a million conversations. It was also used early this year for the Presidential Revocation of Mandate, and for this process more than 250 thousand conversations took place through INÉs. I do believe that his tool has proven its usefulness, in these initial exercises.

- *VotoBot, virtual assistant to get electoral results*
This is a tool, still under development, that will allow citizens to have more accessible information on the results of the elections. The virtual assistant will use automated language recognition to predict the questions that are asked and find the most appropriate answers.

The tool will offer information on federal and local electoral results, at the subnational, municipal and district levels, as well as the winning candidates in the most recent elections. The information available by this tool will include 6,177 winning candidates in federal elections between 1991 and 2021, and 39,080 winning candidates in local elections between 2018 and 2022.

- *Automatic identification of results in PREP*
The INE is working on the incorporation of an AI tool in the process of capturing electoral results for the Preliminary Electoral Results Program, which offers information on the results of each polling station installed in an election and reports them online, in real time, since the closing of the polls until the day after the election day. With this AI tool, the aim is to automatically identify the data written manually in the tally and counting records at the polling stations to

obtain the results written manually, compare them and resolve missing data or discrepancies. This tool will not totally replace the tally and capturing of information by humans but will complement it.

The objective is to speed up the publication of electoral results and reduce costs due to the number of personnel required to capture the voting records. It is estimated that a reduction of 33% of the necessary personnel could be achieved with this tool.

- *Recognition and extraction of data from documents to obtain the voter ID.*
At the INE we are in the early stages of developing a pre-registration system for the procedure to obtain a voting ID, which, as I mentioned before, is the main official ID document for Mexicans. With this system, the idea is to automatically recognize and extract the data contained in the documents presented by citizens to obtain their voting ID.

This tool seeks to facilitate the process of issuing the electoral ID, reduce the time of the face-to-face procedure in the voting ID Issuing Offices, and get rid of manually capturing the data contained in the documents that citizens present to obtain the voter identification.

5. Closing remarks

- Wrapping-up my participation in this panel, I want to emphasize the importance of technology to improve the work of the EMBs. This is a conviction that stems from the own experience of the INE over more than 30 years.
- The potential of Artificial Intelligence to transform the administration of elections, facilitating processes, and promoting citizen participation in elections, should not make us unaware of the risks that this technology may imply. The UNESCO recommendations are a good way to approach these risks.
- But the most important thing will always be to learn from the concrete experiences and learning of the EMBs and share them in spaces such as this Conference, organized by the Council of Europe and the Venice Commission, to whom I am greatly thankful for their kind invitation.

Thank you.