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OPEN FORUM

Pluralistic AI governance: Indigenous knowledge and the right of Indigenous peoples to self-determination

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Abstract
This article presents a pluralistic participatory framework for global AI governance that integrates Indigenous knowledge systems and affirms the right to self-determination. The proposed framework is based on the growing recognition of non-extractive, respectful participatory engagement with Indigenous peoples in international governance and policy-making. The paper highlights the importance of Indigenous epistemologies, co-governance, and legal autonomy in developing ethical and culturally inclusive AI systems. The current study presents an institutional model in which Indigenous peoples exercise authority over their knowledge and actively shape the direction of AI through sustained and meaningful participation. Framed through a decolonial lens, the article draws inspiration from the Arctic Council as a model for equitable and effective Indigenous involvement in global AI governance.

Keywords AI governance · Indigenous knowledge · Participatory rights · Self-determination · Indigenous peoples · UNDRIP · Ethical AI

1 Introduction: AI and colonial continuities

Improvement on global decision-making in complex, high-stakes decisions is potentially among the most important problems of our time. Nowhere is this more evident than in the global governance of AI, where a comprehensive framework has yet to be established and the path forward remains uncertain (Roberts et al. 2024; Dafoe 2018). Like any powerful technology, advanced AI must be approached with care, especially as a unipolar or one-size-fits-all vision of technological development may fail to accommodate the complex social, cultural, linguistic, and religious diversities found across the world (Biju and Gayathri 2025).

Recent rapid advancements have sparked growing concern about potential catastrophic risks (Trager et al. 2023; Dung 2025; APC 2025). There is a clear demand for a global regulatory framework for AI. The UN's Global Digital Compact (GDC), adopted during the Summit of the Future in 2024, is the broadest possible level of cooperation, establishing an endorsed framework for AI governance. Seen as the blueprint for the future AI governance, the compact proposes the creation of an *Independent International Scientific Panel on AI* and the initiation of a *Global Dialogue on AI governance* within the UN emerging from the Secretary-General's broader process on advancing digital cooperation under the GDC (GDC, 2024, para. 56). Building on these commitments, the United Nations General Assembly, on 26 August 2025, formally established the *Independent International Scientific Panel on AI* and the *Global Dialogue on AI Governance* through Resolution A/RES/79/325 (United Nations 2025). These initiatives build upon and institutionalize the groundwork laid by the *AI Advisory Body (AIAB)*, a predecessor body convened under the Secretary-General's digital cooperation agenda to provide independent, multi-stakeholder guidance on the international governance of AI.

As these governance mechanisms take shape, questions of who participates in and benefits from global AI governance have become increasingly urgent. The AIAB Report echoes the very concerns that underpin these developments, noting that "historically many communities have been entirely excluded from AI governance conversations that impact them"; it calls for participatory inclusion and addressing historical colonial injustices, emphasizing that "as international AI governance matures, global representation becomes more important in terms of equity

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and effectiveness." (United Nations 2024b, XV, 65) Equity requires a diverse and inclusive approach that incorporates perspectives from all regions, ensures a fair distribution of opportunities, and actively works to mitigate potential risks. It must, therefore, reflect perspectives from across the seven UN Indigenous socio-cultural regions: Africa; Asia; the Arctic; Central and Eastern Europe, the Russian Federation, Central Asia and Transcaucasia; Central and South America and the Caribbean; North America; and the Pacific (IWGIA, 2025). Representation gaps in international AI governance continue to exist, with decision-making power largely concentrated among a small number of countries and corporations from the Global North.

As AI technologies become more embedded in every aspect of society, it is increasingly important to integrate Indigenous knowledge and the right to self-determination into governance frameworks (Jones 2024). Self-determination refers to the ability of Indigenous peoples to make decisions about their own social, cultural, and technological futures, based on their laws and knowledge systems. Participatory rights, rooted in the principle of self-determination and recognized under international law, affirm Indigenous peoples' right to actively shape decisions that affect their communities. Historical suppression and trivialization of Indigenous knowledge and contemporary experiences of colonialism and technology-facilitated violence, exacerbated by the commodification and extraction of Indigenous knowledge, must be acknowledged as AI systems expand globally (Lewis et al. 2025). As AI grows, so does demand for data infrastructure, which increases pressure on Indigenous lands and natural resources (Childs 2022; Sargsyan 2022). At the same time, emerging AI governance presents a transformative opportunity to support Indigenous sovereignty and revitalize Indigenous languages (Robinson et al. 2022). It is crucial to integrate Indigenous knowledge and governance principles into global AI policy. It not only helps to prevent the repetition of extractive and colonial practices but also contributes to more ethical and sustainable technological futures. The focus is specifically on the participatory framework for global AI governance that empowers Indigenous peoples.

To ground this argument, the paper explores the AI governance divide and the concept of digital colonialism; it outlines the unique features of Indigenous knowledge systems, emphasizing their fundamentally different conceptions of identity and epistemology compared to Western paradigms. The second half of the paper is devoted to a legal conceptual analysis of the right to self-determination and the participation of Indigenous peoples in matters affecting them. The final section introduces the Arctic Council as a model for the integration of Indigenous knowledge and meaningful participation in global AI governance.

2 AI governance divide and colonialism

AI governance divide is growing wider with high-income countries continuing to dominate and shape the direction of global AI governance initiatives, exemplified by the May 2024 AI Safety Summit in Seoul, co-hosted by the UK and South Korea; the May 2025 AI Action Summit, and others. Both Western and non-Western countries are developing rules and standards for safe and responsible AI governance. Almost two-thirds of these documents were created in Europe, the US, and China (LaForge et al. 2024, p. 4). Since the overwhelming majority of Indigenous peoples live in the Global South, this imbalance causes participatory injustice. The disparity in who sets the rules could be just as impactful as the uneven distribution of AI capabilities, since communities that neither develop nor directly use AI technologies will still be affected by them, and by the governance systems that determine how they are shaped.

Historically, metrics have been powerful tools of colonial control, used to measure, categorize, and dominate Indigenous peoples. As Hanke (2024) observes, a "frenzy of 'measuromania'" emerged within the colonial context. Colonialism persists through contemporary mechanisms and is likely to travel to the global AI governance system. Technological systems, including AI, are now deployed in ways that attempt to digitize the knowledge, practices, and cosmologies of Indigenous peoples, reproducing colonial logics of extraction, translation, and ownership that separate knowledge from the communities and lands that sustain it. This is not to say that there no promising discussions on pluralistic alignment (Sorensen et al. 2024). However, many Indigenous communities emphasize the impossibility to capture the abundance of ways of knowing, resisting these risk-posing changes, while embracing the concept of strategic illiteracy or technological refusal (Plaut 2023; Lewis et al. 2025). This is a form of resistance rooted in an awareness of the epistemic violence and racialized discrimination embedded within the development of AI technologies. The harmful nature of AI and critiques of AI's ecological cost and extractive logics are voiced in forums like COP16 in Colombia, IUCN Conservation Congress in Abu Dabi 2025, and stipulated in paragraph 16 of the Global Digital Compact (United Nations 2024a, b).

A growing Indigenous AI literature contests "AI-race" framings and the conflation of progress with ever-greater model scaling, advocating relational, protocol-guided, and community-consented development instead (OHCHR 2025). For example, in British Columbia, the First Nations Technology Council published a "Digital and Data Sovereignty Strategy" (2022), which explicitly includes the right to reject externally imposed

technologies and outlines protocols for community-led digital innovation.

Scholars, such as TallBear (2013) and Benjamin (2019), have explored how refusal in relation to data, genomics, and technology reveals a critical stance against the commodification and misrepresentation of Indigenous knowledge systems. This resistance underscores the complexities of decolonizing technology, as technological systems often uphold the very colonial legacies which they purport to overcome. In this context, technocolonialism, originally articulated by Madianou (2024) in relation to humanitarian technologies, emerges as a key concept that reflects the structural and physical violence embedded within technological systems.

Yet, within the broader landscape of AI and global data governance, these dynamics are more comprehensively captured by the framework of digital colonialism, which extends Quijano's (2000) notion of the 'coloniality of power' to the digital sphere. Digital colonialism encompasses not only the extraction of data and knowledge but also the imposition of technological standards and regulatory norms that externalize Western power and values across global contexts.

Many Indigenous communities face an increased risk of assimilation due to AI expansion and colonial control. In many ways, the rise of AI highlights ongoing infrastructural violence, the imposition of systems that, while claiming progress, remain colonial in intent and structure. In relation to Indigenous peoples, it can perpetuate exclusion and colonial control over Indigenous lands, knowledge systems, and, as a result, identities. While the direct existential risks from AI to Indigenous communities are not yet fully mainstream in public discourse, there are emerging and serious threats where AI systems may exacerbate threats to Indigenous autonomy and ways of life, leading to cultural erosion: "large language models tend to oversimplify or completely skip over cultural nuances, especially when dealing with non-Western perspectives." (Qadri et al. 2025) The legal identity and self-determination of Indigenous peoples are central to this discourse, as decision-making algorithms governing AI technologies replicate epistemic erasure and the injustices historically faced by Indigenous communities.

This paper contends that embedding Indigenous knowledge into AI governance is not just a matter of inclusion. It is a structural transformation, one that resists digital colonialism and centers Indigenous peoples as rightful co-creators of the digital future.

3 Indigenous identities and epistemologies

The working definition of Indigenous peoples was developed by Martinez Cobo (Cobo 1986). According to Barten (2015), Martinez Cobo's definition has five main elements: common tradition, racial or ethnic characteristics, cultural characteristics, consciousness, and preservation. Indigenous understandings of identity are rooted in kinship, community recognition, and cultural continuity (Avalos 2023). In line with the established international ILO 169 definition of Indigenous peoples by the International Labour Organization (1989), these can be described using terms, such as "pre-existence, non-dominance, cultural difference and self-identification" (Horn 1994).

Underlining the growing attack on Indigenous identity, TallBear (2013) contends that the increasing reliance on new genetic identities, which many view as scientifically reliable, poses significant risks. Such genetic frameworks could potentially be used to determine or question who "counts" as Indigenous, displacing community-based, relational, and self-determined understandings of identity. TallBear advocates for Indigenous peoples to take an active role in governing and engaging with genomic research to safeguard their rights. In contrast to these genomic constructions, Sámi are among the Indigenous peoples that emphasize language and self-identification as central to Indigeneity, reflecting a model of identity grounded in collective recognition rather than biological determinism (Act on the Sámi Parliament, 974/1995, S. 3).

Indigenous knowledge systems operate from a foundational ontological framework rooted in relationality and pluralism (Jessen et al. 2021). These epistemologies stand in marked contrast to Western paradigms, particularly the Cartesian assertion "I think, therefore I am", which centers the autonomous, disembodied self. Many Indigenous worldviews are instead grounded in collectivity and interconnectedness, often expressed through principles such as the Ubuntu concept of "I am because we are" (Gwagwa et al. 2022). Identity is understood not in isolation but through dynamic and reciprocal relationships with community, land, animals, spirits, and ancestors.

Within these frameworks, existence entails responsibility. Knowledge and presence carry duties: to protect the land, preserve cultural practices, and maintain balance for future generations. Knowledge is not extracted or commodified, but lived, embodied, transmitted, and practiced through relational ethics in the form of wisdom (Williams & Shipley 2021). Time is perceived not linearly but cyclically, governed by seasons, ceremonies, and intergenerational continuity. Knowledge is perceived as a 'mystery' contained within the self:

> "Aboriginal epistemology is grounded in the self, the spirit, the unknown. Understanding of the universe must be grounded in the spirit. Knowledge must be sought through the stream of the inner space in unison with all instruments of knowing and conditions that make individuals receptive to knowing. ... Aboriginal epistemology speaks of pondering great mysteries that lie not further than the self." (Ermine 1995, p. 108)

As Ermine (1995) articulates, Aboriginal epistemology is rooted in the spirit, the self, and the experiential mystery of knowing, an orientation that stands in profound harmony with one of the multiple ways of knowing. Various models of knowledge production are fundamental to understanding the integration of Indigenous knowledge in AI systems and governance. Discussion on the role of identity and the opportunity of "uploading a mind to a computer" goes beyond the scope of this paper, but inevitably remains at the core of the discussion on the integration of Indigenous knowledge and AI (Davis 2019, p. 85). In Indigenous studies, knowing is inseparable from self, and therefore from being and doing. Knowledge is transmitted experientially through storytelling and land-based practices rather than abstract theorization (Harrison et al. 2023). Leadership is defined by humility and service, not hierarchy or technical authority. The three interrelated dimensions form a holistic, dynamic epistemology: knowing, being, and doing (Hart 2002; Poonwassie and Charter 2001).

The development of AI systems depends on data, and increasingly, measurable elements of Indigenous knowledge are being extracted to train these systems. Traditional ecological knowledge, oral histories, and cultural heritage are being digitized often without consent and incorporated into colonial frameworks stripped of context, violating cultural protocols and communal sovereignty (Casimirri 2003). This process continues the legacy of colonial extractivism; consequently, "Indigenous absence from the field of Indigenous data and quantitative analysis, therefore, risks absence of Indigenous participation in the framing of the policy directions that flow from those data" (Walter and Suina 2018, p. 234).

Since AI governance is an emerging field and the participatory rights of Indigenous peoples are still evolving into customary international law, the legal framework for their participation remains fragmented and generally derives from the fundamental right to self-determination.

4 Legal foundations: Indigenous peoples' rights to self-determination

Understanding Indigenous peoples' participation in international law requires examining the evolution of self-determination within the broader post-World War II legal framework. This section looks at how Indigenous status evolved within nation-state-dominated systems and how contemporary political theory critiques and reinterprets these concepts. We will lay the groundwork for discussing the role of Indigenous peoples in global governance, particularly in the context of AI governance.

Describing mid-twentieth-century political theory, James Anaya observes: "through the lens of Marxism or Western democratic theory, colonial structures were regarded negatively for depriving people of self-government" (Anaya 2004a, b). The primary features and trends of the state-centered framework within the contemporary international legal system were established after World War II. Since then, international law concerning Indigenous peoples has undergone rapid transformation. The UN Charter laid the foundation for the new decolonization human rights order through institutions created to safeguard self-government, aiming "[t]o develop friendly relations among nations based on respect for the principle of equal rights and self-determination of Peoples, and to take other appropriate measures to strengthen universal peace." (United Nations 1945, art. 1.2) The contemporary recognition of Indigenous self-determination in international law largely derives from the development of this principle in the *International Covenant on Civil and Political Rights (ICCPR)* and the *International Covenant on Economic, Social and Cultural Rights (ICESCR)* (both 1966), which share a common Article 1 affirming that "all peoples have the right of self-determination."

The very notion of "Indigenous peoples" arises from the domination of nation-states. One might argue that the right to self-determination is itself a colonial construct, given its definition in relation to the state (Kuokkanen 2019). Co-governance acts as a compromise, supporting collaborative governance frameworks that honor Indigenous self-determination.

Self-determination can be categorized into two types: internal and external (Senese 1989), with some cases involving intergovernmental aspects (Cambou 2018). Internal self-determination refers to the right of peoples to govern themselves, decide governance policies, and preserve cultural and political institutions within an existing state. External self-determination is linked to the right to full political independence and statehood. Participatory rights derive from the right to self-determination and represent the "intergovernmental aspect of self-determination." (Cambou 2018). Consequently, Indigenous paradiplomacy can be seen as one of the expressions of self-determination and a form of the intergovernmental dimension of Indigenous self-determination.

Unlike nation-building, which focuses on external self-determination and potential independence, Indigenous participation involves involvement in intergovernmental discussions concerning the affairs of non-state territories and homelands. For the Sámi people of northern Fennoscandia and the Kola Peninsula (Norway, Sweden, Finland, and Russia), this model is essential, as they are a minoritized culture within four countries and require cross-border cooperation to sustain their identity as an Indigenous nation. Self-determination in this context excludes the right to secede and is absent from international documents (Summers 2013, p. 229). This omission is unsurprising, as these documents are crafted and ratified by nation-states reluctant to threaten their territorial integrity. Bureaucratic limitations include strict diplomatic protocols and a lack of legal frameworks recognizing Indigenous diplomacy. Some Arctic nations have strong concerns about sovereignty and territorial integrity. These territorial anxieties may diminish as stateless peoples, such as Indigenous communities, become more active in paradiplomacy, thereby reducing the significance of traditional independence (Keating et al. 2001).

Indigenous participation corresponds to Indigenous peoples acting as international actors, as defined by Garcia Segura: "[w]hen non-state entities are capable of affecting the course of international events, they become actors and, therefore, enter into competition with the Nation-State." (Segura 1993) Whether this constitutes competition or cooperation with nation-states is debatable. Therefore, it creates opportunities for Indigenous peoples to engage in governance over their territories and bolster regional integration within their ancestral lands.

With respect to AI governance, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) mandates that Indigenous communities must retain full authority over how their knowledge is used in technological systems. The right to self-determination is enshrined in Article 3 of UNDRIP, which affirms Indigenous peoples' right to "determine their political status and freely pursue their economic, social and cultural development." This provision is a central provision that offers a foundation for the participatory framework in AI governance discussions.

Besides their consultative roles in established forums like the United Nations Permanent Forum on Indigenous Issues (UNPFII) and the Expert Mechanism on the Rights of Indigenous Peoples (EMRIP), Indigenous peoples are actively working to enhance their status within the UN system, including the pursuit of a unique consultative category at the Economic and Social Council (ECOSOC). Regarding the UNFCCC processes, the Baku Workplan for the Local Communities and Indigenous Peoples Platform (2025–2027) was approved at COP29, focused on promoting knowledge exchange and building capacity (UNFCCC 2024).

The recent formation of a permanent subsidiary body under Article 8(j) of the Convention on Biological Diversity (CBD) marks significant progress in protecting and respecting Indigenous knowledge systems amid global challenges, particularly technological and AI-related. Article 8(j) has long acknowledged the importance of preserving, maintaining, and controlling traditional knowledge, innovations, and practices of Indigenous peoples. This new permanent body establishes a formal platform for Indigenous communities to engage more actively in governing their knowledge systems.

The evolving international legal landscape reflects improved visibility and recognition of Indigenous peoples as vital actors within global governance. At the brink of the new emerging global AI governance framework, Indigenous peoples must not be left behind and become digitally colonized, but have the authority to govern the use of their knowledge and protect their data sovereignty. Enhancing Indigenous participation requires overcoming political resistance and bureaucratic barriers while developing new institutional frameworks that respect Indigenous diplomacy and epistemologies. Only through such pluralistic and inclusive approaches can international governance systems become truly representative and just.

5 Participation in matters affecting them

The law of self-determination supports participatory rights of Indigenous peoples, and it is arguably emerging as a rule of customary international law (Jones 2024). Implementation remains inconsistent across national contexts. As James Youngblood Henderson, a Canadian Indigenous representative, noted, Indigenous peoples have historically been excluded from essential legal protections and decision-making processes:

> "[w]e sought to understand why the Labour Conventions, the Human Rights Covenants or the [Universal] Declaration and Conventions of UNESCO had never been used to protect us. In these international systems, we found we were invisible; we were neither minorities nor Peoples. We were ghost Peoples, hidden, like our languages and cultures, by the concept of the nation-state." (Henderson 2009, p. 35)

The Indigenous leader was referring to the period prior to the establishment of the Working Group on Indigenous Populations (WGIP). The WGIP's creation was authorized by the Economic and Social Council in Resolution No. 1982/34 dated May 7, 1982.

What was particularly unique about this Working Group was its role in drafting the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). WGIP evolved into "one of the largest regular human rights meetings organized by the United Nations" (Weissner 1999, p. 103). This marked the moment when Indigenous peoples became visible and present on the international stage. By 1993, WGIP had agreed upon the final text of UNDRIP; the draft was approved by the Sub-Commission in 1994. Nonetheless, it took many years before the Declaration was finalized and ultimately adopted by the General Assembly on September 13, 2007.

This event was a milestone for thousands of Indigenous peoples. To this day, UNDRIP remains the only international instrument consolidating essential provisions that establish a universal framework for "the minimum standards for the survival, dignity and well-being of the Indigenous Peoples of the world" (UNDRIP, Article 13). While UNDRIP is not legally binding, it carries strong normative authority. By contrast, the ILO 169 is a binding treaty for its parties, forming the cornerstone of international Indigenous rights law.

Participatory rights are connected to international law through the principle of self-determination, which is enshrined in key legal instruments, such as ICCPR and ICESCR. These treaties recognize the rights of peoples to freely determine their political status and to pursue their economic, social, and cultural development. This paper focuses specifically on the right to political participation as a human right, particularly in the broad sense of the ILO 169 Convention.

At the time of its adoption, the ILO 169 Convention was progressive, with participatory rights of Indigenous peoples constituting a core pillar of the treaty. Article 6.1 obligates states to create mechanisms allowing Indigenous peoples to freely participate "at all levels of decision-making in elective institutions and administrative and other bodies responsible for policies and programs which concern them." Although only two Arctic states (Norway and Denmark) have ratified ILO 169, limiting its binding scope, it, nevertheless, establishes a benchmark for international legal thinking in this domain.

UNDRIP contains several provisions that are indirectly tied to the participatory rights of Indigenous peoples. The central provision, Article 41, calls for the "ways and means of ensuring participation of Indigenous peoples on issues affecting them" to be established. Additionally, Article 18 of UNDRIP addresses the right to self-representation:

> "Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own Indigenous decision-making institutions."

While it is not explicitly clear whether the "matters which would affect their rights" relate to local, national, or international levels, a broad interpretation implies participation in decision-making at the highest levels of global governance. This is especially relevant today, when it is difficult to imagine matters that do not affect Indigenous peoples in our interconnected world (Cambou 2018; Anaya 2004a, b, p. 53). Indigenous peoples remain key stakeholders in AI development, particularly because data centers and AI infrastructure raise critical issues around land use, energy consumption, water access, and Indigenous sovereignty (Childs 2022). Equally important are the dynamics of knowledge extraction and data appropriation that underpin large-scale AI systems, which risk reproducing colonial patterns of exploitation in digital form. Regarding the right to freely participate in decision-making processes affecting them, James Anaya affirms: "[i]t is evident that this requirement applies not only to decision-making within the framework of domestic or municipal processes but also to decision-making within the international realm" (Anaya 2004a, b, p. 53).

Though UNDRIP ratifies the right of the Indigenous peoples to take part in decision-making, implementation at the level of the nation-states remains inconsistent. Most of the Indigenous peoples encounter serious obstacles when they try to gain access to diplomatic avenues and to take part in the conventional international decision-making. Even when a seat at the decision-making table is granted, it remains commonly symbolic, and the role of the peoples concerned is often confined to advisory, not decision-making authority: "long-term impacts of disrespect, lack of recognition, and tokenism on the Indigenous participants in these fora also deserve further attention." (Belfer et al. 2019). The peoples encounter challenges in sustaining efforts to gain participatory rights due to inadequate funding, organizational proficiency, or political backing, language issues, lack of functional mechanisms, and "knowledge translation" architectures (Smylie et al. 2004). Their participation comes to the level of the UN restricted to consultative standing. It tends to limit their impact to advisory position and not provide for meaningful decision-making authority. The following section discusses the Arctic Council as an example that provides effective participation to the peoples of the Arctic beyond advisory standing.

6 Arctic Council as a model for participatory integration of Indigenous knowledge in pluralistic global AI governance

Instead of one cohesive global regulatory regime for global AI governance, we are left with a quilt of domestic laws, multilateral treaties, high-level and stakeholder-led summits, declarations, frameworks, and voluntary pledges.

This disparate, competitive patchwork often plays out more like a governance spectacle than a genuine roadmap to effective change. Recent developments in global AI governance have begun to acknowledge the social, cultural, and environmental dimensions of emerging technologies (United Nations 2024a). At the same time, Indigenous peoples have advocated for their rights to self-determination and data sovereignty with increasing force at international forums, from the United Nations to the COP summits.

Participation in global governance for Indigenous peoples is often tokenistic. A growing body of Indigenous advocacy calls instead for co-governance structures that provide Indigenous peoples with meaningful participation in AI-related decision-making. This should not be limited by the establishment of Indigenous-led ethics boards, policy forums, and technical committees that can shape the direction of AI projects from inception to deployment.

Meaningful participation should include a certain level of involvement in decision-making. The Arctic Council, with its framework of Indigenous participation alongside nation-states, serves as a model for how inclusive governance structures could inform pluralistic and participatory models for global AI governance. Indigenous peoples are structurally embedded in the Council's working groups and ministerial meetings as Permanent Participants, which sets a global precedent for institutionalized Indigenous participation in international governance.

Over 30 years ago, at the end of the Cold War, the nation-states lost the ability to control boundaries as effectively as before (Cohen 2003). During this time, there was a significant change in global geopolitics. Countries found it difficult to maintain control over the identities linked to their territories. These changes eroded sovereignty. Shortly after that, the Arctic Council was established in 1996 (Arctic Council 1996). It provided a platform for Indigenous peoples to bring their concerns to the forefront of the political agenda. The Arctic Council is a prominent intergovernmental forum that has been developing cooperation in the Arctic since its establishment as a soft-law body.

The influence of Arctic Indigenous leaders is significant. One of the most notable diplomats was Ms. Simon, who served as the first Inuk Ambassador for Circumpolar Affairs from 1994 to 2003. She played an active role in enhancing the participation of Indigenous peoples within the Arctic Council. Ms. Simon continues to work tirelessly to protect the environment and ensure that Indigenous communities have a strong voice in important discussions (Arctic Council 2020).

Despite these efforts, the fight for recognition and influence within the Arctic Council did not end. Indigenous groups continued to challenge the exclusionary practices within the Council's structures and decision-making processes. Among these groups, the Sámi and Inuits have played a particularly active role, both within the Arctic Council and in broader regional and international arenas, in asserting their rights to self-determination and in voicing concerns about the impacts of climate change, resource extraction, the encroachment of state and corporate interests on their lands, and ways of life.

One of the most notable examples of Indigenous participation is the adoption of three Arctic Agreements with an active participation of Indigenous peoples: the Arctic Council's Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic 2011, Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic 2013, and Agreement on Enhancing International Arctic Scientific Cooperation 2017.

Through persistent engagement, Indigenous actors have influenced the evolution of the Arctic Council's mandate. The Council's collaborative framework may inform how Indigenous knowledge and participation are institutionalized in AI governance systems, offering "prospects for adopting the Arctic Council's approach in other regions of the world in order to improve Indigenous peoples' international representational status" (Koivirova and Heinämäki 2006). At the time of writing this paper, despite the long pause and the subsequent resumption of its activities, the Arctic Council continues to function, albeit primarily in a virtual format, and its model of Indigenous participation remains an important reference for inclusive governance.

It is equally important to acknowledge that, while the Arctic Council is yet to make a specific agreement on cooperation regarding digital technologies or data, Indigenous groups in other regions, particularly in non-Western contexts, have already developed significant initiatives in data, digital, and AI governance. Examples include Indigenous data sovereignty movements, such as the CARE Principles for Indigenous Data Governance (Collective Benefit, Authority to Control, Responsibility, and Ethics), the Global Indigenous Data Alliance (GIDA), and region-specific frameworks emerging across Aotearoa New Zealand, Australia, and Latin America.

Scaling the Arctic Council's model to global AI governance poses difficulties. While it remains notable for its institutionalized representation, it operates within a Western intergovernmental paradigm. Recognizing a diversity of Indigenous governance innovations helps ensure that proposals for AI governance avoid reproducing colonial hierarchies and instead reflect a truly plural and decolonial approach. The Arctic's fractured geopolitical context is currently very challenging; it contrasts with the fragmented landscape of AI governance, where multiple states, geopolitical alliances, private sector actors, and

civil society groups interact. It will demand significant commitment to build a framework that effectively integrates Indigenous knowledge in such a complex arena.

7 Bridging Indigenous knowledge and global AI governance: institutional pathways

7.1 Jurisdictional certification approach and Indigenous participation

Global AI governance frameworks risk replicating hierarchical power structures. This includes proposed bodies, such as the International AI Organization (IAIO), to certify state jurisdictions for compliance with international oversight standards (Trager et al. 2023). In the emerging models, Indigenous peoples frequently remain peripheral to decision-making, their governance participation subsumed under Western legalism, technocratic efficiency, and domination of Western science. As the *Governing AI for Humanity* report (2024) highlights, governance structures encode value trade-offs; without intentional design, they privilege technologically advanced or economically dominant actors, marginalizing Indigenous voices. However, embedding Indigenous knowledge into AI governance frameworks is not only ethically imperative but also pragmatically beneficial for managing AI's uncertainties and risks (Ofosu-Asare 2025; Brown et al. 2024).

Lessons from other multistakeholder institutions caution against superficial inclusion. For example, Trager et al. (2023) cite the Forest Stewardship Council (FSC) as a model for inclusive global AI certification schemes. However, FSC faces criticism for failing to fully respect Indigenous rights and maintain balanced representation (Elbakadze et al. 2022; Earthsight 2026). To illustrate the limits of participation constrained by epistemological assimilation into Western frameworks, Maher et al. (2023) observe that FSC's multistakeholder engagement "cannot address the needs of marginalized stakeholders and may further undermine their interests."

To move beyond tokenism toward genuine inclusion, the IAIO's jurisdictional certification must ensure continuing Indigenous representation and authority. Indigenous peoples are not merely stakeholders but are peoples with unique ontologies and legal traditions that revolve around relational accountability and ecological interdependence. In harmony with this vision, Article 8(j) of the CBD created a permanent UN subsidiary body specifically mandated to safeguard Indigenous and local knowledge as a separate legal and governance domain. This subsidiary body embodies a parallel governance apparatus meant to secure Indigenous rights and knowledge rather than subsume them within dominant institutional frameworks.

These institutional examples reinforce the IAIO's potential to pioneer a pluralistic architecture by certifying not only states but also Indigenous governments, such as tribal councils, customary legal bodies, or regional Indigenous consortia as legitimate AI regulators within their territories. Such recognition would mark a transformational shift from symbolic consultation to genuine legal pluralism. Crucially, this inclusion must be underpinned by the principles of Free, Prior and Informed Consent (FPIC) and the CARE Principles, ensuring that Indigenous data sovereignty and governance ethics are foundational to AI regulation (GIDA 2019; Caroll et al. 2020; Walter and Suina 2018; Osacada 2024). Embedding these principles within the IAIO's institutional framework safeguards Indigenous authority in a data-driven AI landscape.

Beyond structural reform, meaningful inclusion demands dedicated funding and capacity-building to empower Indigenous-led AI research, governance experimentation, and infrastructure development. Without resources, Indigenous participation risks remaining rhetorical rather than substantive. Investments are necessary to enable Indigenous communities to engage with AI on their own terms as sovereign innovators and regulators.

The IAIO's jurisdictional certification approach remains a valid proposal for global AI governance. However, its legitimacy and resilience depend on transforming governance structures to reflect pluralistic epistemologies. Incorporating Indigenous epistemologies requires collective continuance and a deep commitment to epistemic justice. However, it will establish a more solid and sustainable foundation for governing the transformative technologies of our time.

At the same time, it is important to situate the IAIO within the broader constellation of existing frameworks and institutions that are asserting authority and seeking legitimacy over AI governance. These include emerging processes within the United Nations system, such as the UN High-Level Advisory Body on AI, the proposed Global Digital Compact, and UNESCO's Recommendation on the Ethics of Artificial Intelligence, as well as intergovernmental and multistakeholder fora like the OECD AI Policy Observatory, the Global Partnership on AI (GPAI), and the World Economic Forum's AI Governance Alliance. As AI governance institutions continue to emerge, they must build not only standards and regulations but also the political imagination and legal tools to govern *with* Indigenous peoples, not merely *for* them. Anything less risks injustice and institutional failure.

7.2 Towards the pluralistic approach to AI global governance

AI technologies pose unprecedented challenges for the global governance system. However, AI is not the first

complex technology to prompt international regulatory efforts. Historical precedents from other domains of Global Catastrophic Risk governance reveal varied institutional arrangements. Nuclear energy, climate change, and financial security are addressed by treaty-based United Nations bodies and hybrid public–private partnerships, each designed to meet distinct governance needs.

As we draw parallels between these institutional responses and the efforts to do the same for AI, we should not focus too heavily on identifying a single institutional analog as the perfect fit for the AI problem set. Instead, this paper focuses on the pluralistic approach to global AI governance, drawing on the strengths and limitations of existing models.

Two leading examples highlighted by the *Governing AI for Humanity* report (2024) for their effective international scientific cooperation and resource-sharing are the International Atomic Energy Agency (IAEA) and the European Organization for Nuclear Research (CERN). Both organizations illustrate how nation-states can collaboratively manage technologies through centralized, expert-driven frameworks. Their governance structures remain state-centric, focusing exclusively on member states and scientific experts. Crucially, neither IAEA nor CERN incorporates formal participatory rights for Indigenous peoples or other marginalized groups beyond a stakeholder engagement consultative model (OECD, 2025). Researchers focusing on nuclear governance on Indigenous lands have emphasized the critical role of Indigenous participation in the evolving nuclear energy landscape (Exner-Pirot and McCormick 2024).

AI governance continues to evolve; therefore, there is a pressing need to embrace epistemic pluralism by complementing technical and centralized approaches with models that reflect multiple ways of knowing (Dell 2021). The Arctic Council offers a compelling precedent for such inclusive governance. By institutionalizing Indigenous peoples as Permanent Participants with procedural rights, the Council ensures that Indigenous knowledge systems and self-determination are not peripheral but integral to Arctic policy-making (Yaneva 2025). However, there is still a need to expand the scope of Indigenous rights within the Arctic Council (Chuffart 2025). Their involvement enhances legitimacy and helps develop culturally appropriate outcomes, principles that are equally essential for equitable AI governance.

Building on these diverse institutional experiences, this study offers a global AI governance architecture that blends the scientific rigor and enforcement capabilities exemplified by IAEA and CERN with the pluralistic, rights-affirming participation model of the Arctic Council. As AI's societal impacts deepen, this hybrid approach will be vital to balancing universal standards with respect for Indigenous self-determination and knowledge.

Initiatives such as an AI capacity development network and a Global AI fund, central to the *Governing AI for Humanity* report and aligned with the Sustainable Development Goals, can help ensure equitable access to AI benefits. Crucially, such efforts must draw from and respect the existing epistemologies and technological practices of Indigenous peoples and other communities in the Global South, rather than assuming capacity gaps that reflect colonial hierarchies of knowledge and expertise.

Through the work of the *Independent International Scientific Panel on AI* and the adoption of participatory governance mechanisms, United Nations Member States have the opportunity to institutionalize a global AI governance system that supports responsible deployment while embedding Indigenous participation as a core element. Drawing lessons from the resource-sharing and regulatory successes of IAEA and CERN, alongside the Indigenous-inclusive model of the Arctic Council, offers a path toward a pluralistic AI governance framework.

8 Conclusion

For AI governance frameworks to be truly effective, they must extend across borders to build trust, prevent "AI arms races," and avoid competitive declines in safety and rights standards. Due to geopolitical divides, current efforts reveal significant gaps in pluralism and representation. These gaps affect decision-making processes, including how assessments are carried out, ultimately influencing whose interests and knowledge are prioritized.

Pluralistic governance demands that a broader range of voices meaningfully participate in shaping technologies that impact everyone, especially recognizing the historical exclusion of Indigenous peoples and other marginalized communities. This paper demonstrates that Indigenous knowledge systems are not just cultural artifacts but vital sources of insight for addressing today's complex global challenges. In theory, the law of self-determination supports participation of Indigenous peoples in global governance; Article 18 of the UNDRIP explicitly guarantees Indigenous peoples the right to participate in decisions affecting their rights. This paper argues that the establishment and use of mechanisms and policies to enable Indigenous peoples to participate in AI governance has not become a widespread practice, but perhaps, following the latest developments at COP 16 and more paradiplomatic efforts in the future, it will be accepted as law as an emerging rule of customary international law. The recent establishment of the permanent subsidiary body under Article 8(j) of the CBD is an example of a governance

mechanism dedicated to safeguarding traditional knowledge. Similar institutional bodies within AI governance frameworks are necessary to preserve Indigenous knowledge systems amidst rapid technological change.

Indigenous peoples' rights are now more widely recognized and affirmed than ever before; however, the practical realization of meaningful participation remains uneven. Transformative governance models that respect Indigenous self-determination and epistemologies are necessary. The Arctic Council is a powerful example of such transformation. This model integrates Indigenous knowledge systems deeply into regional Arctic governance. It highlights the value of Indigenous inclusion not as tokenism but as a source of legitimacy and enriched policy.

Building on such models, global AI governance must embrace pluralistic frameworks that integrate Indigenous epistemologies alongside scientific and technical expertise. Indigenous peoples have asserted their rights to data sovereignty and ethical participation, emphasizing that their knowledge systems must be incorporated as equal authorities, rather than being sidelined as advisory inputs.

Proposed by Trager et al. (2023), IAIO offers a promising architecture to harmonize AI governance through a jurisdictional certification regime. Ideally, participatory rights and direct Indigenous decision-making should serve as a vital complement to a centralized certification. While it may not be feasible for Indigenous peoples to wield direct authority across all IAIO functions, embedding formal participatory rights within IAIO's certification and standard-setting bodies creates meaningful channels for influence and co-governance. Indigenous representatives can shape the criteria and processes that assess jurisdictional compliance, ensuring that certification respects Indigenous knowledge systems and ethical principles.

This dual approach balances the efficiency and enforceability of jurisdictional certification with epistemic justice, which opens space to formally recognize Indigenous peoples as legitimate AI regulators, paralleling how nation-states receive certification. Such recognition would mark a significant shift toward truly diverse, inclusive, and representative global AI governance, empowering Indigenous governments to enforce AI norms in accordance with their own traditions and epistemologies.

Indigenous knowledge systems are a foundational pillar of just and effective pluralistic AI governance. Building on the Arctic Council framework for Indigenous participation, the IAIO's jurisdictional certification model grounded in participatory rights, and lessons from the regulatory successes of IAEA and CERN, this paper opens a debate and proposes a multi-scalar, pluralistic governance architecture. Such an approach respects Indigenous self-determination, embraces epistemic diversity; moreover, it offers a viable pathway toward fostering resilient and equitable AI futures.

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