



world  
trade  
institute

# Navigating the AI Frontier in International Trade Law: The Role of the WTO's TBT Agreement

Milena da Fonseca Azevedo

WTI WORKING PAPER SERIES  
WTI working paper no. 4/2024

*u*<sup>b</sup>

---

<sup>b</sup>  
UNIVERSITÄT  
BERN

# NAVIGATING THE AI FRONTIER IN INTERNATIONAL TRADE LAW: THE ROLE OF THE WTO'S TBT AGREEMENT<sup>1</sup>

Milena da Fonseca Azevedo<sup>2</sup>

## ABSTRACT

Artificial Intelligence (AI) is fundamentally reshaping various facets of social, political and economic life. Within this transformative paradigm, both international organizations and national governments are actively formulating guidelines and regulations to govern the development and deployment of AI. Meanwhile, at the World Trade Organization (WTO) discussions predominantly centre around matters pertinent to e-commerce. However, at the Technical Barriers to Trade (TBT) Committee there are ongoing discussions of technical regulation of digital products, including AI. In view of this, this working paper intends to present research on the role of the WTO, specifically the TBT Agreement in shaping AI regulation. The reason to focus on this agreement is twofold: (i) there are notifications of AI regulation at the TBT Committee, and (ii) there are a number of standards being developed to AI. Therefore, this research intends to explore the potential utilization of TBT transparency instruments to tackle issues arising from the use of AI in different products, and scrutinize the pivotal role of international standard settings as a basis for regulating AI. By exploring into these dimensions, this research strives to offer valuable insights into how international trade law can navigate the complexities inherent in regulating digital technologies in the age of AI. This working paper will be divided in four parts: the first with an overview of the “state of the art” of AI international regulation. A second part with the developments in the international trade system, more specifically the notifications and specific trade concerns at the TBT Committee and the role of standards. The third part will present the legal challenges that the application of TBT to AI can raise to the WTO, and final remarks.

## INTRODUCTION

Artificial Intelligence (AI) increasingly influences various aspects of international trade, from supply chain optimisation and logistics to automating financial and customs transactions. Embedded in services and goods, AI enhances efficiency and competitiveness for countries and enables the emergence of other technologies such as the Internet of Things (IoT), autonomous vehicles, automated production with robotics, and many other technological developments.

AI has become a general-purpose technology that has the potential to change how society works and how people live and work. Both international organisations and national governments are actively formulating guidelines and regulations to govern the development and deployment of AI, addressing various side effects such as bias, job displacement, privacy and consumer protection, fragmentation, moral dilemmas, and cybersecurity. Conversely, AI promotes

---

<sup>1</sup> This study was financed in part by the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) – Finance Code 001*

<sup>2</sup> Milena da Fonseca Azevedo is a Visiting Researcher at the World Trade Institute (WTI) of the University of Bern in Switzerland. She is a PhD candidate in International Law at the University of Sao Paulo (USP), and a fellow of the Ministry of Education in the Program of Academic Excellence (CAPES/PROEX) in Brazil. Previously, she was a participant at the World Trade Organization (WTO) Support Programme for Doctoral Studies.

innovation, increased efficiency and productivity, accessibility, and automation of processes, among others.

Meanwhile, the World Trade Organization (WTO) occupies a unique position in these discussions, focusing on digital trade through initiatives like the Work Programme on E-commerce (WPEC) and the Joint Statement Initiative (JSI) on e-commerce. These initiatives address digital trade issues, but debates continue regarding the applicability and relevance of existing and future WTO disciplines to digital technologies like AI.

However, the WTO's Technical Barriers to Trade (TBT) Committee is already actively engaged in discussions of digital technologies regulation, including AI. Various countries have notified measures to this committee, highlighting the importance of balancing regulation with legitimate public policy objectives, such as protecting human life and health, consumer protection, and environmental preservation. Still, significant challenges remain in addressing these measures within the WTO framework. These challenges include reaching a terminology for AI and its elements, determining whether AI fits into the TBT framework, regulating an autonomous and adaptable technology, and navigating the different standards set by various organisations.

In view of the intricacy of AI as an object, and its regulation, this paper intends to examine whether international trade law, particularly the TBT Agreement, can effectively govern digital technologies like AI. It aims to assess the significance of the TBT Agreement in addressing AI-related concerns, explore the potential utilisation of TBT transparency instruments to tackle issues arising from AI use in different products, and scrutinise the pivotal role of international standard-setting as a basis for regulating AI. By exploring into these dimensions, this research strives to offer valuable insights into how international trade law can navigate the complexities inherent in regulating digital technologies in the age of AI and present the challenges of this topic in the WTO.

In order to do this, this working paper will be divided in four parts: the first is the presentation of the global governance of AI, including the proliferation of legal instruments in the field and the discussions of AI in the WTO. A second part will tackle the standard-setting approach in the TBT Agreement. The third part will present the use of transparency instruments of the TBT Agreement, and, a final conclusion.

## **1. AI Governance: A Global Perspective**

In the past five years, several countries have enacted their AI national strategies, following their regulatory goals<sup>3</sup>, and over the past eight years, numerous AI-related laws have been enacted<sup>4</sup>. According to the Organisation for Economic Co-operation and Development (OECD) AI Policy Observatory<sup>5</sup>, there were over 1,000 policy initiatives in 69 countries, territories and the European Union (EU) until June 2024.

---

<sup>3</sup> Available at: <https://ourworldindata.org/grapher/national-strategies-on-artificial-intelligence>. Accessed on 30/05/2024.

<sup>4</sup> Artificial Intelligence Index Report 2024. Available at: <https://aiindex.stanford.edu/report/>. Accessed on: 23/06/2024.

<sup>5</sup> OECD.AI (2021), powered by EC/OECD (2021), database of national AI policies, accessed on 21/06/2024, <https://oecd.ai>.

In this same path, international organisations are endorsing guidelines, laws and directives that provide principles and boundaries for the development and implementation of AI, e.g., the OECD AI Principles<sup>6</sup>, United Nations Educational, Scientific and Cultural Organization (UNESCO) Recommendation on the Ethics of Artificial Intelligence<sup>7</sup>, G20 AI Principles<sup>8</sup>, G7 "Hiroshima Process" AI Principles and Code of Conduct<sup>9</sup>, United Nations (UN) General Assembly Resolution on The Promotion of "Safe, Secure And Trustworthy" AI systems<sup>10</sup>, to name a few. In May, 2024, the Council of Europe (CoE) adopted the Framework Convention on Artificial Intelligence, Human Rights, Democracy and the Rule of Law<sup>11</sup>, the first hard law and binding commitment on AI.

Many of these regulations target ethical and social risks, including privacy issues, biases, human dignity, and consumer protection, as well as safety, interoperability, security, quality, and protection of human life and health protection. Some regulations also address the policy challenges faced by developing and least developed countries (LDCs) that deal with the digital divide and lack of access to technological advances.

In addition to international organizations, standardization organizations are working on AI standards<sup>12</sup>. The International Telecommunication Union (ITU)<sup>13</sup>, UN's specialized agency for information and communication technologies, has published over 100 standards on AI already, with 120 more in development as of 2024<sup>14</sup>. In addition, International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) have established under Joint Technical Committee (JTC) 1 of information technology, the

---

<sup>6</sup> The OECD AI Principles were adopted in 2019, as the first AI regulation enacted, and it was updated in May 2024. Among the main changes is the inclusion of human rights and democratic values and interoperability. OECD guidelines focus on 5 principles: i) inclusive growth, sustainable development and well-being; ii) human rights, democracy, including fairness and privacy; iii) transparency and explainability; iv) robustness, security and safety; and v) accountability) and 5 recommendations for national policies and international cooperation: i) investing in AI research and development; ii) fostering an inclusive AI-enabling ecosystem; iii) shaping an enabling interoperable governance and policy environment for AI; iv) building human capacity and preparing for labour market transition; and v) international cooperation for trustworthy AI. It has 47 members, among OECD members, non-members, and the EU. More information available on: <https://oecd.ai/en/ai-principles>. Accessed on 20/06/2024.

<sup>7</sup> More information at: <https://www.unesco.org/en/artificial-intelligence/recommendation-ethics>. Accessed on: 03/07/2024.

<sup>8</sup> More information at: <https://oecd.ai/en/wonk/documents/g20-ai-principles>. Accessed on 03/07/2024.

<sup>9</sup> More information at: [https://www.mofa.go.jp/ecm/ec/page5e\\_000076.html](https://www.mofa.go.jp/ecm/ec/page5e_000076.html). Accessed on 03/07/2024.

<sup>10</sup> More information at: <https://news.un.org/en/story/2024/03/1147831>. Accessed on 03/07/2024.

<sup>11</sup> More information at: <https://www.coe.int/en/web/portal/-/council-of-europe-adopts-first-international-treaty-on-artificial-intelligence>. Accessed on 20/06/2024.

<sup>12</sup> In addition to those, the Institute of Electrical and Electronics Engineers (IEEE) also has standards on AI, as available at: <https://standards.ieee.org/initiatives/autonomous-intelligence-systems/standards/>. Accessed on 29/09/2024.

<sup>13</sup> More information on: <https://www.itu.int/en/about/Pages/default.aspx>. Accessed on 22/08/2024.

<sup>14</sup> UNITED NATIONS. United Nations System White Paper on AI Governance: An analysis of the UN system's institutional models, functions, and existing international normative frameworks applicable to AI governance. Available at: <https://unsceb.org/united-nations-system-white-paper-ai-governance>. Accessed on 05/08/2024, page 14.

subcommittee (SC 42), dedicated to AI standard setting, in 2017<sup>15</sup>. Currently, ISO/IEC SC42 have 31 published standards and 36 standards under development on the topic.<sup>16</sup>

These organisations highlighted that "*Our standards can underpin regulatory frameworks and, when adopted, can provide appropriate guardrails for responsible, safe and trustworthy AI development.*"<sup>17</sup>

The multiplication of the regulation abovementioned has given rise to a "Multilayered AI Governance"<sup>18</sup>, which brings important points relevant to AI regulation for different reasons.

First, when AI issues are within the mandate of international organizations, these bodies are actively aiming to regulate the topic. Second, these guidelines and recommendations influence the countries' regulatory strategies and legislations, as in the case of OECD AI Principles<sup>19</sup>. It is used as a guideline for the member countries and in a number of free trade agreements (FTAs)<sup>20</sup>.

Third, many of these initiatives consider a limited number of participants. Most of them are plurilateral, or bilateral. The Framework of CoE, even though it is binding, is a plurilateral initiative negotiated by 46 members – the EU countries and 11 non-member states<sup>21</sup> - and now signed by 10 members<sup>22</sup>. Other multilateral initiatives - part mostly of the UN system – e.g. UNESCO Ethics on AI<sup>23</sup>, UN AI Advisory Board (UNAIAB) report<sup>24</sup>, the UN General

---

<sup>15</sup> More information available at: <https://www.iso.org/committee/6794475.html> and [https://www.iec.ch/dyn/www/f?p=103:7:::FSP\\_ORG\\_ID:21538](https://www.iec.ch/dyn/www/f?p=103:7:::FSP_ORG_ID:21538). Accessed on 23/06/2024.

<sup>16</sup> According to the information available at: <https://www.iso.org/committee/6794475/x/catalogue/p/1/u/1/w/0/d/0>. Accessed on 26/08/2024.

<sup>17</sup> Available at: <https://www.worldstandardscooperation.org/ai-and-standards/>. Accessed on 23/06/2024.

<sup>18</sup> The term is born from the description at the UN System White Paper on AI Governance of the regulatory instruments of the organization as “multi-layered and multi-faceted instruments that provide a strong foundation for normative efforts”. In UNITED NATIONS. United Nations System White Paper on AI Governance: An analysis of the UN system’s institutional models, functions, and existing international normative frameworks applicable to AI governance. Available at: <https://unsceb.org/united-nations-system-white-paper-ai-governance>. Accessed on 05/08/2024, page 3.

<sup>19</sup> Op. Cite 6

<sup>20</sup> According to: Mira Burri, María Vásquez Callo-Müller and Kholofelo Kugler, The Evolution of Digital Trade Law: Insights from TAPED, *Trade Law 4.0 Working Paper No 4/2023* (forthcoming in *World Trade Review* Vol. 23, 2024), available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4621230](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4621230), page 20 and 21.

<sup>21</sup> Please refer to note 11.

<sup>22</sup> “The Framework Convention was signed by Andorra, Georgia, Iceland, Norway, the Republic of Moldova, San Marino, the United Kingdom as well as Israel, the United States of America and the European Union.” As available at: <https://www.coe.int/en/web/portal/-/council-of-europe-opens-first-ever-global-treaty-on-ai-for-signature>. Accessed on 29/09/2024.

<sup>23</sup> The UNESCO Ethics on AI wants to provide a global resource for policymakers, regulators, academics, the private sector and civil society to find solutions to the most pressing challenges posed by AI based on principles such as safety, privacy, responsibility and accountability, transparency, among others. More information available on: <https://www.unesco.org/en/artificial-intelligence/recommendation-ethics>. Accessed on: 23/06/2024.

<sup>24</sup> The UNAIAB is composed of experts from government, industry, academia and civil society. Some of their recommendations were tentatively presented in an Interim Report published in December 2023. The final report was published in September, 2024. More information available on: <https://www.un.org/en/ai-advisory-body>. Accessed on: 27/09/2024.

Assembly AI Resolution<sup>25</sup>, and the Global Digital Compact<sup>26</sup> – are soft law and restricted to the UN mandate on human rights, with limited effect on trade, for instance.

Forth, the regulation is developed in a “horizontal” approach or cross-sectoral, covering all AI technologies, or a “vertical” or “sectoral” approach, focusing on specific industries or sectors.<sup>27</sup> In research with national regulation, it was observed lack of coordination among horizontal and sector specific legislation leads to fragmented measures, and therefore, negative trade effect and barriers to markets where these regulations conflicted.<sup>28</sup> The same can be observed in international organizations, as regulation is multiplying on sector specific basis in organizations that work specifically with a topic – e.g. UNESCO, World Intellectual Property Organization (WIPO)<sup>29</sup> and World Health Organization (WHO)<sup>30</sup> – other organizations, such as the UN, that has a more vertical approach with, for instance the General Assembly AI Resolution and the Global Digital Compact, does not necessarily coordinate efforts with those other organizations to avoid overlap, duplication and conflicts among the instruments enacted. Therefore, it is not clear whether these different approaches conflict or not.

Fifth, regulation is principle-based which makes it abstract, and therefore difficult to translate into actual law and obligations to stakeholders, it is voluntary, and also difficult to determine compliance. On the other hand, it can represent public commitment to certain values, and therefore the adopters should be accountable to its implementation, and a way of identifying the stakeholders that are affected and that should comply with AI policy.<sup>31</sup>

---

<sup>25</sup> The UN General Assembly AI Resolution is the first one adopted on AI on a UN-wide basis. This Resolution establishes a vision that AI systems should be human-centric, reliable, explainable, ethical, inclusive as well as sustainable development-oriented. More information available on: <https://news.un.org/en/story/2024/03/1147831>. Accessed on: 23/06/2024.

<sup>26</sup> The Global Digital Compact is expected to “outline shared principles for an open, free and secure digital future for all”. This goal is guided by a set of principles: inclusivity, development, human-rights based, gender equality, environmental sustainability, accessibility and interoperability, responsibility and accountability, innovation, multiple stakeholders and forward-looking. In September, 2024 world leaders convened at the Summit for the Future in New York and adopted the Global Digital Compact. More information available on: <https://www.un.org/techenvoy/global-digital-compact>. Accessed on: 27/09/2024.

<sup>27</sup> This analysis is undertaken by OECD when assessing the applicability of the OECD AI Principles in national legislation, however it seems suitable in the international context as well, as it will become clear in the analysis of international instruments. Available at: OECD (2023), “The state of implementation of the OECD AI Principles four years on”, *OECD Artificial Intelligence Papers*, No. 3, OECD Publishing, Paris, <https://doi.org/10.1787/835641c9-en>, page 23 – 26.

<sup>28</sup> Kammerskollegium – National Board of Trade Sweden. Innovation, AI, Technical Regulation and Trade. Available at: <https://www.kommerskollegium.se/globalassets/publikationer/rapporter/2023/innovation-aitechnical-regulation-and-trade-short-version.pdf>. Accessed on 16/08/2024.

<sup>29</sup> To analyse the initiatives undertaken by the organization please access: [https://www.wipo.int/about-ip/en/frontier\\_technologies/](https://www.wipo.int/about-ip/en/frontier_technologies/). Accessed on 24/07/2024.

<sup>30</sup> To analyse the initiatives undertaken by the organization please access: <https://www.who.int/teams/digital-health-and-innovation/harnessing-artificial-intelligence-for-health#:~:text=Our%20Vision,no%20one%20is%20left%20behind>. Accessed on 24/07/2024.

<sup>31</sup> CHINEN, Mark. *The International Governance of Artificial Intelligence*. Cheltenham, UK: Edward Elgar Publishing, ISBN 978 1 80037 922 0, 33 pp., page 59.

In conclusion, we are witnessing the development of an international law of AI<sup>32</sup> driven by the proliferation of legislation. The fragmented and uncoordinated nature of these efforts underscores the rise of a "Multilayered AI Governance" system.

These regulations are part of the international system, but none of them are focused on trade. In the international trade system, the Digital Economy Agreements (DEAs) are innovative by regulating and discussing issues not yet found in traditional agreements<sup>33</sup>, including the adoption of ethical and governance frameworks that support the trusted, safe, and responsible use of AI technologies, fintech, the importance of a rich and accessible public domain, digital inclusion, digital identities, and open government data<sup>34</sup>.

According to the Trade Agreement Provisions on Electronic-commerce and Data (TAPED)<sup>35</sup> dataset, there are five agreements with provisions specifically addressing AI so far: four DEAs and one FTA<sup>36</sup>. Most trade agreements containing clauses regarding AI aim to encourage cooperation in developing and implementing frameworks that ensure the trustworthy, safe, and ethical utilisation of AI technologies. Among these, the United Kingdom–Singapore DEA stands out for its comprehensive approach, addressing various facets of AI, including ethical considerations, diversity, technical standards, transparency in algorithms, collaborative testing opportunities, and avenues for investment and commercialisation. These provisions also tie AI development to the digital economy and, in some instances, to fostering trade and investment. However, it's noteworthy that none of these agreements currently address AI's potential human rights implications, including privacy concerns, which have been significant topics in recent debates over the regulation of generative AI<sup>37</sup>.

This scenario showcases the potential of an organisation such as the WTO to bring multilateral binding trade rules to AI, that are not posed by any other organisation because: (i) WTO is a rule-based system in opposition to a principles-based system of the other multiple organizations that have enacted regulations on AI, (ii) the organization has a dispute settlement mechanism (DSM) that could enforce those rules, (iii) the potential of the organization on translating market rules (such as standards) into trade rules to members not to discriminate or cause unnecessary

---

<sup>32</sup> Smuha, Nathalie A.: *Biden, Bletchley, and the emerging international law of AI*, *VerfBlog*, 2023/11/15, <https://verfassungsblog.de/biden-bletchley-and-the-emerging-international-law-of-ai/>, DOI: [10.59704/e74941ad144ce5ff](https://doi.org/10.59704/e74941ad144ce5ff).

<sup>33</sup> Yasmin Ismail, 'The Evolving Context and Dynamics of the WTO Joint Initiative on E-Commerce The fifth-year stock take and prospects for 2023' [2023]. International Institute for Sustainable Development (IISD), page 5

<sup>34</sup> Mira Burri and Anupam Chander, 'What Are Digital Trade and Digital Trade Law?' [2023] 117(1) *AJIL Unbound* 99-103, page 103

<sup>35</sup> Mira Burri, Maria Vasquez Callo-Müller and Kholofelo Kugler, TAPED: Trade Agreement Provisions on Electronic Commerce and Data, available at: <https://unilu.ch/taped>. Accessed on 16/10/2024.

<sup>36</sup> Namely: Australia - Singapore Digital Economy Agreement; Digital Economy Partnership Agreement ("DEPA") Between Singapore, Chile & New Zealand; Digital Economy Agreement between the United Kingdom of Great Britain and Northern Ireland and the Republic of Singapore; Free Trade Agreement between the United Kingdom of Great Britain and Northern Ireland and New Zealand; Digital Partnership Agreement Between the Government of the Republic of Korea and the Government of the Republic of Singapore

<sup>37</sup> Mira Burri, Maria Vásquez Callo-Müller and Kholofelo Kugler, The Evolution of Digital Trade Law: Insights from TAPED, *Trade Law 4.0 Working Paper* No 4/2023 (forthcoming in *World Trade Review* Vol. 23, 2024), available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4621230](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4621230), page 20 and 21.

restrictions to trade while maintaining public policies, and (iv) a multilateral organization with 166 members.<sup>38</sup>

In view of this, instead of creating a new set of rules, that would have no political will, considering the actual political scenario and consensus-based principle of the WTO, the suggestion of this work is to assess the existing provisions and instruments of the organisation to understand the limits and applicability of what there is already in the WTO rulebook, before adding new rules, in specific to the TBT Agreement. In addition, because AI was not developed in a legal vacuum, trade rules were already in place and can be applicable to AI.<sup>39</sup> The goal is to evaluate if the instruments available in that agreement are enough to improve and regulate the effects of AI in international trade, when they concern technical measures. Otherwise, the creation of new disciplines, without assessing the gaps beforehand, will only add more complexity to the "Multilayered AI Governance".

## 2. AI and the World Trade Organization (WTO)

Although the WTO members' attention is primarily focused on renewing the moratorium on customs duties of electronic transmissions in the WPEC<sup>40</sup> and the JSI<sup>41</sup> on e-commerce<sup>42</sup>, there is still no agreement among the members about the application of existing agreements to e-commerce or digital products formally addressed in the organisation.

Currently there is no formal negotiation occurring to include AI or digital technologies in the existing or even on the ongoing negotiations<sup>43</sup>, however there are notifications and specific trade concerns (STCs) raised about digital technology, including AI, at the TBT Committee.

---

<sup>38</sup> According to the information available at: [https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm). Accessed on 16/10/2024.

<sup>39</sup> Chinen, Mark. *The International Governance of Artificial Intelligence*. Cheltenham, UK: Edward Elgar Publishing, ISBN 978 1 80037 922 0, 33 pp., page 33.

<sup>40</sup> Available at: [https://www.wto.org/english/tratop\\_e/ecom\\_e/ecom\\_work\\_programme\\_e.htm](https://www.wto.org/english/tratop_e/ecom_e/ecom_work_programme_e.htm). Accessed on 25/06/2024.

<sup>41</sup> It is an initiative that unites 90 Members with 90% of global trade on e-commerce to "seek to achieve a high standard outcome that builds on existing WTO agreements and frameworks with the participation of as many WTO members as possible". Negotiators have reached a stabilised text on 26 July 2024 as available at INF/ECOM/87, 26 July 2024. It is important to note that the text was circulated on behalf of the participants, except for Brazil, Colombia, El Salvador, Guatemala, Indonesia, Paraguay, Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, Türkiye and United States due to ongoing domestic consultations. Available at: [https://www.wto.org/english/tratop\\_e/ecom\\_e/xcom\\_e/joint\\_statement\\_e.htm](https://www.wto.org/english/tratop_e/ecom_e/xcom_e/joint_statement_e.htm). Accessed on 25/06/2024.

<sup>42</sup> It is defined at the WTO as "the production, distribution, marketing, sale or delivery of goods and services by electronic means". This definition of e-commerce already limits the scope of application of the rules under negotiation at the JSI, which include, inter alia, spam, electronic authentication and signatures, consumer protection, open government data, electronic contracts, cybersecurity, open internet access, paperless trading, and electronic transaction framework. The scope of the final agreement is "trade by electronic means". There is no definition of electronic means in the agreement (Article 2), which leaves even more doubt about its scope. Article 11 that regulates the customs duties defines electronic transmissions as "transmission made using any electromagnetic means and includes the content of the transmission." It is not clear, however if this definition is applicable to the entire agreement, as the definition is only available on Article 11. Therefore, it is not clear whether the agreement would be applicable to digital technologies in general, such as AI, blockchain, IoT, big data, among others. Other crucial topics for AI and the raising digital technologies, such as source code, cross-border data flows are topics difficult to reach consensus, and therefore were left aside of the final agreement. On the latter, please check: <https://www.csis.org/analysis/ustr-upends-us-negotiating-position-cross-border-data-flows>. Accessed on 25/06/2024.

<sup>43</sup> The final stabilized text of the JSI on e-commerce covers electronic transactions frameworks, electronic authentication and electronic signatures, electronic contracts, electronic invoicing, paperless trading, single



The TBT Agreement regulates the preparation, adoption and application of regulatory measures that affect trade in goods.<sup>44</sup> The regulatory measures encompass technical regulation, standards with requirements on safety, quality, health, among others; and conformity assessment procedures (CAPs) for assessing product compliance with such requirements (e.g. testing, inspection, accreditation, etc.). These measures can be used to achieve public policy goals (e.g. protection of human health, protection of the environment, among others). However, the provisions of the agreement aim to guarantee that these measures are not unjustifiably discriminatory<sup>45</sup> and/or do not create unnecessary obstacles to trade.<sup>46</sup>

In order to do that, the TBT has a series of principles to ensure that the regulatory process does not create unnecessary and discriminatory technical barriers to trade while safeguarding the right to regulate and address legitimate public policy objectives. These principles include, among others<sup>47</sup>, harmonisation and coherence (i.e. mutual recognition agreement and applicability of relevant international standards), and transparency (i.e. notifications and STCs).

The TBT Agreement encourages the use of international standards as a basis for technical regulations, standards, and CAPs<sup>48</sup>. This encouragement is strengthened by the presumption that a technical regulation does not create unnecessary obstacles to trade if it aligns with relevant international standards.<sup>49</sup>

Through its transparency provisions, the TBT Agreement aims to create a predictable trading environment. For that purpose, WTO Members shall notify draft technical regulations<sup>50</sup>, draft of CAPs<sup>51</sup>, and draft of standards<sup>52</sup> that will affect trade with other Members and that are not in accordance with relevant international standards to discuss bilaterally and receive comments. If bilateral information is not sufficient, Members can raise STCs.<sup>53</sup>

Considering this structure, the following sections will address the TBT transparency commitments and the international standards applicable to the regulation of AI, as it follows.

#### **a. The use of standards**

Standards are a fundamental part of technical regulation and CAPs, and therefore they are essential for TBT Agreement.

---

windows data exchange and system interoperability, and electronic payments. There is also agreement on other sections of the agreement that cover: customs duties on electronic transmissions, open government data, access to and use of the internet for electronic commerce, consumer protection, unsolicited commercial electronic messages, personal data protection, cybersecurity, transparency, cooperation, development, general and security exceptions, prudential measures, personal data protection exceptions and favourable treatment to indigenous peoples.

<sup>44</sup> Annex 1, TBT Agreement

<sup>45</sup> Articles 2.1, and 5.11, and Annex 3.D, TBT Agreement

<sup>46</sup> Article 2.2, Article 5.1.2 and Annex 3.E, TBT Agreement

<sup>47</sup> TBT include obligations of non-discrimination, and the prohibition of unnecessary obstacles to trade, special and differential treatment to developing and least developed countries.

<sup>48</sup> Article 2.4, Article 5.4, and Annex 3. F, TBT Agreement.

<sup>49</sup> This presumption is not applicable to standards and CAPs. Article 2.5 of the TBT Agreement

<sup>50</sup> Articles 2.9, 2.10 and 3.2, TBT Agreement

<sup>51</sup> Articles 5.6, 5.7 and 7.2, TBT Agreement

<sup>52</sup> The “Decision of the Committee on Principles for the Development of International Standards, Guides and recommendations with Relation to Articles 2, 5 and Annex 3 of the Agreement”, called the “Six Principles” establishes a similar set of obligation for standards, in the principle of “transparency”.

<sup>53</sup> Article 13.1, TBT Agreement.

Standards provide rules, guidelines, or characteristics for products or related processes and production methods for common and repeated use. It is developed and approved by a recognized body. Its compliance is not mandatory and it can handle terminology, symbols, packaging, marking and labelling requirements<sup>54</sup>. It is used as a basis for technical regulation and CAPs. When turned into one of the latter, as part of a governmental measure<sup>55</sup>, its compliance becomes mandatory. Therefore, standards are not mandatory *de jure*, but *de facto* they are legally binding.<sup>56</sup>

The TBT Agreement regulates the parameters for adopting standards<sup>57</sup>, including the adoption of Principles for the Development of International Standards, Guides and Recommendations (so called Six Principles)<sup>58</sup> with a view to guiding Members in the development of international standards, guides and recommendations. The Six Principles provide guidance in the areas of "transparency", "openness", "impartiality and consensus", "effectiveness and relevance", "coherence" and "development dimension". The same principles should be applied in the technical work delegated from international standardising bodies to other organisations.

A large number of standards are being developed for AI to ensure technological and semantic interoperability, enabling machines to interpret and act on data. This shift supports the development of an Internet of Services rather than just the IoT. Standards are vital for protecting against cybercrime, ensuring the provenance of goods, enabling secure data sharing, and aligning regulations with industry best practices. They improve the quality, security, sustainability, and resilience of markets, while also fostering competition and efficiency. Additionally, standards support global policy goals by ensuring AI systems are secure, explainable, robust, and free from bias. They promote safe failure mechanisms and discourage opaque and unsafe methods. By shaping responsible AI development, standards build trust

---

<sup>54</sup> Annex 1, TBT Agreement

<sup>55</sup> In addition to governmental bodies responsible for standardization, there are standards developed by private entities, that include, *inter alia*, companies, and non-governmental organizations. These standards are used to govern supply chains or respond for consumer concerns. It addresses environmental, social, food-security, or ethical specifications. These measures may affect market access and trade. The problem with those standards, it is that there is a discussion whether they are subject to the TBT Agreement or not. Some members of the WTO have the view that they are not covered; other Members believe they are covered and their concern is about the trade-restrictive effects of private standards at the WTO. The concerns include the higher level of stringency of requirements set out in "private standards" compared with those regulated standards, and lack of transparency. This discussion was covered in the Fifth Triennial Review. The minutes are in document G/TBT/26, 13 November 2009, para. 26 and it was recalled at the Sixth Triennial Review in document G/TBT/32, 29 November 2012, para. 7.

<sup>56</sup> Klotz, S., *International Standardization and Trade Regulation: Exploring Linkages between International Standardization Organizations and International Trade Agreements*, Leiden, Boston, Brill, Nijhoff, 2024, page 2.

<sup>57</sup> Article 4.1 of the TBT Agreement requires that central governments standardizing bodies accept and comply with Annex 3 of the TBT Agreement called the "Code of Good Practice for the Preparation, Adoption and Application of Standards". It contains obligations and guidance in the setting standards, such as that the standards do not concede treatment less favourable from products from one country in relation to the national product, the standard should not create unnecessary obstacles to international trade.

<sup>58</sup> Decision of the Committee on Principles for the Development of International Standards, Guides and recommendations with Relation to Articles 2, 5 and Annex 3 of the Agreement, G/TBT/9, 13 November 2000, para. 20 and Annex 4.

between states and researchers, enhance credibility, and facilitate interoperability, reducing trade barriers and aligning AI progress with global best practices.<sup>59</sup>

In view of this, SC 42, the joint committee under ISO and IEC, is responsible for creating international standards that guide the responsible adoption of AI. These standards are developed through a consensus-based, voluntary system that brings together a diverse range of global stakeholders, including developing countries, various industries, and individuals from different backgrounds. The standards are designed with an ecosystem approach, ensuring that regulatory, business, societal, and ethical concerns are integrated. SC 42 focuses on various dimensions to address the complexities of AI adoption<sup>60</sup>.

Firstly, the committee develops foundational standards that cover concepts, terminology. Terminology matters because it determines the scope of the regulation. It can include or exclude certain technologies, or certain types of responsibilities, that narrow or broaden the applicability of the law. If countries regulate the same issue or risk, particularly those of a highly technical nature, using different terminology, this may result in unnecessary regulatory fragmentation and, ultimately, unnecessary barriers to trade. As AI regulatory interventions tend to target risks stemming from "AI systems", how wide the scope of such regulations will depend, among others, on what one means by this term. Also, the definition is the first step for interoperability. No wonder that, for instance, the TBT Agreement's definitions of "technical regulation" and "standard" expressly mention that one of the specifications these documents can provide for concerns is "terminology"<sup>61</sup>.

On the other hand, there are also difficulties in settling a terminology. It can get outdated quickly, considering the evolution of the technology<sup>62</sup>. There is also difficulty in predicting problems and the change in risks and concerns inherent to the autonomy and adaptiveness of the technology. For regulators, one of the challenges is how to strike a balance that allows for product self-improvements that result in beneficial changes to its properties while addressing moving-target-type uncertainties from products with properties that can be constantly in flux. Difficulties striking this regulatory balance can affect the deployment of - and ultimately trade in - AI-enabled products<sup>63</sup>.

---

<sup>59</sup> Allan Mayo and Cindy Parokkil BSI Whitepaper: The role of standards in supporting the transition to a digital economy and facilitating digital trade: Transforming systems using standards. Available at: <https://www.bsigroup.com/en-GB/insights-and-media/insights/whitepapers/standards-and-digitalization-in-developing-economies/>

Peter Cihon, *Standards for AI governance: international standards to enable global coordination in AI research & development* (Oxford: Future of Humanity Institute, 2019), <https://www.fhi.ox.ac.uk/wp-content/uploads/Standards-FHI-Technical-Report.pdf>.

<sup>60</sup> The description of the content of standards is available at: <https://www.unesco.org/en/articles/how-iso-and-iec-are-developing-international-standards-responsible-adoption-ai>; <https://jtc1info.org/sd-2-history/jtc1-subcommittees/sc-42/>; and <https://jtc1info.org/sd-2-history/jtc-1-plenaries/>. Accessed on 26/08/2024.

<sup>61</sup> Annex 1, TBT Agreement. See also Article 1.1, TBT Agreement that requires that "general terms" have the meaning and "definitions" from international bodies/UN.

<sup>62</sup> The OECD AI Principle definition of "AI system" was updated after 5 years, which can be considered a short period. Please refer to note 19.

<sup>63</sup> Please check Article 2.3 of the TBT Agreement states that technical regulation shall not be maintained if circumstances or objectives giving rise to their adoption no longer exists or if the changed circumstances can be addresses in a less-restrictive manner. There is a similar obligation for CAPs, and it establishes that when specifications of a product change, the conformity assessment procedure for the modified product is limited to

Another critical area of focus is creating standards that promote trustworthy AI. SC 42 develops guidelines to address key issues such as explainability, transparency, bias, controllability, robustness, and oversight of AI systems. Additionally, the committee sets frameworks for risk management and ensures the functional safety of AI technologies.

SC 42 also emphasizes governance and accountability in AI systems. It develops standards that address the governance implications of AI, helping organizations define responsibilities and assign accountability within AI operations, and the application of machine learning. To further ensure reliability, SC 42 collaborates with other committees to produce guidelines for the testing, verification, and validation of AI systems.

Sustainability is another priority for SC 42. The committee works on assessing the environmental impact of AI systems and strives to align its standards with the UN Sustainable Development Goals (SDGs). This ensures that AI technologies contribute to a sustainable future.

Ethical considerations and societal concerns are embedded in SC 42's work. The committee is currently developing technical specifications to provide clear guidance on how to adopt AI responsibly while addressing ethical challenges.

Additionally, SC 42 has introduced management system standards, such as the ISO/IEC 42001 standard, which provides a framework for organizations to responsibly develop and manage AI systems. This standard enables third-party certification, giving stakeholders reassurance that organizations are complying with best practices.

These other aspects of standardization - related to the structure of AI, governance and accountability, sustainability and ethical and social concerns – affect directly the product lifecycle. AI "lifecycle"<sup>64</sup> involves the stages of development and deployment of AI systems. It begins with the design and planning phase, which includes setting objectives and incorporating ethical considerations. The data collection and processing stage involves gathering and preparing data, ensuring its quality and relevance. Next is the model-building and training phase, where algorithms are developed and refined using the collected data. Following this is the validation and testing phase, which ensures the AI system performs as intended and adheres to ethical guidelines. The deployment and operation stage involves integrating the AI system into real-world environments, accompanied by continuous monitoring and maintenance to address any issues and ensure compliance with standards. Throughout the lifecycle, emphasis is placed on transparency, accountability, and the alignment of AI systems with human rights and democratic values.

It is at the lifecycle phase that the parameters of the system are settled, and therefore, ethical guidelines are established, standards are implemented, and the risk assessment of how algorithms influence the system is tested and established. Therefore, regulation could have a

---

what is necessary to determine whether adequate confidence exists that the product still meets the technical regulations or standards concerned, according to Article 5.2.7, TBT Agreement.

<sup>64</sup> More information available at: [https://www.oecd-ilibrary.org/sites/8b303b6f-en/index.html?itemId=/content/component/8b303b6f-en#:~:text=In%20addition%2C%20it%20details%20a,to%20iv\)%20operation%20and%20monitoring](https://www.oecd-ilibrary.org/sites/8b303b6f-en/index.html?itemId=/content/component/8b303b6f-en#:~:text=In%20addition%2C%20it%20details%20a,to%20iv)%20operation%20and%20monitoring). Accessed on 30/05/2024.

“lifecycle approach” to the regulation of AI based on the prevention of harm from unsafe architectures while funding, developing and incentivising architecture with safety properties. Another alternative is to draw red lines that cannot be crossed, such as the case of the EU AI Act and the "Risk management framework" of the National Institute of Standards. Designing unacceptable behaviour will catalyse the development and deployment of AI systems that are safe by design to comply with these mandates.<sup>65</sup>

In addition to international standards, there are standards implemented and developed local and nationally. In the United States (US), it was released in 2023 the National Standards Strategy for Critical and Emerging Technology.<sup>66</sup> The document supports the development and emergence of international standards on technology<sup>67</sup>. In addition, the European standard authorities - the European Committee for Standardization (CEN), and the European Committee for Electrotechnical Standardization (CENELEC)<sup>68</sup> - also have the Joint Technical Committee 21 that identifies and adopts international standards already available or under development from other organisations like ISO/IEC and produces standards to address European market and societal needs, as well as underpinning EU legislation, policies, principles, and values.<sup>69</sup>

In view of this, standards are a great asset on AI regulation. One of the key advantages of standards is that they are developed by technical bodies and experts, facilitating collaboration between science and law. However, the technical nature of standards does not render them apolitical.<sup>70</sup> Standardization organizations may involve a range of participants, including national standardization bodies, companies, and technical experts, depending on the organization. Given that standards shape the terminology and production of critical technologies such as AI, there is also a significant political incentive to engage in the standardization process.<sup>71</sup>

---

<sup>65</sup> Brian Judge, Mark Nitzberg, Stuart Russell, When code isn't law: rethinking regulation for artificial intelligence, *Policy and Society*, 2024; puac020, <https://doi.org/10.1093/polsoc/puac020>

<sup>66</sup> More information at: <https://www.nist.gov/standardsgov/usg-nss>. Accessed on 01/10/2024.

<sup>67</sup> Available at: <https://dig.watch/updates/us-administration-releases-national-standards-strategy-for-critical-and-emerging-technology>. Accessed on 23/06/2024.

<sup>68</sup> More information at: <https://www.cencenelec.eu/>. Accessed on 01/10/2024.

<sup>69</sup> Available at: <https://www.cencenelec.eu/areas-of-work/cen-cenelec-topics/artificial-intelligence/>. Accessed on 23/06/2024.

<sup>70</sup> Peter Cihon, *Standards for AI governance: international standards to enable global coordination in AI research & development* (Oxford: Future of Humanity Institute, 2019), <https://www.fhi.ox.ac.uk/wp-content/uploads/Standards-FHI-Technical-Report.pdf>.

<sup>71</sup> “State actors also have strong incentives to actively participate and to shape the international standard-setting processes. From an economic point of view, governments have an incentive to influence international standards in the interest of their domestic industries, and to promote their international competitiveness. From a political point of view, governments have strong incentives to shape international standards according to their regulatory philosophies. (Post, 2005; Veggeland and Borgen, 2005; Pollack and Shaffer, 2009; Halabi, 2015) The EU and the US, for instance, are well-known for their divergent views on the precautionary principle and their attempts to diffuse their regulatory preferences (Vogel, 2012; Bergkamp and Kogan, 2013). Arguably the most effective and efficient way to exert influence”. As available at: Klotz, S., *International Standardization and Trade Regulation: Exploring Linkages between International Standardization Organizations and International Trade Agreements*, Leiden, Boston, Brill, Nijhoff, 2024, page 20.

A recent article in “The Economist”<sup>72</sup> highlights the crucial role of standards in global governance and the growing competition between China and the West in setting technological standards, particularly for AI, as China aims to position itself as a global leader in AI technical standards by 2035. While China's regulatory approach is government-driven, the West typically relies on private companies and industry associations to lead the standard-setting process. Additionally, China has made significant efforts to secure leadership positions for its officials in international standards organizations and has focused on shifting influence towards the ITU, where it holds greater influence compared to company-led initiatives. These agreements help bolster China's preferred technical standards at international forums like the ITU.

China has also signed over 100 bilateral standards agreements, primarily with countries in the Global South. Even if China's standards do not gain widespread adoption globally, they may still become the norm in countries with which it has established bilateral ties, potentially locking out Western companies that do not conform to Chinese standards. In response to China's push, the US and the EU have become more active in the international standard-setting process, recognizing the strategic importance of these norms.

Important to highlight on the latter that

SC 42, for instance is chaired by the American National Standards Institute (ANSI) of the United States and composed of 40 participating members and 25 observing members that are national standardization bodies of the countries.<sup>73</sup> The participation of standardization bodies do not leave behind political aspects, such as the fact that the committee is chaired by the US and the participation of key countries, such as China and the EU is a fact to be analysed with attention, especially considering the political disputes already known in ISO due to the dominance of European countries at the body.<sup>74</sup>

One important aspect of standards in the TBT Agreement is the absence of a list of relevant international standards bodies, which differs from the Sanitary and Phytosanitary (SPS) Agreement that establishes such standard bodies. This leaves space for forum-shopping and or

---

<sup>72</sup> The Economist. China is writing the world's technology rules. Available at: <https://www.economist.com/business/2024/10/10/china-is-writing-the-worlds-technology-rules>. Accessed on 18/10/2024.

<sup>73</sup> Information of member countries and national authorities are available at: <https://www.iso.org/committee/6794475.html?view=participation>. Accessed on 29/09/2024.

<sup>74</sup> “Some countries, in particular the US, would beg to differ. Indeed, the previously mentioned dominance of European countries in ISO has been a contentious transatlantic issue for years (Mattli, 2001a,b; Abbott, 2003; Büthe and Witte, 2004; Drezner, 2004, 2007; Graz and Hauert, 2014; Graz, 2019). In this “standards war”, the US accuses the European countries of hijacking the ISO standardization process, and attempting to establish EU standards as global standards (Murphy and Yates, 2009). The US laments that, as a result of the Vienna and Frankfurt Agreements, European standards are adopted in fast-track, which limits the opportunities for non-European stakeholders to contribute to the development of the standards at an early stage (Abbott, 2003; USTR, 2020).” As available at: Klotz, S., *International Standardization and Trade Regulation: Exploring Linkages between International Standardization Organizations and International Trade Agreements*, Leiden, Boston, Brill, Nijhoff, 2024, page 41.

regime-shifting.<sup>75</sup> On the other hand, the absence of a list of standardization bodies makes TBT rules applicable to all organizations.<sup>76</sup>

Another aspect to be analysed is inclusion. One of the criteria to be a relevant international standard body is to be open for the participation WTO members.<sup>77</sup> The standard bodies in the forefront of standards development – e.g. ISO, IEC, ITU - would attend this criterion. In practice, however not many countries are being part of the development of AI standards, especially developing countries and LDCs. For example, SC 42 has limited representation from regions such as Africa, Latin America, the Middle East, and South Asia.<sup>78</sup>

Still, standards set market orientations for the production of a product and harmonization. For this reason, its use is highly recommended in the terms of the TBT Agreement when “relevant international standards exist”.<sup>79</sup> The EU AI Act highly motivate the use of standards as per recital 121 that establishes that “*Standardisation should play a key role to provide technical solutions to providers to ensure compliance with this Regulation, in line with the state of the art, to promote innovation as well as competitiveness and growth in the single market.*”

However, as described above the standards developed are very much guidelines which gives a lot of discretion to countries to incorporate these standards into national law, meaning that national law still plays a big part in AI legislation. Therefore, it remains to be seeing if the parameters set by standards will be “in accordance with relevant international standards”.

The use of standards contains exceptions, such as when standards are not appropriate or ineffective to achieve the legitimate objective pursued, for instance fundamental technological problems. The latter was not interpreted by the DSB yet.<sup>80</sup>

The fact is that AI is an expansive field, with many aspects still lacking standardization. Given the rapid pace of technological advancement, it is likely that gaps in standardization will persist, which requires more cooperation among countries. The TBT Agreement allows for the establishment of mutual recognition agreements.<sup>81</sup> However, political challenges also arise,

---

<sup>75</sup> Klotz, S., *International Standardization and Trade Regulation: Exploring Linkages between International Standardization Organizations and International Trade Agreements*, Leiden, Boston, Brill, Nijhoff, 2024, page 22.

<sup>76</sup> Peter Cihon, *Standards for AI governance: international standards to enable global coordination in AI research & development* (Oxford: Future of Humanity Institute, 2019), [https://www.fhi.ox.ac.uk/wp-content/uploads/Standards\\_FHI-Technical-Report.pdf](https://www.fhi.ox.ac.uk/wp-content/uploads/Standards_FHI-Technical-Report.pdf).

<sup>77</sup> As available at the “Decision of the Committee on Principles for the Development of International Standards, Guides and recommendations with Relation to Articles 2, 5 and Annex 3 of the Agreement”, G/TBT/9, 13 November 2000, para. 20 and Annex 4, principle c. “openness”, which states that “Membership of an international standardizing body should be open on a non-discriminatory basis to relevant bodies of at least all WTO Members. This would include openness without discrimination with respect to the participation at the policy development level and at every stage of standards development...”. In the Appellate Body at US-Tuna II (Mexico) (2012) it is stated that a body is considered to be open if the invitation “occurred automatically once a Member or its relevant body has expressed interest in joining the body concerned”. As available at: Van den Bossche P, Zdouc W. *The Law and Policy of the World Trade Organization: Text, Cases, and Materials*. 5th ed. Cambridge: Cambridge University Press; 2021, P. 1008.

<sup>78</sup> According to information available at: <https://www.iso.org/committee/6794475.html?view=participation>. Accessed on 30/09/2024.

<sup>79</sup> Article 2.4, first part, TBT Agreement.

<sup>80</sup> Article 2.4, second part, TBT Agreement.

<sup>81</sup> Article 6.1 and 6.3, TBT Agreement

particularly concerning national security and trust in adopting foreign technologies domestically—exemplified by the ongoing TikTok dispute between the US and China.<sup>82</sup>

Finally, Article 2.5 TBT Agreement presumes that a member is not creating an unnecessary obstacle to international trade in the case of use of these standards. This provision was analyzed in one dispute by the Dispute Settlement Body (DSB). The Panel in *Australia- Tobacco Plain Packaging*<sup>83</sup> has decided that: [Article 2.5] “*is narrower in scope than the former (since it only applies to technical regulations that pursue one of the legitimate objectives explicitly mentioned in Article 2.2<sup>84</sup>), and also requires a closer connection between the measure at issue and the relevant international standard (since Article 2.5 requires that the measure at issue be “in accordance with” the relevant international standard, rather than merely relying on “the relevant parts” thereof).*”<sup>85</sup> It also decided that the burden of proof relies on the invoking party to demonstrate that all of the conditions under the second sentence of Article 2.5 are satisfied.<sup>86</sup>

For instance, in the notification of the EU AI Act – that will be detailed below - the bloc explicitly mentions as objectives of the measure: “*Prevention of deceptive practices and consumer protection; Protection of human health or safety; Quality requirements; Harmonization*”<sup>87</sup>, which would attend the criteria of Article 2.5. The legitimate objectives of Article 2.2. are: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. This means that EU AI Act could be presumed as not making an unnecessary obstacle to international trade initially depending on how standards are applied by the bloc.

This means that the TBT Agreement and standards have room to improve AI legislation and it is an instrument that could and should be used to improve AI regulation by many countries. However, attention should be paid on the geopolitical questions around the instrument and how standards are used in technical regulation in order not to impose a restriction to trade. The use of standards to implement technical regulation on AI is not free of requirements.

## **b. Transparency: the importance of notifications and trade concerns**

---

<sup>82</sup> More information available at: <https://www.theguardian.com/technology/2024/apr/24/why-is-us-threatening-to-ban-tiktok-and-could-other-countries-follow-suit>. Accessed on 23/06/2024.

<sup>83</sup> “Australia argued that its measures complied with all conditions for benefiting from such presumption, including because: (i) certain Guidelines adopted by the parties of the Framework Convention on Tobacco Control (FCTC) – a convention adopted under the auspices of the WHO – constituted “relevant international standards” for tobacco plain packaging requirements; and (ii) the measures were “in accordance with” these FCTC Guidelines. However, based on the facts before it, the Panel concluded that the FCTC Guidelines at issue could not be considered as international standards, because they did not fulfil some of the necessary elements of the definition of a “standard” in Annex 1.2 of the TBT Agreement, including being a “document” providing product requirements “for common and repeated use”.” As available at: *The WTO Agreements Series: Technical Barriers to Trade. Third Edition*, page 36.

<sup>84</sup> Article 2.2, TBT Agreement: “...*Such legitimate objectives are, inter alia: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment.*”

<sup>85</sup> Panel Reports, *Australia – Tobacco Plain Packaging*, paras. 7.272 and 7.275 mentioned at: Analytical Index. *Technical Barriers to Trade*. Available at: [https://www.wto.org/english/res\\_e/publications\\_e/ai17\\_e/tbt\\_e.htm](https://www.wto.org/english/res_e/publications_e/ai17_e/tbt_e.htm). Accessed on 01/10/2024.

<sup>86</sup> Panel Reports, *Australia – Tobacco Plain Packaging*, paras. 7.288 mentioned at: Analytical Index. *Technical Barriers to Trade*. Available at: [https://www.wto.org/english/res\\_e/publications\\_e/ai17\\_e/tbt\\_e.htm](https://www.wto.org/english/res_e/publications_e/ai17_e/tbt_e.htm). Accessed on 01/10/2024.

<sup>87</sup> G/TBT/N/EU/850, 11 November 2021.



In cases where there are no international standards, or there is a measure that is not in accordance with the technical content of relevant international standards, and if the technical regulation, or CAPs may have a significant effect on the trade of other Members, Members shall: (i) publish a notice to enable interested parties acquainted with the measure (ii) notify the Secretariat of the products to be covered by the proposed technical regulation, together with a brief indication of its objective and rationale at an early stage for comments; and (iii) provide to other Members particulars or copies of the proposed regulation and, whenever possible, identify the parts which in substance deviate from relevant international standards<sup>88</sup>.

These notifications are the cornerstone of the TBT Agreement. They are important because (i) they reveal how members intend to regulate to achieve specific policy objectives, (ii) allow for an initial assessment of potential trade implications of their regulations, (iii) gives trading partners an opportunity to provide comments either bilaterally or at the TBT Committee, and to receive feedback from industry or other stakeholders, (iv) assist in improving the quality of its draft regulation and avoiding potential trade problem, and (v) early notification also helps producers and exporters adapt to the changing requirements.<sup>89</sup>

By July 2024, it is estimated that Members had notified around 500 measures related to digital products, such as: IoT, 5G Technology, unmanned aircraft systems, autonomous vehicles, software in various products, medical devices (as software), and AI. Such notifications envisage, among others, safety, interoperability, national security, cybersecurity, performance, quality requirements, and different conformity assessment procedures. Objectives of such measures include prevention of deceptive practices and consumer protection and information, quality requirements, harmonisation, and protection of human health or safety. Among the most active notifying Members are the US, Brazil, the EU, China, Mexico, Malaysia, South Korea, and Japan.<sup>90</sup>

One of the most notable notifications was the draft Regulation of the EU AI Act in 2021. The draft regulates the development, marketing, and placement of AI systems in the EU market, embedded or not embedded into physical products, which pose certain risks. According to the notification, the draft is limited to *"the minimum necessary requirements to protect the safety and fundamental rights of persons considering the risks and challenges posed by AI systems, without unduly constraining or hindering technological development or otherwise*

---

<sup>88</sup> Article 2.9, 5.6, TBT Agreement

<sup>89</sup> The WTO Agreements Series: Technical Barriers to Trade. Third Edition, pages 38 – 44.

<sup>90</sup> Information available at: <https://eping.wto.org/>, an online alert system for notifications of TBT and SPS measures. The system was developed in cooperation with other organizations and launched in 2016. The information in this text was extracted in July, 2024 using key-words such as considered the following key words: "Internet" OR "Software" OR "Internet of things" OR "Robotic" OR "Artificial Intelligence" OR "Robot" OR "Autonomous vehicles" OR "5G" OR "3D" OR "3D printing" OR "Automation" OR "Smart functionality" OR "Connectable products" OR "Mobile Applications" OR "Digital elements" OR "unmanned aircraft System" OR "Source code" OR "ITC products" OR "cryptography" OR "ICT" OR "IoT" OR rob\* OR autonom\* OR sensor\* OR actuator\* OR "AI" OR "unmanned aircraft" OR "cybersecurity" OR cyber\* OR "algorithm" OR algorit\* OR "computer" OR "digital". There was a total of 3,676 results. This information was classified manually and therefore might have some imprecisions.

*disproportionately increasing the cost of placing AI solutions on the market*". The strictness of the rules varies in accordance with the "degree of risk" AI systems are considered to pose.<sup>91</sup>

The notification foresees the opacity of many algorithms that make it difficult to ascertain how they produce results, and the effects of the technology on privacy, personal data protection, the principle of non-discrimination, safety, and protection of fundamental rights. Therefore, the objective of the regulation is to prevent deceptive practices and consumer protection, protect human health or safety, maintain quality requirements, and create harmonisation.

When notifications are not sufficient to resolve a matter among members, it can be raised STCs. It is estimated that during the same period, 51 STCs were raised. Therefore, 10% of the notifications were further discussed in bilateral meetings.

For instance, in March 2022, China raised an STC with respect to the EU draft regulation<sup>92</sup>. China was concerned, among others, with the measure's definition of "AI systems", which it considered too broad and asked the EU to narrow the definition. China also asked the EU to eliminate the requirement that market surveillance authorities be granted access to the source code of the AI system. The EU responded that the definition was as technology-neutral as possible so it could be applied over time for innovation and market developments. The definition was also built considering the OECD's internationally recognised definition of AI systems. In addition, the EU explained that the requirement for access to source code is conditioned to a reasoned request of the market surveillance authority and necessary for the conformity of AI high-risk systems established in the regulation. According to the EU, this strikes a balance between intellectual property rights protection and safety protection to safeguard important public interests, which is in line with the EU's international agreements and commitments.

In addition, in November 2022 and the next sessions during 2023, China raised concerns with CAPs and the proportionality of the penalties to be applied. The EU responded that the legislation requires the provider to follow the relevant conformity assessment as required under those legal acts. Finally, the penalty follows the model of other existing legislation, such as the General Data Protection Regulation.<sup>93</sup>

As it can be noted, the notification of the EU AI Act abovementioned raised a number of important points of concern for policymakers related to interoperability, definition, disclosure of source code for security reasons, opacity, privacy, and protection of human rights. In this

---

<sup>91</sup> G/TBT/N/EU/850, 11 November 2021. The systems can be classified as: (i) "clear threat", which are systems that manipulate human behaviour, and therefore, they are banned from the EU; (ii) "high risk" systems that are subject to strict obligations of risk assessment, high quality of the databases, logging of activity, detailed documentation providing all information of the system, clear and adequate information to the user, appropriate human oversight measures, and high level of robustness, security and accuracy. High risk systems are subject to conformity assessment procedures to demonstrate compliance of the requirements; (iii) AI systems with "specific transparency obligations" such as chatbots, emotion recognition and biometric categorisation systems in which people should be aware they are interacting with a machine; (iv) "minimal risk", which are not subject to the requirements of the regulation but it can adhere to voluntary codes of conduct to demonstrate trustworthiness of the system.

<sup>92</sup> Available at: <https://eping.wto.org/en/TradeConcerns/Details?imsId=736&domainId=TBT>. Accessed on 22/06/2024.

<sup>93</sup> Available at: <https://epingalert.org/en/TradeConcerns/Details?imsId=736&domainId=TBT>. Accessed on 22/06/2024.

sense, these notifications tackle a number of policy concerns related to the technical requirements of AI.

These discussions, however are superficial. The analysis of the minutes of the TBT Committee and as reported herein demonstrate that discussions tackle important questions, however there are no deep discussions on the merits or proposal of technical solutions. It is even less clear how discussions happen within STCs, because many of those instruments are resolved bilaterally and there is no transparency on the outcome of the discussions and possible exchanges made.

This is especially important in the scenario that the DSB is not functioning. They are ex-ante measures to disputes. Empirical studies have shown that notifications raised on different committees of the WTO after the deadlock of the WTO DSB.<sup>94</sup> The same happens with the TBT notifications.<sup>95</sup> While transparency extends beyond the TBT Agreement, the TBT and SPS Committees are among the most advanced in this area and can serve as benchmarks. This demonstrates that members are finding an alternative to discuss regulatory concerns at the WTO that may raise trade concerns.

Notifications are also relevant in the context of DSB reform as one of the main points of the reform is to improve and incentivize the use of alternative methods of dispute resolution.<sup>96</sup> This method, however is not new. The SPS Agreement has a Decision to encourage resolution of issues under the scope of the agreement. Members would be able to request consultations under the supervision of a facilitator to resolve trade issues. The procedure includes deadlines and a final report with the outcome.<sup>97</sup> This mechanism seems an improvement of notifications and STCs mechanism. While in notifications and STCs the consultations happen in the committee and bilaterally, respectively, the decision suggests a more structured and transparent way of solving trade issues with a facilitator and final report.

Finally, transparency mechanisms are entirely member-driven, meaning it is the responsibility of members to submit notifications. Unlike accusations of activism or overreach that have occurred in the DSB, members won't face scrutiny for being overly transparent when notifying measures, even if there's uncertainty about whether they qualify as technical regulations.

Strengthening the notification system in the context of digital products is crucial for enhancing legislative discussions prior to enactment, promoting coherence, interoperability, and international cooperation. The notification process within the TBT Committee provides a platform for technical discussions, involving the participation of specialized bodies, which can be further expanded and utilized.

---

<sup>94</sup> Santana, Roy and Dobhal, Adeet. Canary in a Coal Mine: How trade concerns at the Goods Council reflect the changing landscape of trade frictions at the WTO, page 25. Available at: [https://www.wto.org/french/res\\_f/reser\\_f/ersd202404\\_f.htm](https://www.wto.org/french/res_f/reser_f/ersd202404_f.htm). Accessed on 02/07/2024.

According to data of the WTO, as of July 2024 there were a total of 54,643 TBT notifications, 835 STCs raised, 11 trade disputes. As available at: [https://www.wto.org/english/tratop\\_e/tbt\\_e/tbt\\_e.htm](https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm). Accessed on 29/09/2024.

<sup>95</sup> The TBT notifications and STCs help to ease trade tensions. While there were, since 1994 53,610 notifications and 828 STCs raised, there were only 11 disputes ruling on TBT. Information available at: [https://www.wto.org/english/tratop\\_e/tbt\\_e/tbt\\_e.htm](https://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm). Accessed on 22/06/2024.

<sup>96</sup> JOB/GC/385, 16 February 2024, Title I "Alternative Dispute Resolution Procedures and Arbitration".

<sup>97</sup> G/SPS/61, 8 September 2014

This research acknowledges the significant potential of the TBT Agreement's transparency mechanism, which could be better leveraged and improved to facilitate more effective regulatory discussions.

### 3. Legal Dilemmas of the applicability of the TBT Agreement to AI

The previous sections provided an overview of AI regulation, its intersection with the WTO, and recent developments within the TBT Committee, highlighting both the strengths and weaknesses of these instruments and areas for improvement. However, the application of TBT Agreement to AI can raise important legal and systemic questions. Given the increasing integration of AI into society and its growing prominence in global trade discussions, it is crucial to address these legal issues and anticipate their potential impact on international trade law.

The first matter is whether AI is a good or a service or an intellectual property right. This debate predates the emergence of AI technologies. This question triggers significant debate and systemic consequences, such as the potential application of certain agreements like the TBT Agreement, which currently applies only to goods.<sup>98</sup> This is a question of difficult answer that members are refraining to answer and discuss. As already mentioned, the TBT Committee is being notified of AI regulations. The question is: how do members classify these measures?

In the TBT notification form, the box to indicate "product coverage" allows members to use either the Harmonized System ("HS"), the UN's Customs Cooperation Council Nomenclature ("CCCN"), or the International Organization for Standardization (ISO) International Classification of Standards ("ICS")<sup>99</sup>. Unlike the HS and the CCCN, the ICS has an entry for "Information technology", code 35. Various TBT notifications list this code<sup>100</sup>. Some examples are the notification of the EU AI Act, Japan's IoT Products Conformity Assessment Scheme<sup>101</sup> and the USA's voluntary cybersecurity labelling for IoT<sup>102</sup>.

Other members use the HS code 85 that refers to electrical machinery and equipment<sup>103</sup>, such as in the case of Kenya's Code of Practice for AI Application<sup>104</sup>, US cybersecurity in the Marine

---

<sup>98</sup> Op. Cite 44

<sup>99</sup> The International Classification for Standards (ICS) is a system for classifying standards into different sectors and subsectors. It is used at the international level by ISO, but also by many regional and national bodies for publishing and distributing standards. The classification system helps users to find the document they are looking for. Available at:

<sup>100</sup> To verify all notifications with ICS code 35, please access: <https://www.epingalert.org/en/Search?domainIds=1&icsCodes=3389>. Accessed on 21/06/2024.

<sup>101</sup> G/TBT/N/JPN/807, 17 April 2024.

<sup>102</sup> G/TBT/N/USA/2041, 28 August 2023.

<sup>103</sup> It refers to "Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles".

<sup>104</sup> Available at: <https://www.epingalert.org/en/Search?domainIds=1&hsCodes=51002&freeText=%22artificial%20intelligence%22&viewData=%20G%2FTBT%2FN%2FKEN%2F1604>. Accessed on 21/06/2024.

Transportation System<sup>105</sup> or UK's Draft of the Product Security and Telecommunications Infrastructure (Security Requirements for Relevant Connectable Products)<sup>106</sup>.

It seems that members are not assessing whether it is a good or a service, and there is no consensus on this classification as well. If faced by a dispute, this matter could be assessed specially because of the explicit exclusion of the applicability of services of the scope of TBT Agreement.

In addition, there is the question whether AI regulation is in fact under the scope of the TBT Agreement, therefore if it is a standard, technical regulation, and CAPs.

These terms are defined in the Annex 1 of the agreement. In sum, technical regulations specify the features of products, as well as the processes and production methods related to them, and adherence to these regulations is compulsory. They can also address aspects such as terminology, symbols, packaging, marking, and labelling requirements. On the other hand, standards are established by a recognized body that sets rules, guidelines, or product characteristics, but compliance with these is voluntary. Like regulations, standards may cover terminology, symbols, packaging, marking, and labelling requirements. CAPs are used to confirm that the relevant requirements of technical regulations or standards are met. These procedures encompass sampling, testing, inspection, evaluation, verification, conformity assurance, and the processes of registration, accreditation, and approval.

As interpreted by the DSM, a technical regulation and a standard are defined as documents. According to the Appellate Body in EC-Seals Products, technical regulation appears to be limited to “document that establish or prescribe something and thus have a certain normative content”<sup>107</sup>. In EC – Asbestos and EC – Sardines, the Appellate Body established a three-tier test for determining whether a measure is a technical regulation: (i) the measure must apply to an identifiable product, (ii) the measure must lay down product characteristics; and (iii) compliance with the product characteristics laid down in the measure must be mandatory.<sup>108</sup>

Standards have as a difference from technical regulation its approval by a recognized body, instead of a governmental. Apart from that, there was little development in the interpretation of the term.<sup>109</sup>

---

<sup>105</sup> Available at: <https://www.epingalert.org/en/Search?domainIds=1&hsCodes=51002&freeText=%22cybersecurity%22&viewData=%20G%2FTBT%2FN%2FUSA%2F2100%2FAdd.1>. Accessed on 21/06/2024.

<sup>106</sup> Available at: <https://www.epingalert.org/en/Search?domainIds=1&hsCodes=51002&documentSymbol=G%2FTBT%2FN%2FGBR%2F62&freeText=%22internet%20of%20things%22&viewData=%20G%2FTBT%2FN%2FGBR%2F62>. Accessed on 21/06/2024.

<sup>107</sup> Appellate Body Report, EC- Seal Products (2014), para. 5.10

<sup>108</sup> Appellate Body Report, EC – Sardines, para. 176 (referring to Appellate Body Report, EC – Asbestos, paras. 66-70). See also Panel Reports, EC – Seal Products, paras. 7.85-7.87; US – COOL, paras. 7.147-7.148; US – Tuna II (Mexico), paras. 7.53-7.55; and US – Clove Cigarettes, paras. 7.24-7.25. See also Appellate Body Reports, EC – Seal Products, paras. 5.21-5.23; US – Tuna II (Mexico), para. 183.

Each of the criteria in the three-tier analysis have other jurisprudence on their interpretation, as available at: WTO Analytical Index. Technical Barriers to Trade. Available at: [https://www.wto.org/english/res\\_e/publications\\_e/ai17\\_e/tbt\\_e.htm](https://www.wto.org/english/res_e/publications_e/ai17_e/tbt_e.htm). Accessed on 01/10/2024.

<sup>109</sup> Van den Bossche P, Zdouc W. The Law and Policy of the World Trade Organization: Text, Cases, and Materials. 5th ed. Cambridge: Cambridge University Press; 2021, P. 974.

Finally, CAPs were interpreted in the Panel in the case EU and Certain Member States – Palm Oil (Malaysia). In the case, the Panel emphasized that the term "procedure" under Annex 1.3 of the TBT Agreement has a broad scope. According to the ISO/IEC 17000:2004 definition, a procedure is a "specified way to carry out an activity or process," which can take many forms. The list of examples in the Explanatory Note of Annex 1.3 is non-exhaustive, reinforcing the wide application of the term. Additionally, procedures like "verification," "certification," and "auditing" are considered types of conformity assessment procedures covered by Annex 1.3.

The Panel also clarified the term "relevant requirements" in the context of Annex 1.3, defining them as the necessary conditions in technical regulations or standards that must be fulfilled. While not all requirements in a regulation may need to be verified through a conformity assessment procedure, the procedure should relate to the subject matter of the technical regulation.

In light of this, regulations such as the EU AI Act should be examined to determine whether, under WTO jurisprudence, they qualify as a technical regulation, standard, or CAP. Although the EU may have classified it as such, once the bloc notified it to the TBT Committee, its status should be reassessed in line with recent interpretations.

In order to assess the classification of the measure – technical regulation, standard, and conformity assessment – it is important to understand what are the product characteristics and production methods that the regulation is targeting.

Regarding the characteristics of AI systems, it is important to emphasize that regulations primarily focus on aspects such as interoperability, standardized terminology, safety, opacity, privacy, and the protection of human rights. These elements, however, may not be inherently tied to the technical characteristics of the AI system itself, and their relation to the product and the processes may be subject to debate.

There is a discussion about the applicability of the TBT Agreement to non-product-related processes and production methods, which encompasses processes and production methods that do not affect the physical characteristics of the final product put on the market. There is a debate among the members about its inclusion, especially because of the term “characteristics and *related* processes and production methods” (emphasis added) while the explanatory notes only mention “products or processes and production methods”. The Appellate Body in EC- Seals determines that process and production methods should have a sufficient nexus to the characteristics of a product in order to be considered related to those characteristics. However, the Appellate Body stated that drawing the line between process and production methods that fall within the scope of the TBT Agreement raises “important systemic issues” and did not go further with the analysis.<sup>110</sup>

Most recently, in the Panel of EU – Palm oil case, it was decided that the quality of a product can constitute a product characteristic and that the measure “...*effectively regulates the product characteristics required of biofuels needed to qualify as renewable energy on the EU market*”

---

<sup>110</sup> Van den Bossche P, Zdouc W. The Law and Policy of the World Trade Organization: Text, Cases, and Materials. 5th ed. Cambridge: Cambridge University Press; 2021, P. 968.

*(and thus eligibility to be counted as contributing towards the mandatory sectoral target in the transport sector and overall target of renewable energy consumption).’’<sup>111</sup>*

The EU AI Act, for instance use a level of risk system to classify the AI system<sup>112</sup> and develop different requirements on transparency, place in the market, content labelling (e.g. deepfake) and even banishment in case of unacceptable risk. Therefore a “safe AI system” requires the compliance with a list of criteria. Would this mean that EU AI Act places product characteristics of a safe system? Are those characteristics non-product-related processes and production methods?

As mentioned by the Appellate Body in EC- Seals, this aspect would raise systemic issues and, therefore poses a difficult question in the use of TBT Agreement to AI technology. This question tends to become more evident as the products developed get more complex.

## CONCLUSION

This working paper aimed to present ongoing research on the role of the WTO's TBT Agreement—particularly its transparency mechanisms and standard-setting processes—in the regulation of AI measures. The objective was to provide an overview of the current regulatory landscape, which includes international organizational instruments, national laws, and evolving standards. While AI-specific regulation within the international trade system remains underdeveloped, there has been intensive work in standard-setting, as demonstrated by efforts such as the ISO/IEC SC42 group, which has already developed over 30 standards.

In the international trade law field, the integration of these standards into national technical regulations subjects them to the scrutiny of the TBT Agreement, which presumes compliance when these standards are recognized as relevant international standards. The TBT Agreement also establishes obligations and principles for the proper development of standards. However, challenges remain in areas such as updating terminology, translating ethical values into the AI lifecycle, ensuring coherence between national and international standards, promoting inclusivity in standard development, and fostering harmonization across different regulatory frameworks.

Moreover, ongoing discussions within the TBT Committee on AI-related regulations—through notifications and STCs—demonstrate that the WTO has existing tools that can facilitate dialogue on regulatory and trade issues. Nonetheless, improvements are needed, such as enhancing the depth of these discussions, increasing transparency in bilateral solutions, and expanding the instrument's capacity to support broader, more technical debates. Additionally, there is potential to further integrate dispute resolution into these processes.

This evolving landscape can also raise significant legal questions for the WTO system, including the classification of AI products—whether as goods, services, or intellectual property—and how AI-related regulations should be assessed under the TBT Agreement.

---

<sup>111</sup> Panel Report, EU and Certain Member States – Palm Oil (Malaysia), para. 7.97 and para. 7.115.

<sup>112</sup> As available at: <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>. Accessed on 16/10/2024.

Specifically, there is a need to clarify whether AI regulations and standards pertain to product characteristics, production processes, or other regulatory dimensions.

It is already possible to state that WTO existing rules on TBT can make a useful contribution to improve AI regulation, although improvements are necessary.

This working paper sought to map out these emerging issues and lay the groundwork for future research. Next steps of this research intend address these complex and evolving challenges in the intersection of AI regulation and international trade law.