SPOTLIGHT 3

National Standards Bodies

Most countries worldwide have a recognized national standards body that is part of their national quality infrastructure systems and tasked with developing voluntary national standards. In some countries, particularly small low-income countries, national standards bodies also offer other services related to national quality infrastructures, such as metrology and conformity assessment.[1] National standards bodies often operate as the national point of inquiry for the World Trade Organization and its Technical Barriers to Trade Agreement.[2]

This spotlight presents the findings from a survey of national standards bodies conducted jointly by the World Bank and the International Organization for Standardization (ISO) for the *World Development Report 2025.* The survey was sent to the 173 national standards bodies that are ISO members (130 member bodies, 39 correspondent members, and 4 subscriber members), and 116 national standards bodies completed the survey. The spotlight describes the institutional characteristics of these 116 national standards bodies and the ways in which they develop national standards, highlighting key differences across countries according to income level.

Many national standards bodies are autonomous governmental organizations created through legislative processes, such as the national standards bodies in Bangladesh and in South Africa.[3] In some countries, like the United States, national standards bodies are not government organizations but rather nongovernmental organizations that governments recognize as their national standards bodies.[4]

The institutional makeup of a national standards body is closely related to the income level of the country it serves. As countries' income level increases, the number of national standards bodies that are private increases. Whereas all national standards bodies in low-income countries have public ownership, only 56 percent of national standards bodies in high-income countries are public (refer to table S3.1).

Establishment of national standards bodies in lower-income countries began later than that in higher-income countries (refer to figure S3.1). The average age of national standards bodies in low-income countries and lower-middle-income countries is about 31 years and 38 years, respectively, whereas in high-income countries it is about 62 years.

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Table S3.1 Institutional characteristics of national standards bodies

CHARACTERISTIC	LOW-INCOME COUNTRIES	LOWER-MIDDLE-INCOME COUNTRIES	UPPER-MIDDLE-INCOME COUNTRIES	HIGH-INCOME COUNTRIES
Number of NSBs that participated in the survey	13 of 24 members	28 of 42 members	34 of 47 members	41 of 60 members
Percentage of NSBs that are public	100	89	88	56
Number of full-time employees	331 (140)	300 (96)	299 (87)	161 (80)
Percentage of employees working on standards development	18 (17)	25 (16)	30 (24)	36 (29)
Percentage in which NSB controls revenues received from services	77	75	68	73
Annual budget in 2024 (US$, millions)	7.5 (2.09)	13.6 (2.03)	6.6 (2.40)	24.4 (13.20)

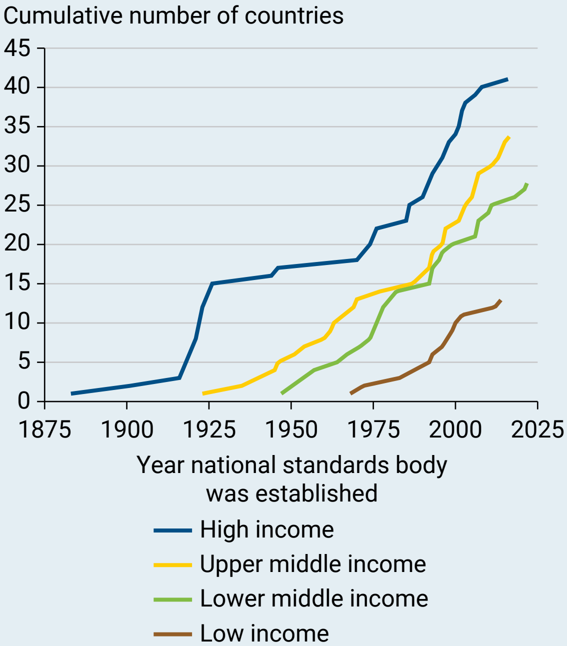
Source: WDR 2025 team, based on World Bank and ISO 2025.

Note: Data on the number of full-time employees, the percentage of employees working on standards development, and the annual budget in 2024 include the mean and the median (50th percentile), the latter of which is reported in parentheses. The survey sample includes 116 national standards bodies (NSBs).

National standards bodies in low-income countries have nearly twice as many full-time employees on average as those in high-income countries because the former generally provide more services related to national quality infrastructures than the latter. In fact, the average share of employees in national standards bodies who are involved in developing standards rises from 18 percent in low-income countries to 36 percent in high-income countries.

In 2024, high-income countries published about five times more standards on average than low-income countries (refer to table S3.2), but the numbers are widely dispersed within each income group. For example, the number of published standards in 2024 ranges from 0 to 8,065 among high-income countries and from 2 to 1,500 in low-income countries. The number of ISO standards adopted in 2024 ranges from 1 to 1,500 among high-income countries and from 0 to 1,100 in low-income countries. In comparison, the number of ASTM International standards adopted in 2024 ranges from 0 to 39 among high-income countries and from 1 to 13 among low-income countries, with an average of 14 percent of standards adopted. While ISO standards are adopted worldwide, ASTM International standards tend to be adopted by countries in the Middle East and North Africa region.

Figure S3.1 Establishment of national standards bodies began earlier in high-income countries than in low- and middle-income countries



Source: WDR 2025 team, based on World Bank and ISO 2025.

Note: The survey sample includes 116 national standards bodies: 13 in low-income countries, 28 in lower-middle-income countries, 34 in upper-middle-income countries, and 41 in high-income countries.

The number of standards published per employee involved in standards development also varies based on a country's income level. National standards bodies in high-income countries publish about five times more standards per employee than those in low-income countries. These differences in productivity are likely because in low-income countries, employees in national standards bodies develop standards without much help from other stakeholders, whereas in higher-income countries, industry takes more of a leading role, freeing up each employee to develop more standards.

Governance and regulatory role of national standards bodies

Across all country income levels, industry and sector associations are the single largest source of requests for standards. Their influence increases with a country's income, with associations in high-income countries driving nearly two-thirds of all requests. Government agencies also drive the demand for standards, but their influence declines with country income. The percentage of standards requested by governments declines from 37 percent in low-income countries to 29 percent in high-income countries.

Although national standards bodies publish only voluntary standards, they often assist regulatory agencies in drafting technical regulations, particularly in developing countries that may lack expertise in this area. The majority of countries across all income levels have a framework for technical regulations, but the ability to assess the impacts of standards increases with countries' income levels.

Figure S3.2 shows the distribution, by sector, of the average share of mandatory standards adopted and included in a country's technical regulations. For all country income groups, about half of the standards included in technical regulations relate to food safety and construction, although standards for food safety are more important in low-income countries than are construction standards, and the reverse is true in high-income countries.

National standards bodies have diverse roles with respect to standards at the national, regional, and international levels. Their responsibilities include developing and approving standards through their own technical committees and nominating experts aligned with their national priorities to participate in international

Table S3.2 Process of developing standards by national standards bodies

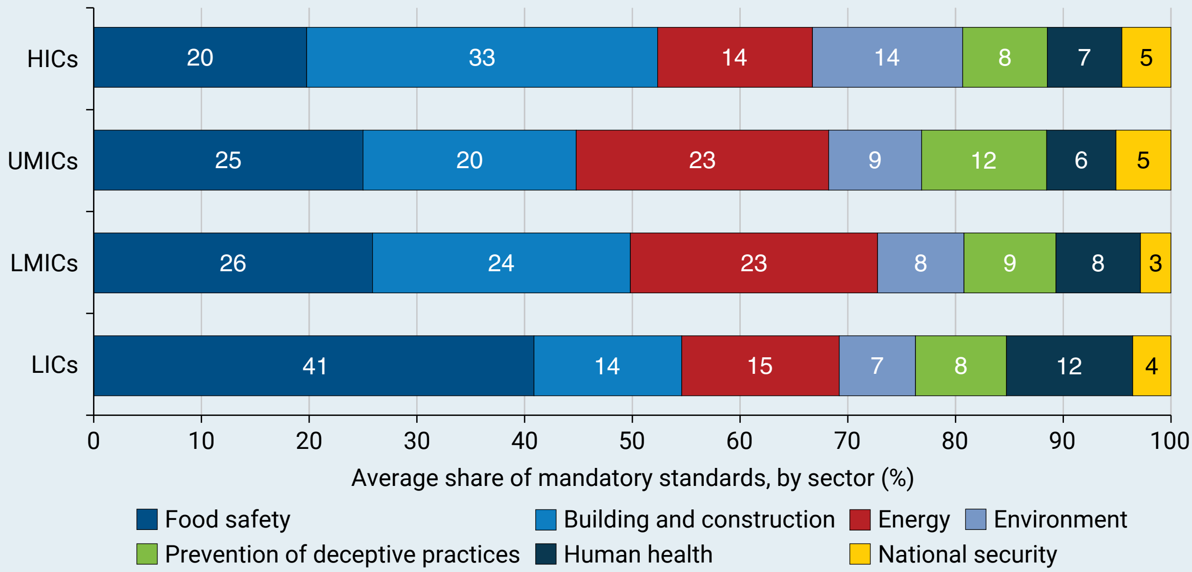
CHARACTERISTIC	LOW-INCOME COUNTRIES	LOWER-MIDDLE-INCOME COUNTRIES	UPPER-MIDDLE-INCOME COUNTRIES	HIGH-INCOME COUNTRIES
Number of published standards in 2024[a]	276 (80)	460 (203)	981 (280)	1,402 (1,334)
Number of published standards per employee in 2024[b]	21 (3)	37 (6)	111 (11)	103 (30)
Number of ISO and IEC standards adopted in 2024	116 (18)	249 (46)	220 (92)	510 (433)
Number of technical committees	58 (48)	119 (45)	166 (60)	201 (118)
Percentage of countries with frameworks for technical regulations[c]	69	79	82	70
Percentage of countries in which national standards body is involved in drafting technical regulations	77	79	68	35
Percentage of countries in which national standards body conducts impact assessments[d]	38	61	47	55

Source: WDR 2025 team, based on World Bank and ISO 2025.

Note: Data on the number of standards and number of technical committees include the mean and the median (50th percentile), the latter of which is reported in parentheses. The survey sample includes 116 national standards bodies: 13 in low-income countries, 28 in lower-middle-income countries, 34 in upper-middle-income countries, and 41 in high-income countries. IEC = International Electrotechnical Commission; ISO = International Organization for Standardization.

a. The average number of published standards includes nationally developed standards as well as international standards that have been adopted.
b. The number of published standards per employee is the ratio, in 2024, of the number of standards published by a country's national standards body to the number of employees in the national standards body dedicated to standards development.
c. A framework for technical regulations defines and harmonizes how standards are applied in technical regulations across government bodies.
d. Countries conduct impact assessments to evaluate the potential effects of standards before or during their development.

Figure S3.2 About half of adopted standards included in technical regulations relate to food safety and construction



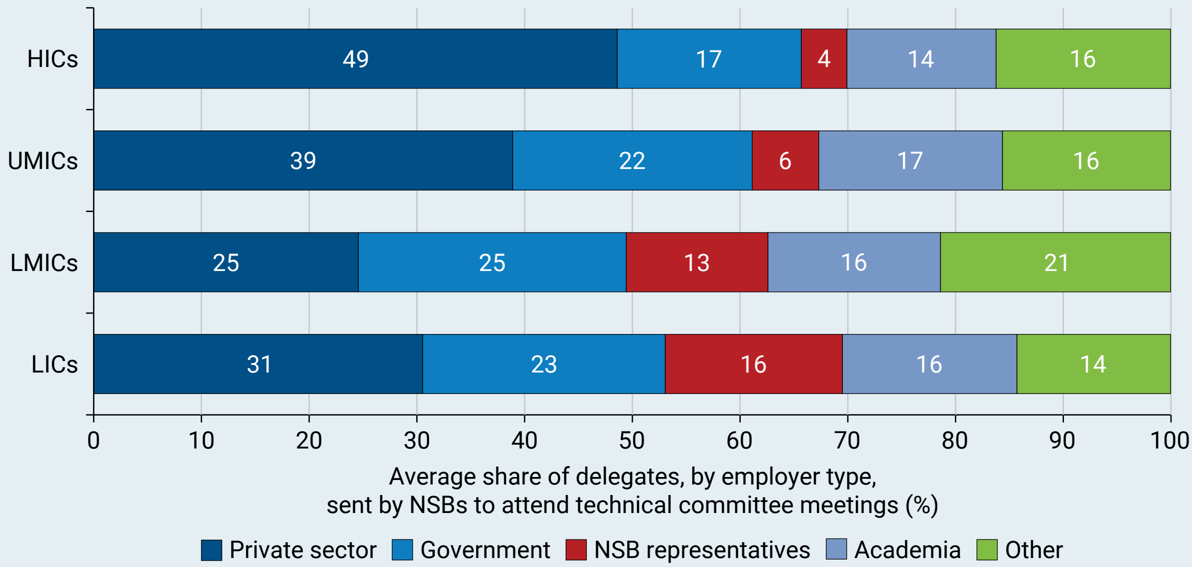
Source: WDR 2025 team, based on World Bank and ISO 2025.

Note: The survey sample includes 116 national standards bodies: 13 in low-income countries, 28 in lower-middle-income countries, 34 in upper-middle-income countries, and 41 in high-income countries. Constituent percentages for each country income group may not sum exactly to 100 percent as a result of rounding. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

committees in organizations like ISO. National technical committees serve as forums in which experts from industry, organizations involved in conformity assessment, consultancy, academia, nongovernmental organizations, government, consumer groups, and other stakeholders convene.[5] Their structure can mirror that of parallel ISO committees, and such committees are called "National Mirror Committees" (refer to spotlight 2 for details). The number of national technical committees in national standards bodies tends to increase with the overall number of standards these bodies publish. Low-income countries average 58 national technical committees and high-income countries 201. A greater number of technical committees enables a national standards body to cover a broader range of sectors.

Figure S3.3 shows the composition of national technical committees in national standards bodies by employer and country income level. Representation of the private sector increases with country income, whereas that of government agencies and staff members from national standards bodies declines. Unlike that for other groups, the share of members from academia is consistent across all income levels.

Figure S3.3 Among income groups, the private sector has the greatest representation in technical committees of national standards bodies in high-income countries



Source: WDR 2025 team, based on World Bank and ISO 2025.

Note: The survey sample includes 116 national standards bodies (NSBs): 13 in low-income countries, 28 in lower-middle-income countries, 34 in upper-middle-income countries, and 41 in high-income countries. "Other" includes representatives from nongovernmental organizations, standards application organizations, and labor organizations. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

National standards bodies that are members of international standards development organizations decide whether the countries they serve should adopt, as national standards, the standards those organizations publish. If a national standards body has a need that no existing international standard covers, it may develop the needed standard as an "indigenous standard." National standards bodies, especially those in low-income countries, are not always familiar with all the international standards published and may develop indigenous standards even when an international one serving the same need is available. International institutions like ISO and the International Electrotechnical Commission (IEC) have capacity-building programs to support their member national standards bodies in avoiding duplication and to facilitate the adoption of international standards (refer to box S3.1 and spotlight 2). The number of ISO and IEC standards adopted by national standards bodies increases with country income, reducing technical barriers to trade and facilitating access to international markets—and indicating greater integration with the global standards community.

Box S3.1 Enhancing collaboration between standardizers and policy makers

International standards are efficient and cost-effective tools for meeting public policy objectives because they embody a consensus of multiple stakeholders and countries. Their adoption supports policy making; enhances transparency, predictability, and accountability of the regulatory process; and stimulates sustainable economic growth.

The World Trade Organization (WTO) Technical Barriers to Trade Agreement mandates that countries use international standards when developing technical regulations. Additionally, the Organisation for Economic Co-operation and Development's guidelines on regulatory practices promote adopting international standards. The International Organization for Standardization (ISO) offers guidance and training to national standards bodies on how they can more effectively support their national regulatory processes while meeting their international trade obligations and adhering to global best practices.

In 2023, ISO released "Standards and Public Policy: A Toolkit for National Standards Bodies."[a] This document offers a framework for understanding how international standards can assist policy makers and regulators in developing, adopting, and implementing policies, especially technical regulations, in accordance with the Technical Barriers to Trade Agreement.

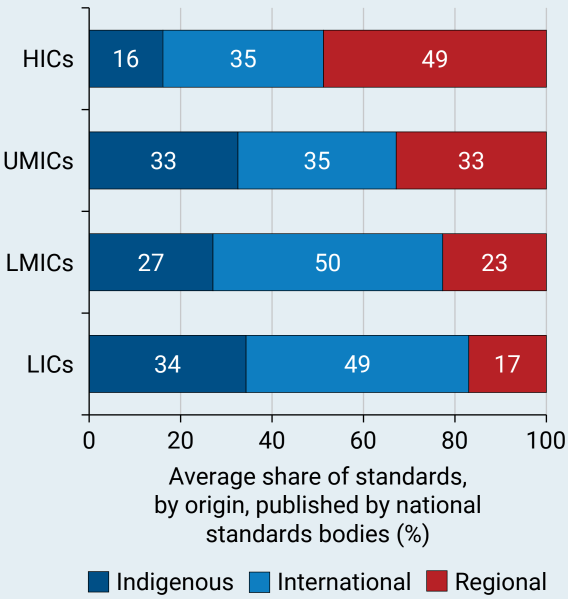
A capacity-building program is under way to increase collaboration among national standards bodies, policy makers, and regulators, sector by sector. It includes thematic policy briefs, workshops, research initiatives, case studies, peer-to-peer sharing of knowledge, and capacity-building training. The goal is to create a global community that uses international standards to achieve public policy objectives, foster trade, and promote international regulatory cooperation.

Source: WDR 2025 team.

a. ISO (2023).

Figure S3.4 reports the average share of standards published by national standards bodies based on the origin of the standard: that is, by whether the standard was developed exclusively by the national standards body as an indigenous standard, an adopted international standard, or an adopted regional standard. National standards bodies in low- and middle-income countries tend to publish more indigenous and international standards than high-income countries. In contrast, high-income countries tend to adopt more regional standards, but the adoption of standards developed by the European Committee for Standardization (CEN) largely drives this trend. As of mid-2023, approximately 34 percent of CEN's active standards were adoptions of identical ISO standards, and the rest were developed independently by CEN. This ratio reflects ongoing collaboration between CEN and ISO and alignment of the two organizations' standards, with the goal of creating consistent standards at the European and international levels.

Figure S3.4 National standards bodies in high-income countries adopt a greater share of regional standards, on average, than those in low- and middle-income countries



Source: WDR 2025 team, based on World Bank and ISO 2025.

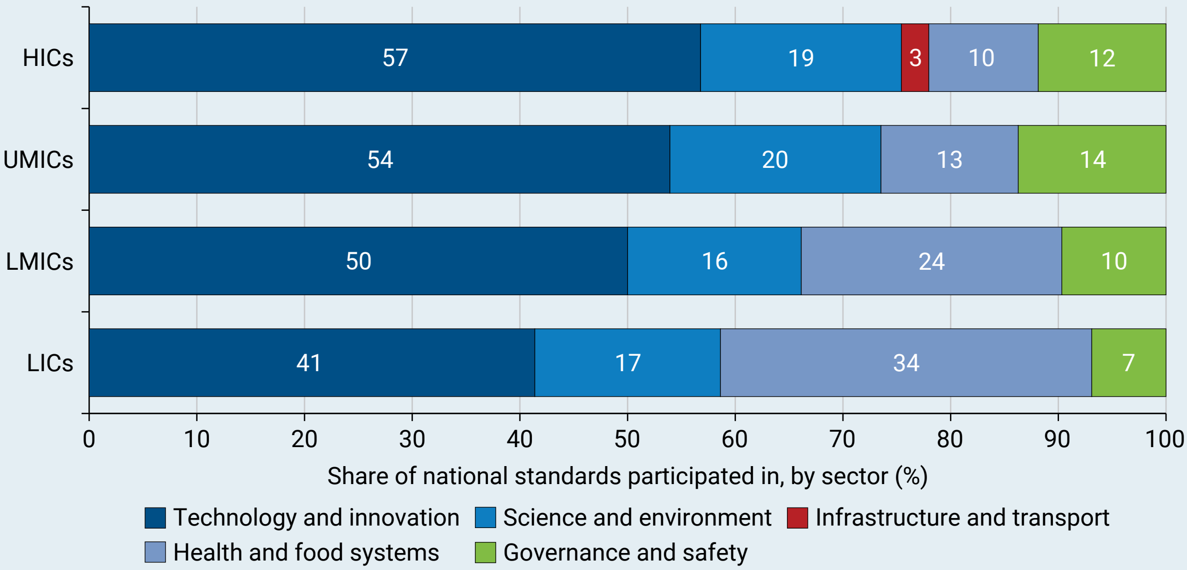
Note: "Indigenous" standards are new standards developed by a country. "International" standards are those developed by international standards development organizations and then adopted by a country. "Regional" standards are standards developed by regional standards development organizations and then adopted by a country. The survey sample includes 116 national standards bodies: 13 in low-income countries, 28 in lower-middle-income countries, 34 in upper-middle-income countries, and 41 in high-income countries. Constituent percentages for each country income group may not sum exactly to 100 percent as a result of rounding. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

Figure S3.5 reports the share of standards in each sector whose development national standards bodies participated in.[6] The standards with the highest participation levels in low-income countries are those in the technology and innovation sector, followed by those in the health and food systems, and then those in the science and environment sector, a distant third. Across all income levels, the standards with the highest levels of participation by national standards bodies are those in the technology and innovation sector.

Challenges national standards bodies face in adopting international standards

Across income groups, when national standards bodies choose to adapt (that is, to modify according to the ISO system) voluntary international standards instead of adopting them as is, the main reason they cite is not limited capacity to conform to the international standard, but rather local climatic conditions. In low-income countries specifically, the results of the survey suggest that these countries will simply not adopt an international standard at all if they cannot comply with it (that is, they are not equipped to implement or test to the international standard), rather than reduce its stringency in an adapted version. In contrast, countries in other income groups with limited capacity to comply with an international standard will likely adapt the standard by lowering its stringency. Furthermore, 60 percent of national standards bodies in high-income countries are more likely to decide not to adopt an international standard because they already have a comparable existing national or regional standard.

Figure S3.5 National standards bodies are more likely to participate in the development of international standards in the technology and innovation sector as country income level increases



Source: WDR 2025 team, based on administrative data as of 2024 provided by the International Organization for Standardization (ISO).

Note: Constituent percentages for each country income group may not sum exactly to 100 percent as a result of rounding. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

All national standards bodies report that adopting international standards is important because these standards enable the countries they serve to have access to international markets and that standards are also a powerful tool for attracting foreign investment; the latter reason is commonly cited especially by national standards bodies in low-income countries. About half of national standards bodies in low- and middle-income countries also view the adoption of an international standard as a way to avoid lobbying by domestic firms and use it as a tool to overcome local resistance. Low-income countries with lower technical capacity also cite the complexity of international standards as a reason for not adopting them.

The survey findings highlight the need for targeted capacity-building programs, particularly to raise awareness about the availability of international standards, their adoption, and their use and to increase capacity in low-income and lower-middle-income countries to conform with international standards (refer again to box S3.1 and spotlight 2).[7]

Notes

1. Refer to chapter 3 for a discussion of potential conflicts of interest when national standards bodies offer multiple services.
2. ISO (2019); ISO and UNIDO (2008).
3. The Bangladesh Standards and Testing Institution operates as an autonomous government institution. The South African Bureau of Standards was established in 1945 under the country's Standards Act. Refer respectively to Bangladesh Standards and Testing Institution (dashboard), Ministry of Industries, https://bsti.gov.bd/; South African Bureau of Standards (dashboard), Department of Trade, Industry and Competition, https://www.sabs.co.za/.
4. The American National Standards Institute is a private nonprofit organization founded in 1918 that represents the United States in international standards development organizations, such as ISO and the International Electrotechnical Commission. Refer to American National Standards Institute (dashboard), https://www.ansi.org/.
5. ISO has about 275 active technical committees.
6. National standards bodies typically sell standards, including both ISO standards and those developed by national standards bodies, to businesses, industries, governments, and the general public within their countries.
7. ISO has a training program on national adoptions for developing-country members to address these needs, including tailored support for least developed countries. ISO capacity-building programs for developing-country members aim to strengthen developing countries' participation in international standardization and enhance their uptake of standards. These capacity-building programs continue to be highly relevant, and more support is needed to scale them up to better support developing-country members. Refer to ISO (2022) for details.

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