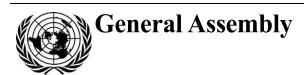
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Fourth annual progress report of the Board of Auditors on the implementation of the information and communications technology strategy

Report of the Advisory Committee on Administrative and Budgetary Questions

I. Introduction

- 1. The Advisory Committee on Administrative and Budgetary Questions has considered the fourth annual progress report of the Board of Auditors on the implementation of the information and communications technology strategy (A/75/156). During its consideration of the report, the Committee met virtually with representatives of the Board, who provided additional information and clarification, concluding with written responses dated 4 October 2020.
- 2. In its resolution 69/262, the General Assembly endorsed the five-year information and communications technology (ICT) strategy for the United Nations proposed in the report of the Secretary-General on ICT in the United Nations (A/69/517). To date, the Secretary-General has submitted five progress reports on the status of implementation of the ICT strategy, with the most recent (A/74/353) submitted on 17 September 2019. Pursuant to General Assembly resolution 70/238 B, the Board of Auditors has conducted annual audits of the implementation of the ICT strategy and submitted four annual progress reports. A summary of the timeline for the implementation of the ICT strategy is provided in the preambular sections of the Board's fourth progress report.

II. General observations

3. In its fourth annual progress report, the Board of Auditors discusses the implementation of the ICT strategy in 2019, on the basis of an audit conducted from 26 January to 6 March 2020 (A/75/156, para. 4). The Board's findings reflect weaknesses in the implementation of the strategy in several areas, including governance and accountability, implementation of the strategy projects, Umoja





mainstreaming, information security, disaster recovery management, application and website rationalization, the Enterprise Network Operations Centre, the Unite Service Desk, hybrid cloud computing, information management, defragmentation and utilization of ICT resources.

4. The Advisory Committee commends the report of the Board of Auditors, which provides updated information regarding the implementation of the ICT strategy. The Committee considers the information and findings contained in the report particularly valuable given the lack of a final report of the Secretary-General on the ICT strategy (see para. 8 below). In the Committee's view, the report of the Board presents an independent assessment of the implementation of the strategy that identifies areas of progress as well as weaknesses and gaps requiring improvement.

A. Status of the information and communications technology strategy and next steps

- The Board of Auditors recalls in its report that the ICT strategy had a five-year time frame, concluding on 10 February 2020, and was to be implemented through 20 strategic projects (A/75/156, p. 5). Of the 20 projects, 13 were reported to have been completed in the fourth progress report of the Secretary-General. In the fifth progress report of the Secretary-General, the status of the remaining projects was not specifically mentioned, whereas in previous reports it had been, and only an overall assessment of the end state of the implementation of the strategy was provided (ibid., para. 65). The Board notes that of seven projects reported to be ongoing in the fourth progress report of the Secretary-General, six (the website rationalization, application rationalization, Unite Service Desk, Enterprise Network Operations Centre, disaster recovery phase 2: disaster recovery exercises and Umoja mainstreaming projects) had been formally closed through change requests approved by the Chief Information Technology Officer as of April 2019, well ahead of the close of the strategy. The Board further indicates that, when closing some projects, it was noted that a few activities originally envisaged to be part of a project would be taken up subsequently as a separate activity. Additionally, in some cases, the adopted methodology for project closure was not followed (ibid., paras. 67-69). The Advisory Committee notes that, while projects underpinning the strategy have been formally closed, it remains unclear whether they have been fully and accurately implemented and whether they have achieved their stated objective.
- Upon enquiry, the Advisory Committee was informed that the Board of Auditors considered that the ICT strategy had achieved some milestones, such as the establishment of the enterprise delivery framework, but that much remained to be done, as evidenced by the Board's findings and open recommendations. Weaknesses identified by the Board include: (a) long-standing concerns, such as deficiencies in the governance framework and continued defragmentation; (b) issues that emerged following the management reform, such as the duplication and overlap in the organization of the activities of the Office of Information and Communications Technology of the Secretariat and the lack of adequate participation in the newly established Information and Communications Technology Steering Committee; and (c) activities that have progressed slowly, such as the global sourcing project and 10 urgent short-term measures for information security that have yet to be fully completed more than five years later. The Advisory Committee concurs with the Board of Auditors that weak cross-departmental coordination, lack of accountability frameworks, possible lack of resources and non-prioritization at the organizational level are underlying reasons for unresolved critical issues.

- 7. The Advisory Committee recalls that the Secretary-General stated that his fifth progress report, of 17 September 2019, constituted his final report on the implementation of the ICT strategy (see A/74/353, summary). However, considering that the five-year implementation period would conclude in February 2020, and given the general and unclear information contained in the progress report, the Committee had recommended that the Secretary-General submit a final report on the implementation of the ICT strategy at the seventy-fifth session of the General Assembly and had provided specific indications regarding the content of that report (A/74/588, paras. 8–10). Upon enquiry, the Committee was informed that the Board of Auditors, during its recently concluded audit, did not find any change in the Secretary-General's position that the fifth progress report constituted his final report on the strategy.
- Given the continued lack of clarity on the implementation status of some ICT strategy projects (see para. 5 above) and the multiple critical issues that remain unaddressed (see para. 6 above), the Advisory Committee has serious concerns that a final report was not submitted and reiterates its previous recommendation that the General Assembly request the Secretary-General to submit a final report on the implementation of the ICT strategy, as soon as possible and no later than for its consideration at the main part of its seventysixth session, taking into account the observations and recommendations in the present report and the previous report of the Committee (see also A/74/588, para. 8). Furthermore, the Committee again recommends that the Assembly request the Secretary-General to ensure that the final report on the implementation of the ICT strategy provides full and accurate information on the implementation status of the strategy, including details on the challenges faced and lessons learned, as well as an analysis of reasons for the successful or unsuccessful implementation of planned activities, including, for instance, information on any systemic issues and organizational arrangements affecting the implementation (ibid., para. 10).
- The Advisory Committee recalls that, in its previous report, it had also recommended that the final report of the Secretary-General contain proposals for the next ICT strategy for the United Nations. Upon enquiry, the Committee was informed by the Board of Auditors that the Office of Information and Communications Technology was of the view that a decision on a new strategy would be taken as directed by the General Assembly. The Advisory Committee again stresses the need for a new comprehensive ICT strategy that would chart the direction of ICT activities of the United Nations in the near term. The Committee therefore reiterates its recommendation that the General Assembly request the Secretary-General to include in his final progress report on the implementation of the ICT strategy his proposals for the next ICT strategy (a consolidated strategy, including the field strategy), building on the results achieved and the challenges, issues and lessons learned from the five-year implementation of the ICT strategy during the period 2014–2020 (ibid., para. 9). The Committee also considers that the new strategy should provide a consolidated overview of proposed ICT initiatives and resources, along with detailed justifications, and recalls its related recommendation in the context of the proposed programme budget for 2021 (A/75/7 and A/75/7/Corr.1, chap. I, para. 67). Furthermore, the new strategy should take into account ongoing initiatives, such as the Data Strategy of the Secretary-General for Action by Everyone, Everywhere, recent experiences, including those related to business continuity during the coronavirus disease (COVID-19) pandemic, and the threats posed by the increasingly challenging cybersecurity landscape.
- 10. In recommending the stocktaking of the ICT strategy and the outlining of the future course of ICT activities, the Advisory Committee acknowledges the

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role of ICT as a critical enabler of the mandates of the Organization, including in responding to the unprecedented challenges related to the COVID-19 pandemic (see also A/75/7 and A/75/7/Corr.1, para. VIII.71).

B. Implementation of recommendations

- 11. The Board of Auditors provides an update on the implementation status of its recommendations, noting that of the 50 pending recommendations of the Board up to the year ended 31 December 2019, 7 (14 per cent) have been fully implemented, 37 (74 per cent) are under implementation and 6 (12 per cent) were overtaken by events (A/75/156, paras. 5–6 and annex I).
- 12. Upon enquiry, the Advisory Committee was informed that the decisions regarding prioritization and implementation timelines were the prerogative of the Administration. The Committee conducted a review of the implementation status and time frame of recommendations annexed to the annual reports of the Board, summarized in the table and figures I and II below.

Status and implementation time frame of previous ICT-related recommendations of the Board of Auditors

	Number of recommendations								
Recommendation status	Pending for 1 year						Pending for 7 years	Pending for 8 years	Total number of recommendations ^a
Fully implemented	4	1	3	_	2	6	_	3	19
Under implementation	10	10	10	_	4	_	_	3	37
Overtaken by events	2	1	1	_	_	1	2	_	7
Total	16	12	14	_	6	7	2	6	63

^a Issued in the following reports of the Board of Auditors: A/67/651, A/70/581, A/72/151, A/73/160 and A/74/177; exclusive of the new recommendations issued in the context of the fourth annual progress report of the Board (A/75/156).

Figure I Implementation rate in years: "fully implemented" recommendations

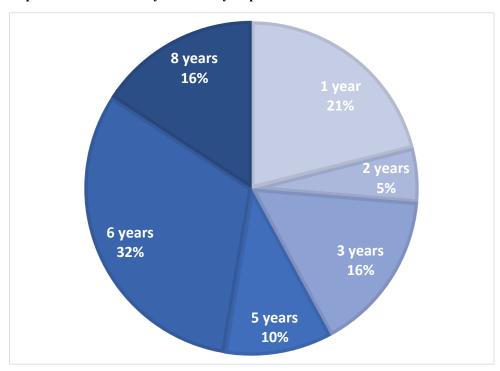
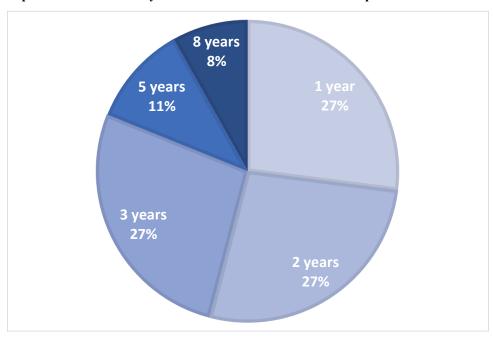


Figure II Implementation rate in years: recommendations "under implementation"



13. The Advisory Committee notes a total of 63 ICT-related recommendations issued by the Board of Auditors, excluding those contained in its fourth report, 19 of which have been fully implemented. Of the 19 closed recommendations, 14 had been pending for more than two years prior to their closure, including 6 for a period of six years and 3 for eight years. Furthermore, at the time of issuance of the fourth annual

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report of the Board, 37 recommendations remained open. Of those, almost half (17) had been under implementation for more than two years, including 4 that had been pending for five years and 3 for eight years. Some long-standing recommendations predating the ICT strategy cover issues that the strategy aimed to improve, such as a recommendation regarding ICT budget proposals (see para. 23 below).

14. The Advisory Committee again notes with concern the low implementation rate of the recommendations of the Board of Auditors (see also A/71/785, para. 10; A/72/7/Add.51, para. 8; A/73/759, para. 4; and A/74/588, para. 4) and trusts that the Secretary-General will make every effort to complete expeditiously the implementation of the remaining open recommendations.

III. Specific comments

A. Governance

Deficits in compliance monitoring and accountability

- 15. The report of the Board of Auditors indicates that in the "three lines of defence" model (see A/72/773, sect. IV), the second line of defence consists of the policy and compliance functions of the Office of Information and Communications Technology and other departments (A/75/156, para. 43). The Board notes that, while the Office has issued policies governing various aspects of the ICT environment, it has not adequately performed its policy compliance function, which has resulted in shortcomings highlighted in the report of the Board, including with respect to budget oversight (see para. 23 below), coordination of the implementation of the disaster recovery plan (A/75/156, paras. 111–120), detection of and response to information security incidents (ibid., paras. 91–94) and website rationalization (ibid., paras. 145–154).
- 16. The Board of Auditors indicates that the Office of Information and Communications Technology itself, in some instances, expressed the view that it had limited capability to ensure that entities effectively complied with policies (see, for example, A/75/156, para. 92). The Board notes that the delegation of authority, accountability framework and performance monitoring framework have not yet been formalized to deal with ICT-related matters (ibid., paras. 45–51). Upon enquiry, the Advisory Committee was informed that the Board was of the view that the delegation of authority, combined with an improved governance structure, and the establishment of a better accountability framework for ICT purposes, similar to that developed by the Business Transformation and Accountability Division, could address some of the governance issues discussed in the Board's annual reports. The Advisory Committee emphasizes the need for greater oversight by the Office of Information and Communications Technology based on accountability and compliance monitoring, and reiterates its previous recommendation that the General Assembly request the Secretary-General to promulgate the delegation of authority for ICT matters and related procedures without delay (A/74/588, para. 17).

Information and Communications Technology Steering Committee

17. The report of the Board of Auditors indicates that, following the management reform, the ICT Steering Committee replaced the ICT Executive Committee, which had been the highest decision-making body in the Secretariat on ICT strategy and priorities. The ICT Steering Committee, established in June 2019, is composed of the Executive Office of the Secretary-General, the Department of Management Strategy, Policy and Compliance and the Department of Operational Support, but does not include client departments and offices that were previously represented in its predecessor, the ICT Executive Committee, by 13 Under-Secretaries-General from various entities. The

Board is of the view that the composition of the ICT Steering Committee does not conform to the goal of a cross-departmental and cross-entity ICT governance mechanism that was envisaged in the management reform and recommends representation from client offices in the ICT governance structure (A/75/156, paras. 9–15). Upon enquiry, the Advisory Committee was informed that, according to the Board, ICT governance bodies such as the reconstituted Steering Committee are not utilized to resolve interentity differences or address compliance issues. The Advisory Committee stresses that adequate client participation in the ICT governance structure is essential to improve transparency, strengthen accountability, achieve collaboration, reduce fragmentation and promote the emergence of efficiency gains.

18. The Advisory Committee is of the view that the leadership of the Office of Information and Communications Technology, supported by the concerted and sustained involvement of the Secretary-General and the senior management of the Organization, is essential to ensure that ICT will continue to sustain and support the work of the United Nations in an ever more effective, secure and reliable manner.

Gaps in organization of functions and activities

19. The Board of Auditors reviewed the functions and activities of the three integrated divisions of the restructured Office of Information and Communications Technology following the management reform and observed instances of duplication and unclear delineation of responsibilities, leading to a blurring of accountability in several areas, including data management services and applications management. The Board recommended that the Office map the functions, roles and responsibilities of its divisions, sections and services (ibid., paras. 17–34). The Advisory Committee looks forward to the implementation of this recommendation and emphasizes the importance of a clear division of work within the Office of Information and Communications Technology in order to avoid duplication of resources and gaps in accountability.

B. Information security

The ICT strategy envisaged an action plan of 10 initiatives to address the most urgent shortcomings in information security for its promotion in the Secretariat. The Board of Auditors notes in its report that those short-term measures had yet to be completed after the conclusion of the five-year time frame for the implementation of the strategy, leading to vulnerabilities (ibid., para. 89). The Board offers an example of a recent information security incident involving a server at the United Nations Office at Vienna, which was compromised in 2019 as a result of the failure to apply a security update. Owing to the lack of adequate network segmentation, the adversary spread through the network at the United Nations Office at Vienna and, from there, to the United Nations Office at Geneva, where additional assets were then compromised before the breach was finally detected (ibid., para. 90). Limited network segmentation, overdue review of the technical procedure on cryptographic controls, outdated systems, insufficient monitoring of policy compliance, including on the reporting of information security incidents, and poor compliance of websites with security requirements are some of the weaknesses related to information security identified by the Board in its report (ibid., paras. 77–110 and 145–154). The Board notes that although a new cybersecurity action plan was developed at the end of 2019, it did not indicate any mechanism for ensuring its broad implementation and accountability. The Advisory Committee was previously informed, upon enquiry, that as cyberattacks, including those directly targeting the United Nations, continued to increase in number and sophistication, the Office of Information and Communications Technology would strengthen cybersecurity

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through the upgrading of technical solutions and an enhanced monitoring and response coordination capability (A/75/7 and A/75/7/Corr.1, para. VIII.66). The Advisory Committee regrets that at the end of the implementation time frame of the ICT strategy, critical and urgent actions related to information security have not been comprehensively implemented, established governance processes have not been adhered to, and accountability and compliance mechanisms have not been put in place. As these failures have resulted in critical incidents and continue to expose the Organization to significant risks, the Committee expresses serious concern regarding the Organization's ability to prevent, detect and respond to information security breaches and cyberattacks in an increasingly complex ICT landscape. The Committee therefore recommends that the General Assembly request the Secretary-General to ensure full implementation of information security projects under the ICT strategy. Furthermore, the Committee is of the view that the next ICT strategy should pay heightened attention to information security and provide a comprehensive action plan identifying ongoing and future initiatives and their expected benefits, risks and costs, with time-bound objectives, clear benchmarks and compliance mechanisms.

C. Optimal utilization of information and communications technology resources and defragmentation

21. The ICT strategy placed emphasis on the optimal utilization of ICT resources (see A/69/517, sect. V). Upon enquiry, the Advisory Committee was informed that the Board of Auditors considered that the optimization, which was to be achieved through the defragmentation and harmonization of existing infrastructure and processes, had not been fully realized, as explained in its successive reports.

Lack of consolidation of information and communications technology units and staff

The Secretary-General indicated in his fifth progress report that a significant portion of the defragmentation had been addressed through the consolidation of key ICT units, stronger governance arrangements and greater coordination of and participation in ICT activities (A/74/353, para. 10). The Board of Auditors reports that, as of March 2020, of the 70 ICT units across the Organization that the ICT strategy aimed to harmonize, only four departments (the Department of Management Strategy, Policy and Compliance, the Department of Operational Support, the Department of Safety and Security and the Office for the Coordination of Humanitarian Affairs) had been consolidated and one (the Department for General Assembly and Conference Management) had been partially consolidated. Furthermore, 34 entities continued to have their own ICT personnel, amounting to 499 staff (A/75/156, paras. 242-243). The Board is of the view that, although the ICT strategy implementation period ended in February 2020, the ICT units remained fragmented (ibid., para. 245). The Advisory Committee notes with concern that the harmonization and consolidation of ICT units and staff proposed under the ICT strategy has not been achieved and recommends that the General Assembly request the Secretary-General to present a specific plan in the context of the next ICT strategy.

Lack of oversight of information and communications technology budget proposals

23. The report of the Board of Auditors indicates that the Office of Information and Communications Technology provided ICT-related budget instructions to the Controller, who then incorporated them into the formal budget instructions; however, no entities submitted their budget proposals to the Office for review and no review took place (A/75/156, para. 244). The Advisory Committee notes that the Board previously issued a recommendation in its report on the handling of ICT affairs in the

Secretariat (A/67/651) which, eight years later, continues to be under implementation because compliance with the ICT budget instructions has not been ensured. It is also noted that the Administration is of the view that the presentation and execution of budgets remains the responsibility of heads of departments and offices (A/75/156, annex I, recommendation 1). The Advisory Committee has consistently emphasized that, in accordance with the Secretary-General's bulletin on the organization of the Office of Information and Communications Technology (ST/SGB/2016/11, para. 2.2 (g)), the Office is responsible for the review of budgets from all funding sources for all ICT initiatives and operations of the Secretariat before their submission to the Office of Programme, Planning, Finance and Budget (see also A/71/785, para. 9; A/72/7/Add.51, para. 13; A/73/759, para. 19; and A/74/588, para. 27). The Committee also recalls that the General Assembly, in its resolution 72/262 C, endorsed the Committee's recommendation that all departments and entities of the Secretariat must fully comply with the ICT strategy and the provisions of the Secretary-General's bulletin on the organization of the Office of Information and Communications Technology. The Committee is therefore concerned about the persistent inability of the Office to ensure the review of ICT budget proposals and recommends that the Assembly request the Secretary-General to address this situation without further delay. The Committee stresses that review by the Office is critical to ensure that resources match the priorities of the Organization, minimize the risk of duplication and maximize efficiencies, and intends to assess whether such a review has occurred in the context of its consideration of the consolidated ICT budget and proposed initiatives in the proposed programme budget for 2022 (see also A/75/7 and A/75/7/Corr.1, chap. I, para. 67).

Lack of visibility and an inventory of information and communications technology resources

24. The report of the Board of Auditors indicates that the Office of Information and Communications Technology did not have any information on budgets for ICT activities in various entities under different funding sources, nor did the Office leverage effectively financial information on ICT available in Umoja (A/75/156, para. 244). The Advisory Committee was informed by the Board, upon enquiry, that, as at March 2020, the Office had not initiated or contemplated any action to improve the visibility of the ICT budgets, expenditures or projects of the Secretariat. Furthermore, the Office had taken no action to implement the Committee's recommendation that the Secretary-General establish a baseline of all ICT expenditures, staff and non-staff resources, asset holdings, ICT services provided, applications and ongoing and planned initiatives (A/74/588, para. 13). The Advisory Committee has repeatedly stressed the need for greater transparency, oversight and predictability with regard to costs and requirements associated with ICT (see, for example, A/75/7 and A/75/7/Corr.1, paras. VIII.63 and XI.19). The Committee reiterates its previous recommendation that the Secretary-General conduct an inventory to establish, without delay, a baseline of: (a) all ICT expenditure by category of expenditure; (b) personnel-related resources, including posts, positions, temporary assistance, contractors and consultants; (c) non-personnel-related resources; and (d) the inventory of ICT asset holdings (tangible and non-tangible). The baseline should also include information on the ICT services provided, the applications developed and/or maintained and ongoing and planned ICT projects (A/74/588, para. 13).

Avoidable expenditures

25. According to the ICT strategy, part of the envisaged improved stewardship of the Office of Information and Communications Technology was to ensure that all ICT

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resources were optimally managed (A/69/517, para. 57). The Board of Auditors indicates that, in 2019, the Office expended \$2.28 million on the use of Microsoft Office 365 licences and IP telephones for 5,441 dormant user accounts. The Board considers that this expenditure could have been avoided if the Office had liaised better with the administrative focal point of the client departments in tracking and disabling the accounts (A/75/156, paras. 229–236). Upon enquiry, the Advisory Committee was informed that, according to the Board, the Office did not consider itself as having any responsibility for the financial implications of the management of dormant accounts. In the Board's view, in the absence of any protocol, this avoidable expenditure seems to be a joint responsibility of the Office and the client departments. The Advisory Committee regrets that the Organization incurred an avoidable expenditure of \$2.28 million for software licences and IP telephones for 5,441 dormant accounts and trusts that all necessary measures will be taken to avoid the recurrence of similar issues.

Global sourcing project

26. The ICT strategy envisaged that global sourcing would strengthen visibility and control over ICT expenditure and ultimately ensure that all ICT resources are optimally managed. However, as reported by the Board of Auditors, at the end of the five-year period, contracts under the global sourcing project remained to be awarded. The Board observes that global sourcing of ICT and application services was initiated as early as December 2016 and the deadlines for the award of contracts were revised multiple times (ibid., paras. 217–221 and 226). The Advisory Committee regrets that the global sourcing project was not completed within the five-year time frame for implementation of the ICT strategy and recommends that the General Assembly request the Secretary-General to provide updated information at the time of its consideration of the next report on the ICT strategy (see para. 9 above).

D. Other matters

Umoja mainstreaming

27. The Board of Auditors indicates that the Umoja mainstreaming project was formally closed on 18 March 2019 and that the Secretariat has decided that a new project would involve all remaining tasks as part of phase 4, "lift and shift", based on the engagement with the Umoja project team to mainstream the identified responsibilities of the Office of Information and Communications Technology. The Board is of the view that it is crucial that the Secretariat entities that may be responsible for completing the remaining work of Umoja Extension 2 subprojects provide ongoing production support and continue to carry out improvements to the enterprise resource planning solution. The Board has therefore recommended the formalization of a mainstreaming and transition plan, in consultation with the Umoja project team, the Office and other Secretariat entities to which the functions and project personnel are likely to be transferred by the end of December 2020 (ibid., paras. 71–76). The Advisory Committee discusses the mainstreaming of Umoja in its related report (A/75/7/Add.14).

Agreements with the United Nations Office for Project Services

28. The Board of Auditors indicates in its report that the Office of Information and Communications Technology has entered into multiple agreements with the United Nations Office for Project Services (UNOPS) (A/75/156, paras. 19, 24 and 26). Upon enquiry, the Advisory Committee was informed that the Office of Information and Communications Technology had procured services from UNOPS on overlapping subjects for the purpose of providing ICT services to its clients, and that some

agreements predated the adoption of the ICT strategy. The Advisory Committee is of the view that comprehensive information should be provided with regard to the services procured from UNOPS, including their costs and the reasons for their continued procurement.

United Nations Technology Innovation Labs

29. The report of the Board of Auditors indicates that the Office of Information and Communications Technology, in collaboration with interested Member States, established United Nations Technology Innovation Labs to foster collaborative problem-solving among the United Nations system, the private sector, academia and civil society, and to pioneer open-source technological solutions to global humanitarian, sustainable development, climate change and peace and security challenges, mainly for the benefit of Member States. The Board further notes that, by 2019, four labs had been established; however, the technology solutions developed by the labs could not be shared with Member States, as no open source and intellectual property framework had been developed to date. The Board also indicates that the programme to establish labs was under review by the Executive Office of the Secretary-General (ibid., paras. 211–216). The Advisory Committee looks forward to receiving updated information on the progress made by the United Nations Technology Innovation Labs in developing and sharing technological solutions to global challenges, as well as on the outcome of the review by the Executive Office of the Secretary-General.

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