Introduction

– *The establishment of Working Group on Impact of Science and Technology on Auditing at the 71st meeting of the INTOSAI Governing Board in Moscow, Russian Federation in 2018. The Governing Board approved the proposal to establish a temporary task force to develop the Terms of Reference (TOR) and proposed leadership arrangements for a new INTOSAI Working Group on Impact of Science and Technology on Auditing (WGISTA), to be presented to the 73rd Governing Board at its meeting during the 2019 INCOSAI Congress.*

– ***During the 78th meeting of the INTOSAI Governing Board, held in the Arab Republic of Egypt on 28 October 2024, SAI -Egypt (Accountability State Authority) officially assumed the chair of the Working Group on Impact of Science and Technology on Auditing (WGISTA), succeeding the Supreme Audit Institution of the United Arab Emirates***.

– *The Working Group currently composed of 26-member SAIs.*

– *Governments and Supreme Audit Institutions face increasing challenges due to the rapid developments in the fields of science and technology, which requires the global auditing community to adapt to these changes and develop auditing tools and methods that align with the requirements of the digital age.*

Objectives of Working Group

– *Hence, the importance of the INTOSAI Working Group on Impact of Science and Technology on Auditing (WGISTA), which plays a pivotal role in supporting Supreme Audit Institutions in this context.*

The mission of the WGISTA group is to enable Supreme Audit Institutions to comprehend the impacts of scientific and technological developments on governments and societies, and to enhance their capabilities to deal with them

effectively within the framework of their auditing tasks. The group seeks to create a collaborative environment that supports the exchange of knowledge and experiences, and promotes innovation in auditing work at the global level, by focusing on the following:

- *Assisting Supreme Audit Institutions in developing auditing tools and methodologies that are compatible with rapid technological changes.*
- *Supporting the capacity building of auditors to keep pace with technological developments, such as Artificial Intelligence, Big Data, and Blockchain technologies.*
- *Evaluating and exchanging best practices in auditing government responses to developments in the field of science and technology, by seeking to enhance the ability of Supreme Audit Institutions to monitor how governments deal with innovations and technological changes (technical challenges).*
- *Enhancing cooperation between Supreme Audit Institutions and other stakeholders with common interests in this field, as this contributes to the establishment of communication and cooperation networks to benefit from shared experiences and exchange information.*
- *Expanding the scope of cooperation between Supreme Audit Institutions and specialized research and academic institutions.*

The Draft Work Plan (2026-2028) Proposed by the Working Group on Impact of Science and Technology on Auditing:

In consistence with the WGISTA goals and with the purpose of its establishment, the Working Group's Secretariat prepared a draft of the new work plan (2026-2028) based on the context of the Working Group's vision, mission, and the outlining framework of the INTOSAI Strategic Plan (2023-2028).

Vision

Empowering SAIs' by building capacities and providing tools and knowledge to leverage advances in science and technology, including emerging technologies, to bring about a qualitative shift in auditing methodologies and enhance their ability to adapt to a rapidly evolving digital environment.

The WGISTA Working Group believes that scientific progress – in fields such as Data Science, Artificial Intelligence, and Computing Technologies – is a fundamental element in supporting flexible and effective data-driven auditing. The group seeks a future in which science and technology together contribute to enhancing the quality and efficiency of auditing, and to supporting the principles of transparency, accountability, and trust in public sector governance.

Mission

WGISTA's mission is to enable SAIs to keep pace with the rapid developments in auditing fields, by providing them with the necessary knowledge and strategic vision to meet the challenges of technological progress. The group also seeks to support these institutions in understanding and evaluating the impact of scientific and technological developments on government performance, and to enhance their ability to effectively oversee innovation and digital transformation.

The outlining Framework of the workplan Goals is as follows:

The INTOSAI WGISTA work plan (2026-2028) and Technology on consists of five main Goals and their objectives:

Goal 1: Enhance cooperation among SAIs and WGISTA Working Group members through research and knowledge sharing.

This will be achieved through the following objectives:

Objective 1: Launching the WGISTA Working Group's annual magazine for knowledge sharing.

- *Announcing the publication of the first edition of the WGISTA Working Group's annual magazine, which urges SAIs, experts, academics to submit articles, research papers, case studies, research findings, success stories, and best practices, this magazine aims to:*

- *Present the most prominent activities and outputs achieved by WGISTA during the year.*
- *Publish analytical articles and case studies on the use of science and technology in auditing.*
- *Highlight the contributions of members in developing innovative auditing tools.*
- *Facilitate knowledge sharing between experts, academics, and practitioners in the field.*
- *Review the results of initiatives involving member states in the areas of technology auditing and digital transformation.*
- *Form a dedicated (regional) editorial board from WGISTA members to oversee the preparation and publication process to ensure the quality of the content consistent with the objectives of the working group.*

- *Work will be done to prepare procedural rules governing the publication of this magazine to ensure its continuity and the quality of its content.*

Objective 2: Preparing research papers and articles for publication and circulation in all magazine and publications.

- *WGISTA will encourage its members to prepare research papers and articles, focusing on the impact of emerging scientific technologies such as Artificial Intelligence, Blockchain, Big Data, Cybersecurity, and Technological Sciences on public sector and institutional auditing. These research papers and articles will address new auditing methodologies,*

innovative tools, and practical case studies that illustrate the challenges and opportunities posed by these technologies.

- *The working group Secretariat will supervise a team formed for the purpose of preparing the procedural rules governing all research papers and scientific articles, in addition to mechanisms for surveying the opinions of the group's members. These rules will be updated periodically to keep pace with technological developments and advancements in the field of emerging technologies, to ensure consistency and quality in the working group's outputs.*

Objective 3: Launching the WGISTA competition.

- *To encourage the group's members to participate and innovate within its objectives, WGISTA will launch a research and innovation competition aimed at presenting innovative ideas and solutions and how to use emerging technologies in auditing processes.*
- *The competition will include various categories, as follows:*
- *Best Research Paper: Through a comprehensive study on emerging technology and its application in public sector auditing.*
- *Best Innovative Tool or Methodology: By selecting the best tool, framework, or new application that uses emerging technologies by a SAI to improve the quality of auditing.*
- *Prizes or incentives of the annual competition as follows:*
  - o *Financial rewards for the competition*
  - o *Publication in the WGISTA working group's annual magazine.*
  - o *Publication on the U INTOSAI Digital University page (U INTOSAI).*
  - o *Publication on any new INTOSAI websites.*

Goal 2: Enhance the capabilities of SAIs to audit Emerging Technologies.

This will be achieved through the following objectives:

Objective 1: Cooperation with relevant international organizations and entities.

- *Concluding cooperation protocols with institutions, entities, and academic institutions to enhance the group's outputs, for example, cooperation between the WGISTA working group and ISACA (Information Systems Audit and Control Association) in the field of using emerging technology in auditing work.*

Objective 2: Strengthening the ethical frameworks for the use of emerging technologies in the public sector.

- *Enhancing the capacity of SAIs to audit emerging technologies within the framework of ethical rules and professional conduct.*
- *Organizing virtual seminars on "Ethics of Using Emerging Technologies."*
- *Organizing webinars on "Artificial Intelligence in Government Auditing: Navigating the Positive Impacts and Avoiding Potential Risks."*

Goal 3: Developing practical tools and guidelines.

This will be achieved through the following objectives:

Objective 1: Preparing and issuing a glossary of key terms related to Emerging Technologies and their uses.

Objective 2: Designing an emerging technologies audit matrix to support SAIs in planning and implementing audit work.

Objective 3: In light of global digital transformations and the increasing need to raise the efficiency of regulatory bodies and enhance transparency and governance, we are presenting an ambitious initiative that aims to reshape the Audit structure by designing a toolkit that uses artificial intelligence to help auditors perform their work efficiently, quickly, and accurately.

- *Organizing training sessions and seminars on:*

- o *"The impact of digitizing government services on auditing methodologies and methods."*
- o *"Auditing in the Blockchain era: Challenges and Opportunities."*
- o *"Quantum Computing: Opportunities and Challenges Facing Auditing."*

<u>Goal 4:</u> Enhancing auditors' understanding of the importance of science and its impact on auditing.

This will be achieved through the following objectives:

Objective 1: Providing basic knowledge Auditing Identity Verification Technologies in Public Services

In recent years, there has been significant expansion in the use of identity verification technologies for public service delivery, including biometric authentication (such as fingerprint and facial recognition) and digital ID systems. In light of this growth, the role of Supreme Audit Institutions (SAIs) becomes increasingly critical to ensure the protection of citizen privacy, the strengthening of data security, and the equitable access to services without discrimination.
The work plan focuses on analyzing the landscape of these emerging technologies and identifying associated risks, particularly regarding cybersecurity, digital exclusion, and identity fraud or misuse
Key activities will include organizing a specialized webinar in collaboration with cybersecurity experts to facilitate knowledge exchange and build auditor capacity.

Objective 2: Providing basic knowledge in Technologies to Mitigate Climate Change

Climate change is one of the greatest challenges facing the world today, and modern technologies play a crucial role in efforts to mitigate its impacts. These technologies include weather modification techniques such as cloud seeding, and advanced environmental monitoring sensors that track air and monitor ecosystems.

The work plan aims to support Supreme Audit Institutions (SAIs) in auditing the efficiency and effectiveness of national investments in climate mitigation technologies. It also seeks to enhance their capacity to assess the associated risks, such as unintended side effects or overreliance on unproven solutions.

Planned activities include conducting launching a series of technical papers and webinar covering topics like climate engineering, and environmental sensors, and emphasizing the integration of relevant Sustainable Development Goals (SDGs) into audit planning.

Through these initiatives, SAIs will be better equipped to keep pace with environmental innovations and ensure that public policies support the transition towards more sustainable societies.

Goal 5: Updating the database of experts in the field of emerging technologies.

- The working group Secretariat will prepare clear criteria for classifying an "expert" (such as number of years of experience, specialization, research contributions, certifications)
- Collecting data from multiple sources through (updated questionnaires sent to current experts to update their data) and the expert database will be updated periodically.
- Designing a flexible data model that includes (name - specialization - country - Supreme Audit Institution - areas of expertise - previous projects - means of communication - language - willingness to participate).
- Classifying experts by technology field (such as: artificial intelligence, blockchain, data analysis).
- Utilizing experts to support the working group's ongoing projects.