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Economic Commission for Africa
Seventh African Science, Technology and Innovation Forum

Kampala (hybrid), 7 and 8 April 2025

Concept note

I. Background and mandate

1. The African Science, Technology and Innovation Forum was established pursuant to resolution 961 (LI), of 15 May 2018, of the Conference of African Ministers of Finance, Planning and Economic Development, in which the Economic Commission for Africa (ECA), in collaboration with the African Union Commission and other partners, was called upon to take all steps necessary to organize on a regular basis a multi-stakeholder forum on science, technology and innovation as an input into the work of the Africa Regional Forum on Sustainable Development. The African Science, Technology and Innovation Forum serves as a regional consultative platform, the outputs of which inform the collaborative multi-stakeholder forum on science, technology and innovation for the Sustainable Development Goals established pursuant to the 2030 Agenda for Sustainable Development.[1]

2. The multi-stakeholder science, technology and innovation forum is part of the Technology Facilitation Mechanism and is held annually in New York, convened by the President of the Economic and Social Council. It is organized by the United Nations inter-agency task team on science, technology and innovation for the Sustainable Development Goals, with the support of the United Nations 10-Member Group to Support the Technology Facilitation Mechanism, which comprises representatives of the private sector, the scientific community and civil society who are appointed by the Secretary-General. As specified in the 2030 Agenda, the multi-stakeholder science, technology and innovation forum is convened "to discuss science, technology and innovation cooperation around thematic areas for the implementation of the Sustainable Development Goals, congregating all relevant stakeholders to actively contribute in their area of expertise", and to "provide a venue for facilitating interaction, matchmaking and the establishment of networks between relevant stakeholders and multi-stakeholder partnerships in order to identify and examine technology needs and gaps, including on scientific cooperation, innovation and capacity-building". The African Science, Technology and Innovation Forum feeds into the multi-stakeholder forum.

3. Since the first African Science, Technology and Innovation Forum was held in Morocco, in 2019, the Forum has been held annually, in Zimbabwe, the Congo, Rwanda, the Niger and Ethiopia, in that order. The Forums are jointly organized by ECA, the African Union, the United Nations Educational, Scientific and Cultural Organization and the Department of Science and Innovation of South Africa, together with the host country. Other major partners

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[1] General Assembly resolution 70/1.

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include the African Biomedical Engineering Consortium, the African Materials Research Society, the European Union, the International Atomic Energy Agency, the Technology Bank for the Least Developed Countries and the United Nations Industrial Development Organization.

4. The Forum has become a pre-eminent continental platform on which to explore complex challenges, trigger the identification of innovative solutions, showcase emerging trends in technology and innovation, instil technical and entrepreneurial skills in young people and forge long-lasting partnerships. Since 2020, a youth innovation boot camp has been organized as part of the Forum. The boot camp attracts young people from across the continent and beyond to collaborate in the design and development of innovative solutions and to learn about new and transformative technologies, such as rapid prototyping and additive manufacturing, genomics, robotics, artificial intelligence and nanotechnology, and entrepreneurial concepts, competencies and practices.

II. Seventh African Science, Technology and Innovation Forum

5. During the seventh Forum, participants will be invited to undertake an in-depth review of the Sustainable Development Goals that are the focus of the high-level political forum on sustainable development in 2025, namely: Goal 3 – ensure healthy lives and promote well-being for all at all ages; Goal 5 – achieve gender equality and empower all women and girls; Goal 8 – promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; Goal 14 – conserve and sustainably use the oceans, seas and marine resources for sustainable development; and Goal 17 – strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

6. In addition, it is anticipated that participants will look at ways in which Africa can accelerate the implementation of the recently adopted Global Digital Compact,[2] the objectives of which are to: close all digital divides and accelerate progress across the Sustainable Development Goals; expand inclusion in and benefits from the digital economy for all; foster an inclusive, open, safe and secure digital space that respects, protects and promotes human rights; advance responsible, equitable and interoperable data governance approaches; and enhance international governance of artificial intelligence for the benefit of humanity. Given that only 38 per cent of the population of the continent uses the Internet,[3] the benefits of the digital economy are unlikely to extend to all people and accelerate progress towards the achievement of all the Goals in Africa.

7. In terms of the specific Goals under review, and Goal 3, in particular, the health of people in Africa has improved significantly. In sub-Saharan Africa, there has been a rapid rise in average life expectancy at birth, from 56 years in 2010 to 61 years in 2023,[4] driven largely by the successful treatment and management of infectious diseases, such as HIV/AIDS, malaria and tuberculosis. Africa accounts, however, for only 1.1 per cent of global expenditure on health research and development,[5] has the lowest number of healthcare workers and has the lowest access to healthcare services. For

[2] General Assembly resolution 79/1, annex I.

[3] International Telecommunication Union, *Facts and Figures 2024: Measuring Digital Development* (Geneva, 2024).

[4] Adeline Tchouakak, “HIV progress raises life expectancy in Africa – UN”, SciDev.Net, 22 July 2024.

[5] Victoria Simpkin and others, “Investing in health R&D: where we are, what limits us, and how to make progress in Africa”, *BMJ Global Health*, vol. 4, No. 2 (March 2019).

instance, Africa is home to 0.98 per cent of all neurosurgeons globally,[6] thus the likelihood that a brain or spinal injury or deformity on the continent will be fatal or life-altering is much higher than in other regions. Participants in the Forum will be invited to take a deep dive into science, technology and innovation solutions that can be leveraged to accelerate healthcare research, innovation and deployment to ensure that all Africans enjoy healthy lives at all ages.

8. In relation to Goal 5, although science, technology and innovation can play an important role in achieving gender equality and empowerment of all women and girls, the representation of women and girls in fields of study, careers and businesses connected with science, technology, engineering and mathematics remains low. Only one third of researchers globally are women, and that proportion is even lower in such fields as engineering, physics, mathematics and computer sciences.[7] It is, therefore, not surprising that 78.7 per cent of all new artificial intelligence doctorates in 2021 were awarded to men, given that the field is dominated by physicists, mathematicians, engineers and computer scientists,[8] subjects in which women are underrepresented.

9. In Africa, about one third of researchers are women, but that proportion varies widely among countries. Of 23 African countries that submitted data on research and development personnel for the preparation of a 2019 report, the share of women researchers ranged from a low of 9 per cent in Namibia and Togo to a high of 47 per cent in Eswatini, and in only seven of those countries were more than 30 per cent of researchers women.[9] Efforts to encourage young people, in particular girls, to take an interest in science and technology early in life, such as in primary and secondary schools, need to be ramped up to close the gender gap, drive innovation and ensure the economic benefits of emerging technologies for all. Participants in the Forum will be expected to discuss and recommend measures that may reduce gender inequalities in the fields of science, technology, engineering and mathematics and ways in which those subjects can help to bridge gender gaps and inequalities in other areas of work and life.

10. With respect to Goal 8, unemployment remains stubbornly high across the continent, and wages for the majority of workers remain low, in particular in the informal sector and among young people. Although data are limited, unemployment among university graduates is high. In Ethiopia, up to 42 per cent of university graduates from public universities were unemployed in 2022.[10] With a large and increasingly educated young population on the continent, innovative solutions that promote inclusivity, minimize inequalities and create decent employment for young people must be found to ensure that they have an economic stake and that no segment of the population is left behind.

11. Technology plays an important role in creating employment. It has been observed that the labour-displacing effect of technology appears to be more than offset by compensating mechanisms that create or reinstate labour, suggesting that anxieties over widespread technology-driven unemployment lack an empirical base.[11] Technology has been called the great job-creating

[6] Swagoto Mukhopadhyay, "The global neurosurgical workforce: a mixed-methods assessment of density and growth", *Journal of Neurosurgery*, vol. 130, No. 4 (January 2019).

[7] United Nations Educational, Scientific and Cultural Organization, *STEM Education for Girls and Women: Breaking Barriers and Exploring Gender Inequality in Asia* (Paris, 2020).

[8] Nestor Maslej and others, *The AI Index 2023 Annual Report* (Stanford, Institute for Human-Centered Artificial Intelligence, Stanford University, 2023).

[9] African Union Development Agency, *African Innovation Outlook III 2019* (Johannesburg, 2019).

[10] Sisay Sahlu, "42% public university graduates unemployed", *The Reporter*, 3 December 2022.

[11] Kerstin Hötte, Melline Somers and Angelos Theodorakopoulos, "Technology and jobs: a systematic literature review", *Technological Forecasting and Social Change*, vol. 194 (September 2023).

machine,[12] and, in that regard, participants in the Forum could explore the ways in which Africa can harness emerging technologies to create stable jobs for its population of young people; the effects of various technologies on African workers in informal trade, small- and medium-sized enterprises, small-scale farms and other businesses; and the extent to which different regulations and consumer characteristics or sophistication can moderate the impact of technology on employment in Africa.

12. In relation to Goal 14, science, technology and innovation are needed to conserve and sustainably use the oceans, seas and marine resources in order to meet the current and future needs of humanity. It behoves countries to increase scientific knowledge, develop research capacity and transfer marine technology to developing countries in order to improve ocean health and marine biodiversity. Several scientific and technological developments have made it possible to monitor in real time changes in marine ecosystems, rehabilitation of degraded deep-sea environments and the performance of marine ecosystems over time.[13] Unmanned autonomous underwater vehicles, landers and crawlers are increasingly needed to perform specific and delicate tasks at depths that may be harmful to humans or the environment. In fish farms, for instance, autonomous seabed cleaners are being increasingly used to keep the environment healthy and productive.

13. Overfishing, tourism, trade and other human activities on land and water, such as those that create industrial waste, however, remain challenges in Africa. Oil spills in the Niger Delta Region of Nigeria and in the coastal waters of Namibia and South Africa have had an impact on fishing and wildlife.[14] Such events affect numerous families and communities that depend on marine activities, such as fishing, fish farming, recreation and transportation, for their livelihood. Science and technology can provide innovative and sustainable solutions to most of those challenges, provided that adequate investment in people, infrastructure and policies are put in place.

14. The Forum will serve as a platform on which participants will have the opportunity to identify and examine technological needs and ways to accelerate the attainment of the Sustainable Development Goals in line with the six transformative entry points or key transitions that are expected to have catalytic and multiplier effects across the Goals, namely: food systems; energy access and affordability; digital connectivity; education; jobs and social protection; and climate change, biodiversity loss and pollution.[15] The metrics of success for those transitions are primarily the ways in which they are beneficial for everyone. The transitions must be just and equitable, and be focused on human rights, gender equality and the principle of leaving no one behind.

III. Theme

15. The theme of the seventh Forum will be “Driving job creation and economic growth through sustainable and inclusive science, technology and

[12] Ian Stewart, Debrapratim De and Alex Cole, “Technology and people: the great job-creating machine” (London, Deloitte LLP, 2015).

[13] For example, see Jacopo Aguzzi and others, “New technologies for monitoring and upscaling marine ecosystem restoration in deep-sea environments”, *Engineering*, vol. 34 (March 2024); and Vítor H. Oliveira and others, “Restoration of degraded estuarine and marine ecosystems: a systematic review of rehabilitation methods in Europe”, *Journal of Hazardous Materials*, vol. 469 (May 2024).

[14] For further information, see Etuk Etiese Akpan, “Environmental consequences of oil spills on marine habitats and the mitigating measures: the Niger Delta perspective”, *Journal of Geoscience and Environment Protection*, vol. 10, No. 6 (June 2022); and Ralph E.T. Vanstreels and others, “Factors determining the number of seabirds impacted by oil spills and the success of their rehabilitation: lessons learned from Namibia and South Africa”, *Marine Pollution Bulletin*, vol. 188 (March 2023).

[15] United Nations Sustainable Development Group, “Six transitions: investment pathways to deliver the SDGs” (2023).

innovation solutions to advance the 2030 Agenda for Sustainable Development and Agenda 2063: The Africa We Want, of the African Union". The theme is aligned with that of the eleventh session of the Africa Regional Forum on Sustainable Development, which is "Driving job creation and economic growth through sustainable, inclusive, science-based and evidence-based solutions for implementation of the 2030 Agenda for Sustainable Development and Agenda 2063: The Africa We Want, of the African Union".

16. It has been noted that Africa should maintain economic growth of at least 7 per cent on average annually to reduce poverty significantly in the medium to long term, but that level of growth has remained out of reach.[16] About half the population of Africa lives in countries where economic growth between 2010 and 2019 exceeded the continental average growth of 4.2 per cent between 2000 and 2019, and the other half lives in countries where growth either was consistently slow or was decelerating, including three of the largest economies, namely Egypt, Nigeria and South Africa.[17] Finding ways in which science, technology and innovation can help countries that are slowing down to grow fast, in particular the largest economies, may help to invigorate Africa economic growth overall.

17. In terms of job creation, new technologies lead to the loss of some jobs and the creation of others. During the first industrial revolution, machines were invented that did the work of humans in textiles, mining and transportation and that led to increased demand for labour in new industries and the rise of professionals as cities emerged and grew. Job losses, in particular in the textile industry, however, led to industrial demonstrations. Although in aggregate technology is the great job-creating machine, Africa needs to harness technology in ways that maximize job creation and minimize job losses.

18. In that regard, ECA is working with African universities to create 1 million start-ups and $100 billion in revenues by 2033. With close to 18 million students enrolled in African universities and over 1 million researchers, and a supportive political and business environment, Africa is well placed to meet and surpass those targets.[18] Through the Origin Research and Innovation Labs, ECA is part of a team building an African semiconductor supply chain, which is expected to benefit about 200,000 students, create 6,500 direct jobs and generate $1.69 billion in wages in five years.[19]

19. ECA is at the forefront of advancing digital identification, digital trade and the digital economy through initiatives focused on Internet governance, cybersecurity and digital skills development. To support those efforts, ECA has established centres of excellence for artificial intelligence in the Congo and for cybersecurity in Togo, and a regional centre for science, technology, engineering and mathematics in Rwanda. ECA works closely with its members to design and implement national digital identification programmes and use cases, developing robust governance frameworks and driving technology-enabled solutions that harness emerging technologies and innovations. Other initiatives include the Lobu Small Stock Farm in Botswana, where smart agricultural technologies are used to modernize the agricultural sector on the continent, and participation in regional consultations and international events, such as the World Summit on the Information Society and the Internet Governance Forum.

[16] *Economic Development in Africa Report 2014: Catalysing Investment for Transformative Growth in Africa* (United Nations publication, 2014).

[17] Mayowa Kuyoro and others, *Reimagining Economic Growth in Africa: Turning Diversity into Opportunity* (McKinsey Global Institute, 2023).

[18] For more information, see the website of the Alliance for Entrepreneurial Universities in Africa: https://www.aeuafrica.org/.

[19] For information about the Labs, see https://originlabsafrica.org/.

IV. Objective

20. The overall objective of the seventh Forum is to conduct the regional follow-up, including a review of progress made, in relation to actions agreed in previous forums, in order to identify potential mechanisms and measures that countries can deploy to scale up action, facilitate peer learning and advance transformative solutions to accelerate achievement of the Sustainable Development Goals and the aspirations and goals of Agenda 2063. Participants will be expected:

(a) To conduct a regional follow-up to, and review of, the implementation of the key messages and recommended measures that were agreed upon at the previous Forum;

(b) To share experiences, approaches, good practices and lessons learned, in order to accelerate implementation of the two agendas;

(c) To identify technological opportunities, gaps and challenges, and institutional voids, with a view to driving innovation and development;

(d) To identify realistic mechanisms for collaboration and strengthen regional and international partnerships and investments in science, technology and innovation, in order to accelerate implementation of the two agendas.

V. Format

21. The seventh Forum will comprise the following activities:

(a) At least four high-level panels, involving senior government ministers and officials, heads of United Nations entities, chief executive officers from the private sector, vice-chancellors of universities and directors of research and technology organizations, focused on broad and cross-cutting issues and strategic topics, including opportunities and transformative levers, partnerships, commitments, actions and other measures to accelerate implementation;

(b) At least five panel sessions, including presentations and discussions in a town hall format to encourage interaction, addressing each of the specific Sustainable Development Goals under review by the Africa Regional Forum on Sustainable Development, in order to assess the contribution of science, technology and innovation in progress registered to date, and the actions needed to amplify the impact of science, technology and innovation in efforts to implement the 2030 Agenda and Agenda 2063;

(c) Showcase events, including the African Technology Fair, which is being organized for the first time as part of the Forum and will involve demonstrations of technologies and innovations by leading firms, research and development institutions, start-ups, innovation hubs and other entities;

(d) Special sessions and events organized by ECA and partners that are intended to inform the Forum.

VI. Expected outputs

22. The seventh Forum is expected to generate the following outputs:

(a) Report of the seventh Forum to inform the Africa Regional Forum on Sustainable Development and the multi-stakeholder forum on science, technology and innovation for the Sustainable Development Goals;

(b) Outcome documents of special sessions and events;

(c) General guides on special initiatives and their growth, such as the Origin Research and Innovation Labs and the Alliance for Entrepreneurial Universities in Africa.

VII. Expected outcomes

23. The seventh Forum is specifically designed to foster the diffusion of technology and innovation and the scaling up of policy and operational efforts needed to accelerate the contribution of science, technology and innovation to the fulfilment of the 2030 Agenda. In particular, the following will be the main tangible and intangible outcomes of the Forum:

(a) Establishment of collaborative arrangements and partnerships among African universities and their partners inside and outside Africa;

(b) Platforms for the exchange among public and private partners of information on research, funding, innovations and institutions to accelerate technology transfer;

(c) Opportunities to showcase high-impact technologies, innovators, firms and research and development institutions that are making significant contributions to development.

VIII. Participants

24. The meeting will be attended by representatives of all African States Members of the United Nations, the African Union Commission, the African Development Bank, regional economic communities, civil society, business and industry organizations, academic and research institutions, entities of the United Nations system and other international agencies and organizations, and development partners.

IX. Working languages

25. The Forum will be conducted in English and French, with simultaneous interpretation in both languages.

X. Dates and venue

26. The seventh Forum will be held in Kampala, at the Speke Resort and Convention Centre Munyonyo, on 7 and 8 April 2025.

XI. Contacts

27. For further information, please contact Asfaw Yitna, Research Assistant, ECA (yitna@un.org), and Hannah Kisakye, representative of Uganda (hannah.kisakye@sti.go.ug).