




INTERNATIONAL WORKSHOP
ON
LEVERAGING INNOVATIONS FOR INFRASTRUCTURE
DEVELOPMENT AND SUSTAINABLE INDUSTRIALISATION

November 17-18, 2022

[Hybrid-Mode]

	<p>CENTRE FOR SCIENCE & TECHNOLOGY OF THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES (NAM S&T CENTRE) NEW DELHI, INDIA</p>
	<p>THE MINISTRY OF HIGHER & TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT, HARARE, ZIMBABWE</p>
	<p>NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, BULAWAYO, ZIMBABWE</p>

INTRODUCTION

There is a need for African countries to transform their economies and create jobs, enhance income and achieve sustainable development. Sustainable industrialization is integral for African leaders to achieve these objectives, with infrastructure development as a necessary enabler. The United Nations Sustainable Development Goal-9 (SDG 9) as well as the Africa's Agenda 2063 asserts the role of infrastructure and industrialization in economic transformation, job creation, increased productivity and achieving sustainable development.

However, realizing SDG 9 by 2030 will require overcoming resource constraints, building and strengthening developing countries' capacities, and exploring innovative ways of facilitating infrastructure development and harnessing sustainable industrialization.

As the world is seized with a drive towards continual economic development, 'Sustainable Infrastructure' thus, becomes a key enabler of economic and social development, as well as environmental sustainability. Quality infrastructure enhances productivity and competitiveness, contributing to economic growth and employment generation as well as facilitating international trade. Furthermore, infrastructure is important for a country's faster economic growth and poverty reduction. For an economy to integrate with other economies across the world, appropriate infrastructure in the shape of roads and railways, ports, waterways, energy, and airports, as well as their efficient operation, is required.

The 4th Industrial Revolution (Industry 4.0) has opened a new era of economic disruption with uncertain socio-economic consequences characterized by the utilization of new technologies such as artificial intelligence (AI), cloud computing, robotics, 3D printing, the Internet of Things (IoT), and advanced wireless technologies, among others. It is accompanied by an increased demand for new skills in science, technology, engineering and mathematics qualifications. The skills and technology gaps between developed, developing countries and least developed countries (LDCs) astronomically widened because of significant asymmetry in the access to new knowledge, information, technologies, traditional and modern infrastructure, as well as in conditions for technological learning and innovation. Therefore, innovation systems in developing countries need to be strengthened in order to support technological learning and innovation of local start-ups.

Technological progress in developing countries should put high premium on local innovation capabilities for job and income generation through creation of new activities, innovative and green technologies, new opportunities for social and demographic inclusion (i.e. women and youth), to thus realize higher levels of environmental, economic and social returns.

The Education 5.0 philosophy seeks to produce relevant and cost-effective knowledge products that results in the production of new goods and services towards modernization and industrialization. The philosophy accords the Zimbabwe Education System to spur the country towards achieving Vision 2030, riding upon technological advancements and industrialization. It

offers the perfect platform for bridging the skills and innovation gap created by the advent of Industry 4.0. The challenge is to create an enabling environment that will ensure the smooth intersect between the two revolutions.

In order to deliberate on the above issues, the Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre), New Delhi, India in partnership with the Government of Zimbabwe through the Ministry of Higher and Tertiary Education, Innovation Science and Technology Development (MHTEISTD); and the National University of Science & Technology, Zimbabwe announces the organisation of an International Workshop on **“Leveraging Innovations for Infrastructure Development and Sustainable Industrialization”** to be held during **17-18 November 2022**.

MHTEISTD will host the Workshop at the National University of Science and Technology (NUST) Innovation Hub, Zimbabwe in **Hybrid Mode**.

The Workshop seeks to discuss and develop strategies and recommendations across all sectors to address issues related to sustainable infrastructure, innovation and industrialization for the country's faster economic growth and poverty reduction.

OBJECTIVES

The Workshop aims to achieve following objectives:

- To discuss and highlight key elements required to promote innovation and infrastructure development to boost manufacturing;
- To reflect on the current state of infrastructure development in developing countries and identify key challenges and opportunities;
- To discuss the “Industrialization-Infrastructure Nexus” in developing countries;
- To identify potential sectors and opportunities for linking Education 5.0 to Industry 4.0;
- To build the overall capacity of African and other developing countries in infrastructure development, industrialization and innovation; and to promote development cooperation through international partnership;

WORKSHOP THEMES

The following themes will be covered during the Workshop:

- Status of infrastructure development in developing countries (information, communication technologies, water & sanitation, electricity, etc.)
- ICT, precision agriculture and other emerging innovative technologies in industrialization
- Capacity building and resource mobilization in research and development and economic development
- 4th industrial revolution (IR 4.0) and economic development

- Education 5.0 and industrialization
- Best practices for industrial development and manufacturing from both developed and developing countries
- Policies and incentives, improved investment in climate change, and investment in the growth of domestic enterprises and inclusiveness in creating jobs and lifting people out of poverty
- Strategies for inclusive and sustainable industrialization and development
- Regional and global initiatives to support sustainable development

WORKSHOP FORMAT

The Workshop seeks participation of experts from developing countries and other regions, donor countries, civil society and private sectors. Participants will be engaged in an open and dynamic multi-stakeholder format, geared towards knowledge sharing, mutual learning and generating actionable recommendations. The moderators of various sessions will appropriately steer discussions towards extracting recommendations and innovative approaches to address issues related to infrastructure development and sustainable industrialization.

RESOURCE PERSONS

The resource persons for the Workshop will comprise eminent experts and professionals in the relevant fields from Zimbabwe as well as various NAM and other developing countries. A few experts from developed countries are also expected to participate as Resource Persons.

IMPORTANT DATES

ACTIVITY	DATE
Registration / Submission of Applications (along with Extended Abstract) Starts	23 rd September, 2022
Deadline for Submission of Applications (with Extended Abstract of about 250 words)	28 th October, 2022
Submission of Full Manuscripts of Papers	11 th November, 2022
Selection of Applicants and Communication to Selected Applicants	11 th November, 2022
Communication of Virtual Platform Details (Meeting Link)	14 th November 2022
Dates of the Workshop	17 th -18 th November, 2022

CERTIFICATES

A Certificate of Participation will be provided to the participants electronically on the successful completion of the Workshop.

MODE OF EXECUTION

The Workshop will be organized in Hybrid Mode; while the invited speakers and participants from Zimbabwe will attend the Workshop physically, participants from other countries will attend online.

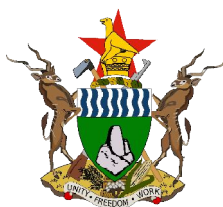
ABOUT THE ORGANISERS

NAM S&T CENTRE



The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; www.namstct.org) is an Inter-Governmental Organisation with a Membership of 47 countries spread over Asia, Africa, the Middle East and Latin America. The Centre was set up in 1989 in New Delhi, India, based on decisions taken during various NAM Summits and mandated to undertake a variety of programmes, including organization of workshops, symposiums and training courses and implementation of collaborative projects. It also offers short-term Research Fellowships to scientists from developing countries in association with the Centres of Excellence (CoE) in various countries. The Centre also brings out technical books, monographs and other scientific publications in different S&T subjects of interest to developing countries. The Centre's activities provide an opportunity for scientist-to-scientist contact and interactions; familiarizing participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the Members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages Academic R&D-Industry interactions in the developing countries through its NAM S&T-Industry Network.

THE MINISTRY OF HIGHER & TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT (MHTEISTD), ZIMBABWE



The Ministry of Higher & Tertiary Education, Innovation, Science and Technology Development is responsible for the formulation and implementation of policies related to skills training and development and the promotion of Science, Technology and Innovation. The Ministry comprises six (6) technical departments namely, Tertiary Education Programmes; Higher Education Programmes; Quality Assurance and Standards; Research, Development and Innovation; Projects and Technology Transfer; and the Zimbabwe National Commission for UNESCO. To implement its responsibilities, the Ministry oversees the promotion of science and technology, research and development, innovations; supervises and accredits teacher education, technical and vocational education and training (TVET) and university

education. It also facilitates cooperation in research and development, higher and tertiary education as well as in science and technology at local, regional and international levels.

Vision: A heritage based higher and tertiary education, science and technology development for a competitive, industrialized and modernized Zimbabwe by 2030.

Mission: To develop and deliver a knowledgeable and skilled human capital through higher and tertiary education 5.0, science and technology development using a heritage-based philosophy, to produce quality goods and services.

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY (NUST), ZIMBABWE



NUST is a young and progressive university established by an Act of the Zimbabwe Parliament in 1991. Using English as the language of instruction, NUST provides an invigorating intellectual climate, which fosters an academic community where both staff and students can push back the frontiers of knowledge in science and technology. As such NUST is a center of research, and has ties with universities on the African continent as well as the world. NUST is located in the warm and friendly City of Bulawayo, South West of Zimbabwe.

Vision: To be a world class University in science, technology, innovation, entrepreneurship and business development, spearheading industrialization locally and beyond.

Mission: To lead in human capital development for industrial and socio-economic transformation, with a bias towards Science, Technology, Engineering and Mathematics (STEM) based solutions.

SUBMISSION OF APPLICATIONS

Experts and scientists desirous of participating in the Workshop, except those from Zimbabwe should submit their application electronically to the Director General, NAM S&T Centre, New Delhi at namstcentre@gmail.com as early as possible but latest by **28thOctober, 2022**.

Applicants from Zimbabwe should, however, submit their requests directly to the Chief Director, Dr. Eng. W. Ganda at gandawd@gmail.com or Mr. Cain Bure at cain.bure@gmail.com

The following documents must be submitted as e-mail attachments:

- a. Filled in Application Form (Blank form enclosed).
- b. Opinion (a short paragraph; in MS Word format) on how you qualify to participate in the Workshop.
- c. A short CV in the attached Format (maximum two pages; in MS-Word format).

- d. An Extended Abstract (in MS-Word only) of the Paper that would be presented at the Workshop (About 250 Words).

Note: The documents at (b), (c) and (d) above must be in MS-Word format only; PDF or image files will not be accepted. Hard copies of the Application Form and the above attachments are NOT REQUIRED to be submitted.

PRESENTATION OF PAPERS

Delegates/Participants are expected to present a Country Status Report and/or a research/scientific paper on any of the themes appropriate to the Workshop.

PUBLICATION ON THE SUBJECT

A publication edited by one or more international experts and based on the papers presented by the participants during the Workshop and also containing papers contributed by eminent experts in the field will be brought out in the form of a book as a follow-up of this programme. Therefore, all participants are requested to submit the manuscripts of their full papers in MS-word format well in advance, but latest by **11th November, 2022**. The Author's Guidelines will be shared with applicants who have submitted their extended abstracts.

SELECTION OF APPLICANTS

Selection of applicants will be made based on their academic and professional backgrounds. Successful applicants will be electronically informed about their selection by **11th November, 2022**.

The details about the virtual-platform that will be used for the Workshop along with the log-in details for joining the program will be communicated to the selected applicants by **14th November, 2022**.

SECRETARIAT AND ENQUIRIES

<p>NAM S&T CENTRE Amitava Bandopadhyay, Ph.D. Director General Centre for Science & Technology of the Non-Aligned and other Developing (NAM S&T Centre), Core-6A, 2nd Floor, India Habitat Centre, Lodhi Road, New Delhi – 110003, India, Tel: +91-11-24645134, 24644974; Fax: +91-11-24644973E-mail: namstcentre@gmail.com Website: https://www.namstct.org</p>	<p>MHTEISTD, ZIMBABWE Mr. N. Masungu A/Director Ministry of Higher & Tertiary Education, Innovation, Science and Technology Development P. Bag CY 7732 CAUSEWAY Cell: +263 771591902, +263 715905038 Email: nmasungu@gmail.com Website: https://www.mhtestd.gov.zw</p>	<p>NUST, ZIMBABWE V. M. Sibanda, Ph.D. Director, Innovation and Technology Transfer, IBD, National University of Science & Technology, CNR Gwanda Rd /Cecil Avenue, P.O.BOX AC 939, Ascot, BULAWAYO Tel: +263 292-282842 +263 292 282866 Cell: +263 774 086 010 Email: vmmsibanda@gmail.com Website: https://www.nust.ac.zw</p>
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**17-18 NOVEMBER, 2022
[VIRTUAL-MODE]**

APPLICATION FORM

PLEASE TYPE OR USE BLOCK CAPITALS
(NO COLUMN SHOULD BE LEFT BLANK)

SECTION –A

(To be filled in by the Applicant)

1 First Name (Prof. /Dr. /Mr. /Mrs. /Ms.):

Middle Name:

Last Name:

2 Father's / Spouse Name:

3 Designation (Position held):

4 Nationality:

5 Date of Birth:

Place of Birth (City)(Country).....

6 Name of the Parent Institution (Employer):

Full Address (Office):

.....

Phone: Fax:

E-mail:

7 Full Address (Home):

.....

- Phone: Mobile:
- Fax: E-mail:
- 8 Educational Qualifications: Highest Degree.
 Year of Award: University:
- Field of Study:
- 9 Brief Bio data (CV)

(Maximum two pages in MS Word only; to be attached on separate sheet as per the attached format)
- 10 A Write-up (in **MS-Word** format only) on what qualifies you to attend the Workshop
- 11 An Extended Abstract (in **MS-Word** only) of the Paper that would be presented at the Workshop (about 1-1 ½ pages)
- Date: Signature:

SECTION –B

ENDORSEMENT BY THE NOMINATING AUTHORITY

(The Applicant in a Member Country of the NAM S&T Centre must get the Nomination Form endorsed by the Focal Point of the Centre in his/her country, if he/she wishes to take advantages extended to the official nominee of the country. For the list of member countries and names /addresses of the Focal Points please visit the Centre’s official website; www.namstct.org.)

- Signature:
- Name (in full):
- Designation:
- Date:

SEAL

Enclosures:

1. A Brief CV (maximum two pages, as per attached format; in MS Word only)
2. An Opinion (in MS-Word format only) on what qualifies you to attend the Workshop
3. An Extended Abstract (in MS-Word only) of the Paper that would be presented at the Workshop (about 1-1 ½ pages)

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CURRICULUM VITAE

1. Personal Details:

Name: *(Prof/Dr/Mr/Mrs/Ms)*
Roman

Font Name: *Times New*

Designation: *Position Title*

Font Size: *12*

Present Employer: *Full Address (Office)*

City/State/Province:

Country:

Nationality:

Date of Birth: *dd/mm/yyyy*

Proficiency in English Language:

Permanent Address: *Full Address (Home)*

Gender:

Contact: Mobile:

Telephone Office:

Fax:

E-mail:

Alternative e-mail:

2. Academic Qualifications: *In chronological order*

Qualification Awarded <i>Degree/Diploma/Certificate</i>	Major Subject	University/ Institution	Year <i>(From-To)</i>

3. Professional Experience: *In chronological order*

Organisation/ Institution	Position Title	Year <i>(From-To)</i>	Nature of duties
i.			
ii.			

Total number of years of relevant experience –

4. Research Experience: *In chronological order*

Research Title	Duration	Status

5. Experience with respect to the title of the Workshop:

6. Details of Awards/Recognitions (if any):

7. Any other information: *Not more than 50 words*

8. Recent Publications: *Only five recent publications to be mentioned*