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The **Engineering Institution of Zambia (EIZ)** is pleased to announce the **Call for Papers** for its upcoming Annual National Conference and Symposium to be held at the Avani Victoria Falls Resort from **13th to 16th April 2027** under the theme, ***Engineering Zambia's Transformational Future: Driving Innovation, Smart Technologies and Industrial Transformation to Accelerate the Grow Zambia Agenda"*** The theme frames engineering as the means by which Zambia shapes its own sustainable economic future. It rests on three drivers (innovation, smart technologies and industrial transformation) and measures them by a single test: whether they accelerate growth, value addition and job creation under the Grow Zambia Agenda. It links **innovation, artificial intelligence, digitalisation, infrastructure, industrialisation, sustainability, local value addition and job creation**, in line with Zambia's national development priorities.

The Conference is EIZ's a premier national platform for engineering Zambia's sustainable future, demonstrating how innovation, smart technologies and industrial transformation can accelerate the Grow Zambia Agenda by advancing local value addition, strengthening industrial capacity, creating decent jobs and transitioning the country from resource dependency towards a diversified, high-value, technology-driven economy. As Zambia navigates a critical juncture of economic maturation, the imperative to transition from traditional resource dependency to a high-value, tech-driven economy has never been more urgent. This conference positions engineering not merely as a technical discipline, but as the foundational catalyst for national transformation. By systematically linking engineering innovation, artificial intelligence (AI), advanced digitalisation, and sustainable infrastructure to local value addition, our engineering fraternity acts as the direct vehicle for widespread job creation, industrial capacity building, and inclusive wealth generation.

Building on the preceding EIZ Symposium, which addressed smart mining, renewable energy systems, digital infrastructure and the circular economy, the 2027 Symposium focuses on implementation, scale and acceleration: bridging applied research, technical execution and market-ready industrial solutions, and providing evidence-based insights for policymakers and industry. Papers should show not only what is technically possible, but how it can be delivered, scaled and financed in Zambia, and how it accelerates the Grow Zambia Agenda.

To operationalise the **"Grow Zambia"** Agenda, EIZ invites engineers, technologists, technicians, craftspersons and policy practitioners to submit full papers aligned with one of the following 12 sub-themes, each of which applies the theme's three drivers to a sector of the economy. Sustainability, safety and inclusion are cross-cutting expectations for all papers. Authors should select the single sub-theme that best fits their paper:

1. **Artificial Intelligence, Digital Engineering and Smart Technologies**

   This sub-theme explores integrating **AI, robotics, IoT, and digital twins** to modernise core sectors like mining, agriculture, and manufacturing. It emphasises the ethical, secure deployment of these technologies alongside data analytics and predictive maintenance. Ultimately, it aims to develop a **skilled digital engineering workforce**

capable of driving Zambia's technological evolution.

2. **Engineering for Industrial Transformation and the Grow Zambia Agenda**

   This sub-theme positions engineering as the primary engine for **economic transformation and local manufacturing** development. It targets value addition to natural resources, the creation of special economic zones, and the growth of local Micro, Small, and Medium Enterprises (MSMEs) through public-private partnerships. The goal is to accelerate **technology transfer, entrepreneurship, and inclusive job creation** across the country.

3. **Smart Mining, Critical Minerals and Mineral Beneficiation**

   This sub-theme focuses on implementing **smart, autonomous mining and data analytics** to optimise mineral value chains, specifically for copper, cobalt, and lithium. It prioritises **downstream mineral beneficiation** and local equipment manufacturing to retain value within Zambia. Additionally, it addresses mine safety, environmental management, and circular economy practices like tailings valorisation.

4. **Sustainable Energy, Energy Security and the Energy Transition**

   This sub-theme addresses Zambia's energy security by expanding **renewable technologies**, including solar, wind, hydro, and green hydrogen. It covers the integration of **smart grids, mini-grids, and advanced battery storage** to improve rural and urban electrification access. The focus is on engineering efficient, distributed energy systems to transition toward a low-carbon economy.

5. **Climate-Resilient Infrastructure and Smart Cities**

   This sub-theme covers the design and construction of **climate-resilient roads, bridges, and flood-resistant infrastructure** tailored for rapidly expanding cities. It leverages **urban digital frameworks, intelligent transport systems, and GIS mapping** to enhance urban mobility and asset management. The core objective is deploying sustainable materials to build safer, smarter, and more adaptable municipal environments.

6. **Sustainable Agriculture, Food Systems and Water Engineering**

   This sub-theme highlights **precision agriculture, smart farming, and automation** to enhance national food security and crop yields. It emphasises **water-efficient irrigation systems** and robust water resource management alongside advanced wastewater treatment. Furthermore, it addresses post-harvest loss reduction through improved cold-chain and agricultural processing technologies.

7. **Circular Economy, Waste-to-Value and Green Engineering**

   This sub-theme promotes **industrial waste valorisation and recycling technologies** to transition Zambia toward a low-carbon economy. It focuses on circular manufacturing, industrial symbiosis, and sustainable product designs that minimise electronic and plastic waste. Through life-cycle assessments and decarbonisation strategies, it aims to design **eco-friendly industrial processes**.

8. **Advanced Manufacturing, Industry 4.0 and Local Value Addition**

   This sub-theme covers the adoption of **Industry 4.0 technologies**, such as additive manufacturing (3D printing) and automation, to optimise local production processes. It focuses on building capabilities for the **local manufacturing of engineering components** as well as maintenance, repair, and overhaul services. The strategic goal is ensuring strict quality certification to create globally competitive Zambian

industries.

9. **Engineering Innovation, Research, Technology Transfer and Commercialisation**

   This sub-theme focuses on bridging the gap between academia and industry by **translating laboratory research into commercial products**. It supports the establishment of innovation ecosystems, technology transfer offices, and incubators backed by diverse financing models. The objective is to leverage intellectual property and R&D to address **critical national development priorities**.

10. **Engineering Skills, Professionalism, Leadership and the Future of Work**

    This sub-theme centres on preparing the workforce for the **Fourth Industrial Revolution** through AI-enabled education and lifelong professional development. It seeks to strengthen the training pipeline for technicians and engineers while fostering leadership, professional ethics, and accountability. Special emphasis is placed on **promoting women and youth** while attracting and retaining top engineering talent.

11. **Engineering for Health, Safety and National Resilience**

    This sub-theme covers engineering interventions in **biomedical systems and healthcare delivery** alongside strict occupational health and safety standards. It outlines strategies for disaster risk reduction, emergency infrastructure deployment, and the cybersecurity of critical assets. The overarching focus is to maintain public safety and build **resilient national systems** against systemic shocks.

12. **Engineering Policy, Regulation, Investment and National Development**

    This sub-theme underscores the vital role of engineers in **national development planning, infrastructure governance, and policy formulation**. It focuses on improving procurement frameworks, cost control, and project delivery through public-private partnerships and private investment. Ultimately, it aims to enforce robust regulatory standards while maximising **local participation in major national projects**.

SUBMISSION GUIDELINES

Authors are invited to submit full papers for the Conference stating the category for their paper according to the sub-themes by Friday 4th **December 2026** via email to the Conference Organising Committee (at these addresses: via email to the Conference Organising Committee at:. Submissions must be original and should not have been published previously or be under consideration for publication while being evaluated by the EIZ Publications and Editorial Committee.

Submissions should demonstrate a clear engineering problem, methodology, results and engineering contribution. Papers should, where applicable, demonstrate potential for application, scalability, safety, sustainability, cost-effectiveness, technology transfer, industrial deployment or contribution to national development.

The papers submitted should not exceed **eight (8) pages** in length inclusive of figures, tables, pictures, graphs, references.. The papers must be in Microsoft Word format, produced on A4 page in Times New Roman font type and 11 Point font size, single line spacing, and in a single column format. The margins should be 35 mm on the left and 25 mm on the other three sides of the page. For further guidance, authors are asked to refer to the ***EIZ** Symposium Full Paper Formatting Guidelines* (please **click here:** EIZ Symposium manuscript guidelines and template) and the *Author Publication Guidelines* (please **click here:** EIZ Author Publication Guidelines 2021.pdf (eiz.org.zm). These sets of guidelines must be strictly adhered to as any departure from or ignorance of the same will lead to papers being rejected. Submitted

papers, in the given format, must contain the following sections as minimum requirements:

(a) Title
(b) Author information in the footnote of the first page as follows: Name(s) of author(s) and institution(s) of affiliation with full postal address, e-mail address and phone number for the lead or corresponding author,
(c) An abstract, not exceeding 150 words,
(d) A minimum of five keywords (which MUST also appear in the abstract),
(e) The main body of the paper,
(f) Conclusions and recommendations, and
(g) References (Harvard style; see ***"References"*** for guidance).

REVIEW, ACCEPTANCE AND PUBLICATION

All submitted papers will undergo technical and editorial review coordinated by the EIZ Publications and Editorial Committee. Papers will be assessed for technical quality, originality, relevance to the conference themes and sub-themes, clarity of presentation, methodological soundness and practical engineering contribution.

Authors may be required to revise their papers in response to reviewers' comments. Acceptance for presentation and publication will be subject to satisfactory completion of the required revisions and compliance with the EIZ paper formatting and publication requirements.

Only papers that have been accepted through the review process and satisfactorily revised will be included in the official EIZ Conference Proceedings. Submission of a paper does not constitute a guarantee of acceptance or publication.

The EIZ Publications Committee adheres to a strict policy against plagiarism and any plagiarised content will not be accepted or entertained.

The final decision on acceptance and publication shall rest with the EIZ Publications and Editorial Committee.

REFERENCES

The Harvard system should be used. Citations in the text should be quoted in the following manner: Alexander (2000) or (Simate and Mtonga, 1997) or if there are more than two authors, James, *et al*. (1990). Note that "*et al*" is *italicised*. References should be collected at the end of the paper in alphabetical order by the first author's surname. If references to the same author have the same year, they must be differentiated by using, for example, 1995a and 1995b, etc. References should be complete (examples are given below) and verified at source by the author(s). Inclusion of confidential and restricted material or internal reports not readily accessible to readers should be avoided, as should personal communication.

Examples of References:

Journals

Garry, P. and Phiri, Z. (1970). Cost implications of industrial waste discharges. *Journal of the Engineering Institution of Zambia*, Vol. 2, pp. 32-40.

Ng'andu, A. N. and Simukanga, S. (2001). Stress analysis of mechanical components in mineral separation process plants at extremely high temperatures. *Journal of Process Plants*. Samuel and ST Publishing House, Lusaka, pp. 23-30.

Where possible, journal abbreviations should be used. If the abbreviation is not known, the journal title should be given in full.

Books

Rollson, E. C. (1949). Metallurgy for Engineers. Second Edition, pp. 62-82, London: Edward Arnold.

Conference Proceedings

Nkhuwa, D. C. W. (2000). Management of groundwater resources in Lusaka, Zambia, and expectations for the future, in Sililo, O. T. N., *et al*. (Eds.); Groundwater – Past Achievements and Future Challenges. Proc., Conf. Of the Ass. of Hydrogeol., pp. 993-998, Balkema, Rotterdam.

Reports

Chama, R. D. (1980). Interfacial structures in nickel-based transition joints after long term service. Report RD/M/N1131, Zambia Electricity Supply Corporation, Lusaka.

IMPORTANT DEADLINES

Authors must pay particular attention to the important deadlines listed below. There will be no extensions:

(a) Friday, 4th December, 2026 – **Deadline** for Receipt of Full Papers **(5 Weeks).**
(b) Wednesday,6th January, 2027 – Editorial Meeting – Appointment of Reviewers (**1 Day**).
(c) Tuesday, 26th January, 2027 – Friday, 29th January, 2027 – Reviewers' Camp (**½ Week**).
(d) Friday, 5th February, 2027 – **Deadline** for returning reviewed papers to authors for corrections
(e) From Saturday, 6th February, 2027 – Correction process by the authors (**3 weeks**).
(f) Friday, 26th February, 2027 – Deadline for Receipt of corrected papers and sending them to Reviewers for verification of corrections
(g) [Date TBC] – Notification of final acceptance to authors.
(h) From Sunday, 28th February, 2027 to Saturday, 13th March, 2027 – Typesetting/Preparation of pdf eBook of Conference Proceedings and Conference Programme (**2 weeks**).
(i) Sunday, 14th March, 2027 to Wednesday, 24th March, 2027 – Finalising/printing of Conference Programme (**1½ weeks**).
(j) [Date TBC] – Deadline for registration of presenting authors.
(k) Wednesday, 14th April, 2027 – Official Opening and Sponsors' Forum (**1 Day**).
(l) Thursday, 15th April, 2027 – Zambia Women in Engineering Section (ZWES) Conference and Symposium – as parallel activities (**1 Day**).

Authors are advised to note these deadlines carefully.

Please note that EIZ does not cover travel and accommodation expenses for presenters attending conferences or Annual General Meetings (AGMs). Authors whose papers are accepted for presentation are responsible for meeting their own travel and accommodation costs.

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ENGINEERING ZAMBIA'S TRANSFORMATIONAL FUTURE: DRIVING INNOVATION, SMART TECHNOLOGIES AND INDUSTRIAL TRANSFORMATION TO ACCELERATE THE GROW ZAMBIA AGENDA