

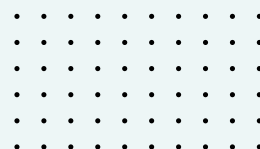


INFRASTRUCTURE INVESTMENT CONFERENCE

2025 programme

THEME:

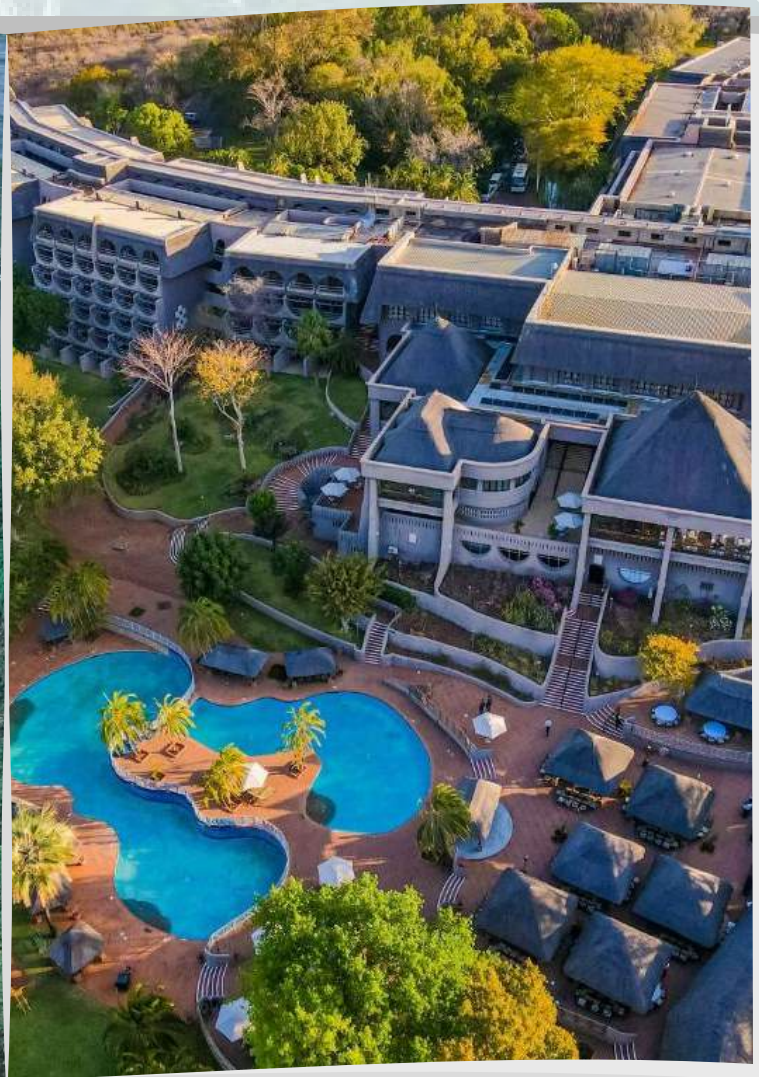
Infrastructure Innovation: Harnessing New Technologies
for Improved Service Delivery



Conference Theme

Infrastructure Innovation: Harnessing New Technologies for Improved Service Delivery

The Venue



The Victoria Falls is one of the seven natural wonders of the world and a UNESCO Heritage Site. The Elephant Hills Hotel is the conference venue and is situated 4 km from the Victoria Falls central business district, on a small hill. The hotel provides panoramic views of the Zambezi River and spray from the Victoria Falls. This luxury hotel is decorated with an ethnic essence of Zimbabwe and even boasts an impressive miniature replica of the Victoria Falls in the middle. The Elephant Hills Hotel certainly does not lack entertainment with two swimming pools, tennis courts, squash courts, and much more. The building with its thatched roof is an unmistakable landmark in the area, and it blends well into the surroundings.

FOREWORD



Infrastructure Investment Conference Theme: Infrastructure Innovation – Harnessing New Technologies for Improved Service Delivery

It is with great pride and anticipation that I welcome you to the 2025 edition of the Zimbabwe Institution of Engineers' Infrastructure Investment Conference. This gathering marks a pivotal moment in our national and regional engineering journey - a moment where vision, innovation, and collaboration converge to shape the future of infrastructure development.

As engineering professionals, we are called not only to build but to imagine boldly and deliver sustainably.

In the words of the great civil engineer **Henry Petroski**,

“As engineers, we were going to be in a position to change the world- not just study it.”

This conference embodies that spirit. It is a platform to explore how emerging technologies- ranging from smart infrastructure systems to digital construction tools- can be harnessed to improve service delivery, enhance resilience, and unlock inclusive growth.

Our conference theme, **Infrastructure Innovation: Harnessing New Technologies for Improved Service Delivery**, is both timely and urgent. Across Zimbabwe and the continent, the demand for efficient, adaptive, and future-ready infrastructure has never been greater. Engineers must lead this deliberate transformation not only with technical expertise but with ethical foresight, strategic partnerships and a commitment to societal impact.

Let us be guided by the words of **Theodore von Kármán**,

“Scientists study the world as it is; engineers create the world that never has been.”

Let this conference be a catalyst for that creation- a space where ideas are tested, innovations are born, and investments are aligned with the aspirations of our people.

On behalf of the ZIE Conference Planning Committee, I extend my deepest gratitude to our conference resource persons, panelists, sponsors, delegates and partners. Your presence affirms the vital role engineering plays in shaping a prosperous Zimbabwe.

Let us build not just structures, technologies and systems but memorable legacies.

A stylized, handwritten signature in blue ink.

Dr Eng T M Stevenson

ZIE Conference Planning Chairperson

ZIE CPC Chairman's Opening Statement

Dr Eng. Tammy Stevenson

Greetings, distinguished guests, esteemed facilitators, partners and fellow delegates. On behalf of the Conference Planning Committee (CPC), it is my distinct honor and pleasure to welcome you all to this year's Infrastructure Investment Conference. We gather at a pivotal moment- one where the convergence of innovation, investment, and intent holds the power to redefine how infrastructure serves our communities, economies, and future generations. Our theme, 'Infrastructure Innovation- Harnessing New Technologies for Improved Service Delivery,' is not just a call to action. It is a recognition that the systems we build today must be smarter, more inclusive, and more resilient than ever before. Over the course of this conference, we explore five dynamic sub-themes that reflect the transformative potential of emerging technologies:

1. Smart Infrastructure- where Artificial Intelligence, the Internet of Things, and data analytics are no longer futuristic concepts, but present-day tools reshaping how we design, monitor, and optimize infrastructure systems.

2. Digital Twins & Predictive Maintenance- offer us the ability to simulate, anticipate, and prevent failures before they occur, save time, resources and lives.

3. Greener, Smarter and Faster- as we embrace sustainable technologies that reduce our carbon footprint while accelerating development and enhancing efficiency.

4. Closing the Gap- underscores the fact that innovation must be equitable. We intend to examine how technology can bridge longstanding infrastructure divides in underserved communities, ensuring no one and no place is left behind.

5. Building the Future- where 3D printing, robotics and automation are revolutionizing construction, enabling us to build faster, safer and with greater precision.

This conference is more than a platform for dialogue. It is a launchpad for partnerships, policy shifts and practical solutions. Let us take this opportunity to challenge assumptions, share insights and co-create a future where infrastructure is not only built to last, but built to uplift the generality of the citizens and the nation's industrialisation trajectory

ZIE PRESIDENT'S STATEMENT

Prof. Dr Eng. William Musekiwa Goriwondo

Greetings, distinguished guests, esteemed facilitators, partners and fellow delegates. On behalf of the Conference Planning Committee (CPC), it is my distinct honour and pleasure to welcome you all to this year's Infrastructure Investment Conference. We gather at a pivotal moment- one where the convergence of innovation, investment, and intent holds the power to redefine how infrastructure serves our communities, economies, and future generations. Our theme, 'Infrastructure Innovation- Harnessing New Technologies for Improved Service Delivery,' is not just a call to action. It is a recognition that the systems we build today must be smarter, more inclusive, and more resilient than ever before. Over the course of this conference, we explore five dynamic sub-themes that reflect the transformative potential of emerging technologies: 1. Smart Infrastructure- where Artificial Intelligence, the Internet of Things, and data analytics are no longer futuristic concepts, but present-day tools reshaping how we design, monitor, and optimize infrastructure systems. 2. Digital Twins & Predictive Maintenance- offer us the ability to simulate, anticipate, and prevent failures before they occur, save time, resources and lives. 3. Greener, Smarter and Faster- as we embrace sustainable technologies that reduce our carbon footprint while accelerating development and enhancing efficiency. 4. Closing the Gap- underscores the fact that innovation must be equitable. We intend to examine how technology can bridge longstanding infrastructure divides in underserved communities, ensuring no one and no place is left behind. 5. Building the Future- where 3D printing, robotics and automation are revolutionising construction, enabling us to build faster, safer and with greater precision. This conference is more than a platform for dialogue. It is a launchpad for partnerships, policy shifts and practical solutions. Let us take this opportunity to challenge assumptions, share insights and co-create a future where infrastructure is not only built to last, but built to uplift the generality of the citizens and the nation's industrialisation trajectory



Biography
for

Honourable Minister Professor Paul Mavima (MP)

Honourable Professor Paul Mavima is a Cabinet Minister, scholar, and politician born in Kwekwe, Zimbabwe. He currently serves as the Minister of Skills Audit and Development. Prior to his appointment as Minister of Skills Audit and Development he was the Minister of Public Service, Labour and Social Welfare from November 2019 to September, 2023. He was the Minister of Primary and Secondary Education from December 2017 to November 2019. In September, 2013 he was appointed Deputy Minister of Primary and Secondary Education, the position he served to December 2017.

Honourable Professor Paul Mavima is a National Assembly Member for Gokwe Sengwa Constituency since July 2013. He was the Chairperson for African Regional Labour Administration Centre (ARLAC) and Zimbabwe Tripartite Negotiating Forum (TNF) from November, 2019 to September 2023. He was the Chairperson of the 6th Africa Regional Forum on Sustainable Development from February, 2020 to February, 2021.

Honourable Professor Mavima holds a Bachelor of Science in Politics and Administration and a Master of Public Administration from University of Zimbabwe (UZ). He obtained a PhD in Public Administration and Policy from Florida State University, USA. He became an Associate Professor of Public Administration and Policy at Grand Valley State University, USA in 2007.



Biography
for

Honourable Minister Joshua K. Sacco (MP)



INFRASTRUCTURE INVESTMENT CONFERENCE

25

NOV, 25.

2 PM - 6 PM

ARRIVAL AND REGISTRATION

6 PM - 10 PM

DELEGATES' DINNER

CPC BRIEFING ON PROGRAMME SCHEDULE
HOUSE KEEPING ISSUES
SPONSORS PRESENTATIONS

26

NOV, 25.

7:30AM - 8:30 AM

Registration and Exhibition

"Business Day 1"

Event Director Dr. Wilson Banda

Session Moderator Dr Eng. Edmund Maputi - ZIE Board Member

8:30AM - 9 AM

National Anthem & Opening Prayer

Welcome remarks - His Worship Councillor Prince Thuso Moyo 'The Mayor of Victoria Falls Municipality

Introductory remarks - ZIE President Prof. Eng. William Goriwondo

Remarks on Conference Objectives - Conference Planning Committee Chairperson Dr Eng. T. Stevenson

Remarks from the ZIE Chief Executive Officer - Dr Eng. S Diarra

26

NOV, 25.

9 AM - 9:20 AM

An IoT Based Borehole Water Monitoring System



Eng. Innocent Mhuriengwe
LSU

9:20 AM - 9:40AM

Exploring the building of SMART infrastructure with AI, IoT, Data Analytics, Opportunities, Challenges, Mitigation, and Future Directions



Dr Eng. Ronald R Tarugarira
Subject Matter Expert

26

NOV, 25.



INFRASTRUCTURE INVESTMENT CONFERENCE

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NOV, 25.

9:40AM-10AM



Eng. Anthony Lunga
BSC Laboratory

Design and construction of Trabablas interchange at the intersection of Harare - Beit bridge and Glennorah - Chitungwiza roads

26

NOV, 25.

10:00AM-10:40AM

TEA BREAK

Session moderator



Eng Charity Chigwada - Telone

26

NOV, 25.

10:40AM-11:AM



Eng. Michael Kumirai
NUST

Investigating the feasibility of Moringa Oleifera flocculant as an alternative to Aluminium Sulphate in Umguza river water purification

26

NOV, 25.

11AM - 11:50AM

PANEL DISCUSSION

Overall smart energy infrastructure development in Zimbabwe

Panelists

**Eng. Zaranyika
and ZERA team**

- Sustainable solar development and energy storage challenges
- What is the pervasiveness of solar thermal uptake in Zimbabwe?



INFRASTRUCTURE INVESTMENT CONFERENCE

26

NOV, 25.

11:50PM-1PM

PANEL DISCUSSION

Panelists



Eng. Shebar M. Masuka



Eng. Charity Chigwede



Eng. Mercy Ranganai



Eng. Evelyn Mukachana

Session Moderator



Dr Eng. Loice Gudukeya
Deputy Dean UZ Faculty of Engineering and Built Environment

A Blueprint for Circular Infrastructure Economy: A closed-loop, circular model for Zimbabwe's infrastructure development

1 PM - 2:00PM

LUNCH

26

NOV, 25.

2 PM - 2:20PM

Engineering Professionals access of verified Tax payers certificate annually via the ZIMRA TaRMS self service portal

Commissioner Tendai Jawa
ZIMRA - Vic Falls

2:20PM - 2:40PM

Biomimicry in Engineering Design



Dr Eng. E. S. Maputi
ZIE Board Member

Session Moderator



Eng. C. Mhuka
ZIE Treasurer

26

NOV, 25.



INFRASTRUCTURE INVESTMENT CONFERENCE

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NOV, 2025

2:40PM - 3:00PM



Eng. Joakim A. Banda
ZINWA

Digital Twins and Predictive Maintenance in Infrastructure

26

NOV, 2025

3:00PM - 3:20PM



Eng. Shelta Majowa
Harare Polytechnic.

Spider link infrastructural development by inclusivity to balance growth for rural Zimbabwe

TEABREAK

3:20PM - 3:30PM

Day 1 Conference Adjournment: SESSION MODERATOR

3:30PM - 6PM

NETWORKING
(TOUR OF THE FALLS AND OTHER OPTIONAL ACTIVITIES)

26

NOV, 2025

7PM - 9:30PM

GALA DINNER- GLITZ AND GLAMOUR

26

NOV, 2025



INFRASTRUCTURE INVESTMENT CONFERENCE

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NOV, 2025

7:30AM - 8:45 AM



Dr. Eng. Marvelous Sibanda - ZIE Senior Vice President
SESSION MODERATOR:

MAIN BUSINESS DAY TWO

Registration

Special Announcements- CPC Representative

27

NOV, 2025



Eng Dr. Bola Mudasiru
(Nigeria)

Engineering Resilient Cities: Smart Infrastructure and Sustainable Solutions for a Better Urban Future and Quality of Life

9:05AM - 9:25AM



Dr Will Cavendish
(ARUP - UK)

AI and Digital Transformation

27

NOV, 2025

9:25AM - 9:45AM



Eng. Lewis Makurumure
(UNDP)

Unlocking a Brighter Future through Mini-Grids, Off-Grid Solutions, and Climate Resilient Water & Energy Infrastructure Innovation

9:45AM - 10:30AM

TEA BREAK



INFRASTRUCTURE INVESTMENT CONFERENCE

10:30AM - 11AM

27

NOV, 2025



Hon. Prof. Paul Mavima
Minister of Skills Audit and Development

Address by the Guest Speaker

11AM - 11:20 AM

OFFICIAL OPENING OF THE CONFERENCE

27

NOV, 2025

Statement by the ZIE President - Prof. Dr Eng. William Musekiwa Goriwondo

ECZ Statement - Dr Eng. Ben Rafemoyo - ECZ Chief Executive Officer

Introduction of Guest of Honor - Permanent Secretary/Senior Government Official

11:20PM - 12:10PM

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NOV, 2025



Honorable MP Minister Felix Mhona
Ministry of Transport and Infrastructure Development

Address by the Guest of Honour

12:10PM - 12:30PM

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NOV, 2025



Prof. Dr Eng. Tawanda Mushiri
(ZIE Board Member)

Leveraging Effective Engineering Solutions in Zimbabwe using Artificial Intelligence



INFRASTRUCTURE INVESTMENT CONFERENCE

27

NOV, 2025

12:30PM - 13:00PM



Eng. Milcent Mugandane Eng. Precious Sibanda

**Infrastructure Innovation:
Harnessing AI, IOT and Data
Analytics with SMART
Technology For Improved Service
Delivery In Greenhouse Tomato
Farming**

27

NOV, 2025

13:00PM - 14:00PM

LUNCH

2PM - 3:00PM

EXHIBITIONS AND NETWORKING

3PM - 3:30PM

TEA BREAK

27

NOV, 2025

3:30PM

BOAT CRUISE

Pick - up time from the hotel by Navigating Africa

4PM - 6PM

BOAT CRUISE

7:30PM - 10PM

RESTAURANT DINNER

27

NOV, 2025



INFRASTRUCTURE INVESTMENT CONFERENCE

28

NOV, 2025

8:30AM - 8:35AM

SESSION MODERATOR:



Eng. Felix Mudhindi - ZIE Board Member

MAIN BUSINESS DAY THREE

House-keepingBusiness

8:35AM - 9:00AM



Eng. Kennedy Muzira

**Interrogating the focused
development phase of the roads
infrastructure: A case of Zimbabwe**

9AM - 9:20AM



Eng. Emmanuel Mungofa

**Optimizing Urban Mobility: Intelligent
Traffic Systems for Zimbabwe's Smart
City Agenda — Reducing Congestion
and Operational Costs**

9:20AM - 9:40AM



Eng. Tatenda Sibindani

**Innovative Facilities Management
Solutions - from ESG to Cash**



INFRASTRUCTURE INVESTMENT CONFERENCE

9:40AM - 10:30AM

CONFERENCE RESOLUTIONS

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NOV, 2025



Dr Eng. E.S Maputi
(Chief Rapporteur)

Vote of Thanks



Eng. Farai Maturure
(ZIE Hwange Area Chairman)

10:30AM - 10:50AM

TEA BREAK

10:50AM

EXHIBITIONS AND NETWORKING

13:00AM - 14:00PM

LUNCH

15:30PM - 15:55PM

TEA BREAK

17:15PM

PICK-UP TO BOMA

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NOV, 2025

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NOV, 2025

28

NOV, 2025



INFRASTRUCTURE INVESTMENT CONFERENCE

NATIONAL ANTHEM

Simudzai mureza wedu we Zimbabwe
Yakazvarwa nemoto wechimurenga
Neropa zhinji ramagamba
Tidzivirire kumhandu dzose.
Ngaikomborerwe nyika yeZimbabwe

Tarisai Zimbabwe nyika yakashongedzwa
Namakomo, nehova, zvinoyevedza
Mvura ngainaye, minda ipembesa
Vashandi vatuswe, ruzhinji rugutswe:
Ngaikomborerwe nyika yeZimbabwe.

Mwari ropafadzai nyika yeZimbabwe
Nyika yamadzitageguru edu tose;
Kubva Zambezi kusvika Limpopo,
Navatungamiri vave nenduramo;
Ngaikomborerwe nyika yeZimbabwe

Phakamisan' if'legi yethu yeZimbabwe
Eyazalwa yimpi yenkululeko;
Legaz' elinengi lamaqhawe ethu
Silivikele ezithen izonke;
Kalibusiswe ilizwe leZimbabwe.

Khangelan'I Zimbabwe yon' ihlotshisiwe
Ngezintaba lang' miful' ebukekayo
Izulu kaline , izilimo zande;
Iz' sebenzi zenam' , abantu basuthe ;
Kalibusiswe ilizwe leZimbabwe.

Nkosi busis' ilizwe lethu leZimbabwe
Ilizwe labokhokho bethu thina sonke ;
Kusuk' eZambezi kusiyeLimpopo
Abakhokheli babe lobuqotho ;
Kalibusiswe ilizwe leZimbabwe.

O lift high the banner, the flag of Zimbabwe
The symbol of freedom proclaiming victory
We praise our heroes' sacrifice,
And vow to keep our land free from foes,
And may the Almighty protect and bless our land.

O lovely Zimbabwe, so wondrously adorned
With mountains, and rivers cascading, flowing free
May rain abound and fertile fields;
May we be fed, our labour blessed;
And may the Almighty protect and bless our land.

O God, we beseech Thee to bless our native land;
The land of our fathers bestowed upon us all;
From Zambezi to Limpopo
May leaders be exemplary;
And may the Almighty protect and bless our land.



INFRASTRUCTURE INVESTMENT CONFERENCE

29

NOV, 2025

7AM

BREAKFAST

10AM

CHECKOUT

10:20PM

SHUTTLE (Fast-Jet)

ZIE WISHES ALL DELEGATES JOURNEY MERCIES

ACKNOWLEDGEMENT

**We are highly indebted to our prestigious
conference sponsors**

