

ASSOCIATION OF CONSULTING ENGINEERS OF ZAMBIA

Future Leaders Group NEWSLETTER

A Quarterly publication by the Future Leaders Group of the Association of Consulting Engineers of Zambia

2022 | QUARTER 4

DECEMBER 2022

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Special points of interest:

- Zambia will be hosting the 29th FIDIC Africa Infrastructure Conference from 21-24 May 2023 in Livingstone – [page 1](#)
- ACEZ was a recipient of the prestigious FIDIC MA Excellence Award 2022 for Best Publication or Website - [page 7](#)

The 29TH FIDIC AFRICA INFRASTRUCTURE CONFERENCE 2023 will be held in *Livingstone, Zambia*

We hope to see you there!!
FUTURE LEADERS
FIDIC AFRICA
29th INFRASTRUCTURE CONFERENCE 2023
**LIVINGSTONE,
ZAMBIA
21-24 MAY**

FLO52023
VISAS / ENDORSEMENTS

DESTINATION LIVINGSTONE ZAMBIA

PASS

FUTURE LEADER
2023-05-24
EXIT
Livingstone, Zambia

FUTURE LEADER
2023-05-21
ENTRY
Livingstone, Zambia

29th INFRASTRUCTURE CONFERENCE 2023
Livingstone, Zambia

Name: FUTURE LEADER Passport No.: FL052023
Nationality: GLOBAL CITIZEN
Date of Entry: 21 MAY 2023
Date of Exit: 24 MAY 2023
Conditions: The holder of this passport must be ready to socialise, network and discuss revolutionary ideas with fellow peers.

APPROVED
Authorisation:

Clear your schedule, get your passport ready, prepare your business cards, because the 29th FIDIC Africa Infrastructure Conference 2023 will be held in the home of the mighty Mosi-Oa-Tunya/ Victoria Falls, Livingstone, Zambia! The Association of Consulting Engineers of Zambia will be hosting this auspicious event which will connect leading global players, partners and affiliates in the infrastructure and consulting engineering sphere, and enable the discussion of progressive, relevant, sustainable solutions and business opportunities in the sector.

The Conference will take place from **21–24 May 2023** under the theme “**Green Infrastructure for the Future**”. The timing of the selection of the theme could not be more impeccable. Globally, there is much discussion centered around ‘going green’ in order to solve urban and climatic challenges that are negatively impacting the environment. For Africa, particularly, whose vast majority of countries have been colloquially coined as ‘third-world’, there is a dire need to discuss our readiness, capacity, resources and prevailing challenges that exist as we endeavor to embark on this vital global assignment. As Future Leaders, this is our chance to be involved in laying the foundation for implementing infrastructure development strategies that are innovative, sustainable and responsive to pressing global needs. Ensure that you save the date!

Message from the Chairperson



Pauline Phiri, FLC Chairperson

Hello Future Leaders!,

We are certainly closing the year on a high note, excitingly because of what we have achieved and also because of what is yet to come. As the year 2022 comes to an end, we want to collectively look back at our achievements as the Future Leaders Group, as well as prepare ourselves to take on new challenges.

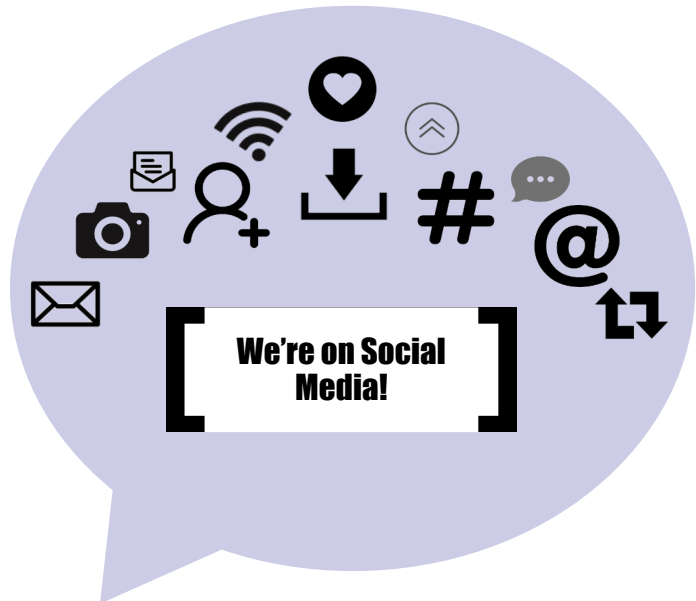
Our excitement about winning a FIDIC MA Excellence Award cannot seem to die down! This is evidence that if we set our mind to something and put in extra effort, we will reap the reward. Congratulations to you all FLs! We have much to look forward to, with the FIDIC Africa Infrastructure Conference 2023 being right around the corner. It is my hope that FLs in Zambia will rise to the occasion and avail themselves to participate in conference plenary sessions. FLs will definitely have a chance to network with each other in the pre-conference activity arranged particularly for us.

I continue to invite FLs to submit articles for our newsletter so that we can track our progress and also shed light on issues and challenges that we may be facing, and in turn, face them head on. This is our 2022 close out Issue and I hope it will give us all a glimpse of how we have performed, and a vision of what direction we want to head in. We should take pride in the strides we have taken, as well as explore new ways in which we can actively participate in shaping our industry and capitalize on its benefits. After all, the saying goes "the journey of a thousand miles begins with a single step"

We look forward to hearing from you. Have a wonderful festive season.

Stay Connected to ACEZ Future Leaders Group

Contact Us | *We're Social*



Like Us on Facebook!



ACEZ Future Leaders Group @acezflg



Follow us on Twitter!

Follow

@acezflg

Editorial Contribution

The Future Leaders Group Newsletter is a quarterly publication which shares information and news about various activities that FLs are engaged in.

Any contribution from FLs in the form of articles, letters, comments and innovative ideas aligned with FL development in Member Associations (MA), showcasing of FL talent, consulting engineering news and FIDIC & FIDIC Africa priorities is welcomed.

If you would like to contribute to our newsletter,

Please contact:

Pauline Phiri

Future Leaders Committee Chairperson

Future Leaders Group of ACEZ

Email: phiripauline288@gmail.com

2022 FIDIC Global Infrastructure Conference

Geneva, Switzerland

Report Back

By Harold M Chibwe

Building a better tomorrow, by investing today - Sustainable infrastructure development to improve community wellbeing

This year's FIDIC Global Infrastructure Conference was held in Switzerland, renowned for housing a picturesque landscape of the Alps mountain range, in the bustling city of Geneva. With the world continuing to slowly recover from the Covid-19 pandemic, and as concerns turn to global recovery and rebuilding economies, the Conference had a strong forward-looking focus. Under the theme "Building a better tomorrow, by investing today - Sustainable infrastructure development to improve community wellbeing," some of the issues tackled included but were not limited to:

- * Investing today to create a better tomorrow:
- * The development of sustainable infrastructure – how to create a sustainable future in a way that benefits communities all around the world.

The conference brought together the top engineers in the globe as well as other industry participants from the global building and infrastructure sector. A wide array of professionals that offer diverse expertise with common industry interests were in attendance such as CEOs of large international consulting engineering groups,

officials from multilateral development banks , executives from private-sector firms , decision-makers from companies providing technology and management solutions, government representatives involved in making decisions regarding infrastructure investment and regulation, infrastructure industry professionals, professionals from academia and research centers, attorneys, insurers, constructors, investors, asset operators, FIDIC member associations and Future Leaders.

Some prominent presenters included the World Economic Forum, African Development Bank, Asian Infrastructure Investment Bank, World Trade Organization, The World Bank, The Organisation for Economic Cooperation and Development, World Wildlife Fund, Geneva Airport, Siemens Energy, Mott MacDonald, AECOM, Pinsent Masons, Aurecon and WSP.

Pre-Conference activities

The main conference was preceded by pre-conference events consisting of meetings of Directors and Secretaries and Presidents. Concurrently, as per tradition, the FIDIC Future Leaders (FLs) convened at a Future Leaders Symposium and the Future Leaders Management Certificate (FLMC) Presentation & Recognition of participants Workshop.

FIDIC Future Leaders symposium

The FIDIC Future Leaders symposium was graced by speakers who are members of the FIDIC Future Leaders

Advisory Council (FLAC), as well as invited speakers. Invitation was open to everyone to attend.

FLMC Workshop Presentation & Recognition of participants Workshop

The FLMC Workshop Presentation had participants who enrolled in the 2022 FIDIC Future Leaders Management Certificate (FLMC) Programme, as well as their Trainers. FLs were required to prepare a presentation on a subject of their choice, which would be presented to attendees of the entire conference. They had creative freedom to decide on how to manage the tasks and how to structure the presentation for a 20-30 minute time slot.

Presentation preparation activities included a recap of webinars, breakout discussions, open microphone charette and a brainstorming session to identify key issues and map out solutions.

Some of the identified challenges included

- * health of our planet,
- * health of our businesses,
- * health of our people

In light of these issues, the outcome of the session was the suggested adoption of additional KPIs to:

- * Monitor impact of business operations on environment
- * Monitor how staff utilization might be impacting their mental health
- * Calculate appropriate investment to reduce staff turnover and target where budget/time should be spent

Main Conference Activities

The main conference was spread across two days. Delegates were ushered into the event by way of a Welcome Cocktail Reception in which they were able to get acquainted with the conference venue in anticipation of the proceedings and discussions to follow.

A few highlights of some of the key topics of discussion during plenary sessions of the main conference are:

- ◆ The Need to act now to address the climate crisis by taking active strides to:
 - * Transition to lighter carbon fuels and renewable electricity
 - * Focus on carbon capture
 - * Consider embedded carbon in our designs
 - * Consider the impact of design on the natural environment – i.e. ‘nature positive’
- ◆ The need to engage and retain future leaders in our industry
- ◆ Consideration of how projects will be funded with the expected recession
- ◆ Required collaboration between diverse professionals e.g. engineers, biologists policy makers, financiers, clients and young people
- ◆ The insufficiency of Net Zero - There is a need for Net positive = Nature Positive, to ensure biodiversity of the planet. (CEO, WWF)
- ◆ The need to separate the progress and the development of our society and business, from land use. It is not sustainable to keep taking land for construction and infrastructure.
- ◆ Decarbonizing the energy sector:
 - * Robust battery storage for green energy supply
 - * Considering nuclear energy as a possible solution to decarbonize. It may work at the moment but it may not be a sustainable solution in the long term
 - * Challenge of reusing gas pipelines for hydrogen – is new infrastructure required?
 - * The energy crisis will likely mean more use of coal, after which conversion to green energy will accelerate
 - * Pumped-energy storage may have a renaissance, but there are challenges
- ◆ Skills Retention and development:
 - * We are short of engineers and need to retain our talent
 - * Engineering disciplines of the future may not yet be

invented.

◆ Sustainability in procurement:

- * Requires the right balance between price and quality – the lowest price cannot be sustainable.
- * Urban transition - the sustainable city of the future:
- * We need to clean and de-carbonise the city – working towards no pollution.
- * Staying Connected – Mobility and data driven cities which optimize the movement of people in the city.
- * Compacting and reducing unsustainable land consumption by using land frugally.
- * Circularity and electrification.
- * Using more digital solutions, post pandemic with the aim of having a healthy city.
- * Habitability of cities – it is extremely important to note that it is nice to be in and live in the city.

Social Events:

Complementary to the plenary sessions were some social events. In addition to the FIDIC Welcome Cocktail Reception, delegates got to enjoy the FIDIC Global Infrastructure Gala Dinner and Awards Ceremony and the Local Colour Night.

Local Colour Night.

Delegates were given a night to remember by experiencing Swiss culture through their cuisine, beverages and local customs.

FIDIC Global Infrastructure Gala Dinner and Awards Ceremony

This black-tie event was an elegant affair which hosted an award giving ceremony which recognised the excellence of member associations, global infrastructure projects and future leaders in the industry. The main categories for these awards were FIDIC MA Excellence Awards, Project Awards and Future Leaders Awards. This year, the Association of Consulting Engineers of Zambia received an MA Excellence award for Best Publication or Website.

The 2022 FIDIC Global Infrastructure Conference was one of the main highlights of the year for ACEZ Future Leaders Group because, we won our first ever global award. Being able to network with multi-national industry professionals and discussing important global issues gave a glimpse of the bright future that lies ahead for young professionals in the consulting industry.

Bearing that in mind, the 2023 FIDIC Global Conference is set to take place in Singapore and we look forward to being a part of it once more.

Photo Focus



2022 FIDIC Participants



FLMC Presentation & Recognition Workshop participants



Gala Dinner / Awards Ceremony Venue



ACEZ delegates receiving the FIDIC MA Excellence Award

2022

FIDIC MA EXCELLENCE
AWARD
WINNER

Best Publication or
Website

*“ACEZ Future Leaders Group
Quarterly Newsletter”*

This year, the Future Leaders Group got a confidence boost when they played a part in the Association of Consulting Engineers of Zambia’s secured win of the prestigious 2022 FIDIC MA Excellence Award for Best Publication or Website – ACEZ Future Leaders Group Quarterly Newsletter.

The FIDIC MA Excellence awards recognize individuals, teams, campaigns, initiatives, publications and events and celebrate excellence in how member associations operate in a fast-changing and dynamic industry landscape while serving their members and stakeholders. The award categories included:

- ◆ Best Advancement and cause, advocacy campaign or event
- ◆ Best Publication or website
- ◆ Best Diversity and inclusion initiative
- ◆ Member Association achievement of the year (Categories: Small/Medium and Large)

News of ACEZ’s shortlisting brought about a wave of excitement and a sense of pride, that the future leaders were stepping out of their shell and taking active strides to participate more in the international consulting engineering community. ACEZ was shortlisted alongside Association of Consulting and Engineering - New Zealand, Radgivende Ingeniorers Forening (Association of Consulting Engineers)-Norway and Danish Association of Consulting Engineers.

The awards were presented at the FIDIC Global Infrastructure Conference 2022 during the Gala Dinner.

Our representatives who received the award beamed with joy, and their excitement was felt even from our home ground.



ACEZ’s FIDIC MA Excellence Award

**The
Celebration
Continues!**

Of course, in true African fashion, the celebration did not end there. The award received a warm welcome back in Zambia at a small award presentation ceremony that was held in honour of the Future Leaders. The award was presented to the Future Leaders Committee by the ACEZ Council and Secretariat.



ACEZ Council and Secretariat presenting the award to the Future Leaders



ACEZ President giving a handover speech



ACEZ Secretariat facilitating the handover

With all the support and encouragement rendered to future leaders from our able leadership, the onus is on the Group to aim higher by being vocal agents of change and participating in more activities in the consulting engineering plane. The sky is the limit!

News and Events | LOCAL, REGIONAL AND INTERNATIONAL

ACEZ is affiliated to the International Federation of Consulting Engineers (FIDIC) globally and FIDIC Africa, regionally. The Future Leaders Group of ACEZ prioritises creating awareness of activities and discussions that are taking place in the engineering and consulting engineering industry. Our active participation and contribution to the growth of the industry is self-serving as well as sustainable to the industry as a whole. Here are some exciting events to look out for:

29th FIDIC Africa Infrastructure Conference 2023

Theme: Green Infrastructure for the Future

Dates: 21 - 24 May 2023

Location: Livingstone, Zambia

Fees:	Members	USD 700 (Standard)	USD 650 (Early Bird - register and pay before 31/01/2023)
	Future Leaders	USD 350 (Standard)	USD 300 (Early Bird - register and pay before 31/01/2023)
	Speakers	USD 490 (Members)	USD 540 (Non-Members)
	Non-Members	USD 800 (Standard)	USD 750 (Early Bird - register and pay before 31/01/2023)
	Accompanying person	USD 425 (Standard)	USD 400 (Early Bird - register and pay before 31/01/2023)

For more information visit: <https://events.fidic.org/fidicafrica2023>

FIDIC Global Infrastructure Conference 2023

Location: Singapore

Dates: 10-12 September 2023

Pre-register on: <https://events.fidic.org/FIDIC2023>



FIDIC 2023 Future Leaders Management Course - FLMC

Dates: 28 March 2023 – 08h00 to 15 August 2023 – 18h00

Fees: EUR 1200

Registration Period: 26 October 2022 – 08h30 to 21 March 2023 – 18h00

FIDIC offers an engaging, online instructor-led training course for young rising consulting engineers and other professionals. You are still well in time to register for this course which familiarizes engineering professionals with FIDIC principles and consulting engineering business practices by covering the following subjects:

- ◆ The consulting firm and profit
- ◆ The consultant contract
- ◆ Human resources and career planning
- ◆ Business development and project management
- ◆ Quality management and ISO
- ◆ Liability insurance and risk
- ◆ Integrity management
- ◆ Sustainability management
- ◆ Sustainable design
- ◆ Financial Management



The focus of this FIDIC programme is to strengthen the business expertise of young engineers and other professionals working in the field of consulting engineering.

For further information visit: www.fidic.org

Engineering Institution of Zambia (EIZ) 2023 Annual Conference

Theme: Sustainable economic transformation and job creation through home-grown engineering solutions

Dates: 20 – 22 April 2023

Location: Livingstone, Zambia

For further information:

THE ENGINEERING INSTITUTION OF ZAMBIA			
	EIZ HEADQUARTERS: Stand No. 2374, Danny Pule Road, Show Grounds, 10101, P. O. Box 51084, LUSAKA, Zambia. Tel: +260 21 125 6214 +260 21 125 5161 Email : eiz@eiz.org.zm Website : www.eiz.org.zm	SOUTHERN REGION: Buildings Department HQ, Fairley Road, Ridgeway, P. O. Box 51084, Lusaka, Zambia. Tel/Fax: +260 21 125 6214 Email : eiz@eiz.org.zm Website : www.eiz.org.zm	NORTHERN REGION: Engineers' House, No. 8 Kantanta Street, P. O. Box 23385, Kitwe, Zambia. Tel: +260 21 223 0111 +260 21 222 2608 Email : eiz@eiz.org.zm Website : www.eiz.org.zm
SUSTAINABLE ECONOMIC TRANSFORMATION AND JOB CREATION THROUGH HOME-GROWN ENGINEERING SOLUTIONS			

CALL FOR PAPERS

21 – 24 May

2023

29th FIDIC Africa Infrastructure Conference | Livingstone Zambia

GREEN INFRASTRUCTURE FOR THE FUTURE

ABOUT FIDIC AND ACEZ FIDIC, the International Federation of Consulting Engineers, was founded in 1913 and one of its objectives is to "Promote and assist the worldwide development of viable consulting engineering industries". FIDIC Africa is the group of African Member Associations of FIDIC.

ACEZ, Association of Consulting Engineering of Zambia, was established in 1966. Guided by its core values and supported by the Engineering Institution of Zambia Act No. 17 of 2010 which requires that Consulting Engineers practicing in Zambia to be registered with the Engineering Registration Board and be members of the Association, ACEZ represents, for its members, a body that promotes their joint interests and quality assurance for clients. ACEZ is one of the member associations of FIDIC Africa.



ABOUT FIDIC AFRICA INFRASTRUCTURE CONFERENCE 2023

The annual FIDIC Africa Infrastructure Conference is one of the biggest networking events for the African construction industry. It provides a forum for consulting engineers, government officials from all three spheres of government (national, provincial and local), state owned entities, funding agencies, contractors, suppliers of construction equipment and materials, investors and other stakeholders in the built-environment from the public and private sectors to share ideas on best practices. The conference also provides opportunities to learn from one another, effective ways of dealing with diverse challenges, to achieve value for money and improve the quality of life of the people.



ACEZ is organizing the 29th FIDIC Africa Infrastructure Conference in Livingstone, Zambia. The conference will connect leading global players and partners in the infrastructure and consulting engineering sector to create innovative sustainable solutions and business opportunities.

Africa has many of the most climate-vulnerable nations and the continent is at the sharp end of many geopolitical challenges. The continent is however endowed with great renewable potential and natural resources which if well harnessed, would lead to financial clout and help solve climate change challenges. The four-day FIDIC Africa Conference which starts on 21st May and end on 24th May, 2023 and is expected to bring together about 500 delegates from across Africa and the rest of the world to discuss the future of infrastructure provision under the theme: '**Green Infrastructure for the Future**'.

The secondary focus of keynote speakers and delegates will be on the diverse areas covered by the sub-themes.



Sub-Themes:

1. Integrated approach in planning Green infrastructure;
2. Building a sustainable, resilient and viable Green infrastructure;
3. Global progresses addressing African burgeoning youth population and paradigm shift towards green economies;
4. Green construction methods and materials for a sustainable future Infrastructure development.

Prospective authors are, however, also invited to submit papers outside the listed topics if their topics are within the general scope of the Conference – **Green Infrastructure for the Future**.

SUBMISSION OF PAPERS

Authors are invited to submit papers in the areas aforementioned. Prospective authors should submit their abstracts by 9th January 2023. Abstract should not exceed 250 words and include up to 5 keywords.

The following information should be submitted with the Abstract: **a)** First and last name of presenting author (and co-author(s) where applicable), email-address, company and country; **b)** Title of preferred sub-theme; **c)** Title of paper / presentation; and **d)** Profile of presenting author (1/2 page maximum).

The abstract should clearly explain the originality and the relevance to the fields and should be submitted by email to fidicafrika2023@acez.co.zm.

Authors whose abstracts are accepted for presentation will be requested to provide extended abstracts (5 pages maximum, in Ms word). Tables and graphics can also be submitted in editable versions.

All submitted abstracts and papers will go through a blind peer-review process with decisions and comments availed to all authors. Final acceptance is only granted upon revising the manuscript in line with reviewer's comments. Publication in the proceedings and presentation at the Conference is subject to registration and submission of copyright forms (details of conference registration fees will be published soon on the conference website, <https://events.fidic.org/fidicafrika2023/2708133>).

OFFICIAL WORKING LANGUAGE

The official working language of the conference is English, which will be used for all printed materials, presentations and discussions.

IMPORTANT DEADLINES

Deadline for submission of abstracts:	9 th January 2023
Notification of decision on abstracts:	23 rd January 2023
Extended abstract / full paper submission:	20 th February 2023
Notification of decision on paper:	13 th March 2023
Submissions of final papers and presentations:	17 th April 2023

Note: Approved speakers will get 30% reduction on the registration rate.

Organizer:

Association of Consulting Engineers of Zambia

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 Email: info@acez.co.zm or
fidicafrika2023@acez.co.zm



Power Load Shedding in Zambia



By Malita T Sichone



It is summer time again in Zambia, and while the farmers worry about their farming inputs for the farming season, the average Zambian worries about whether the few power outages that we are now experiencing are an indicator of the onset of power load shedding or maintenance works by the local power utility company, ZESCO.

Power load shedding is a deliberate action of interrupting supply to part of the distribution network or customers by a utility during management of the load demand. This is carried out to ensure that the power network system is not overwhelmed when load demand exceeds the available capacity.

In Zambia, according to the ministerial statement to parliament of 2021 by the Minister of Energy, the country's generating capacity was at 2976MW hydro electricity at 80.45%. With a peak demand of 2300MW, the country should not have experienced any load shedding, however, due to low water levels, only 1400MW was available resulting in a deficit of 810MW. The statement further mentioned that with 750MW from Kafue Gorge Lower Power Station, load shedding was expected to end. It is now 2022 and according to the revelation made at the Association of Power Utility meeting in Dakar, Senegal by ZESCO managing director, Mr Mapani, the country now has a generation capacity of 3456.8MW after the commissioning of the four 150MW capacity generators at Kafue Gorge Lower power Station.

If it is load shedding the country is still experiencing, then what is the available generation capacity of the installed generators and what are the challenges causing the lower generation of power this year as well? Is it water levels or operation challenges including maintenance of the power supply systems and networks?

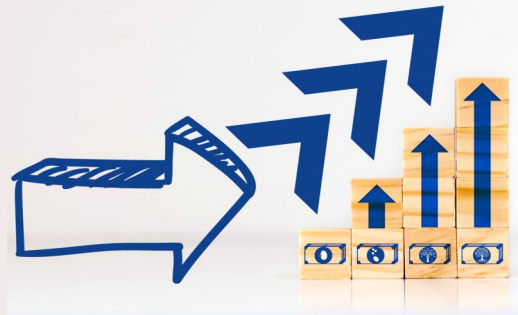
Despite the country achieving an installed generation capacity greater than the peak demand, various factors such as water levels, prevailing regional power trade agreements, system failures and maintenance have hindered the available capacity's ability to meet the country's peak demand. While some factors can be managed by the power utility company, ZESCO, other

factors such as water levels are also subject to Mother Nature. The growth of the Zambian economy is pegged at an average of 5% per annum and this growth has been matched if not exceeded by the growth in demand for electricity according to the infographic of 2015 on understanding load shedding in Zambia by Policy Monitoring and Research Centre (PMRC). The proposed solutions by PMRC on mitigating load shedding include investments in hydro generation and renewable energy, introduction of feed-in tariffs and competition in the sector. In addition to increasing the generation capacity, deliberate policies with incentives and tax exemptions have been put in place by the government regarding investments towards renewable energy which should see a growth in the available capacity generated through renewable energy.

As much as the Zambian government has made significant strides to meet the demand, there should also be extensive engagement of the consumers, especially the two major consumers i.e. mining industry and domestic consumers. The consumers should be engaged on how best they can manage their energy consumption. Measures such as encouraging the use of energy efficient equipment and processes, use of alternative energies such as gas for heating, introduction of penalties on poor power factor on consumers of a particular tariff band, net metering that allows the consumer to feed into the grid and smart metering that is based on a tariff structure with daily bands as opposed to monthly bands, would greatly encourage the consumers including those in the residential band to be more energy conservative. A concerted effort by the government, investors and the consumers is the best solution to reducing or ending load shedding in the country.

ENHANCE YOUR CAREER GROWTH WITH A MENTOR

By Frank Mwangilwa



Developing the right mentoring relationship as a tool for professional growth

Navigating the industry can be quite overwhelming as you transition from being a graduate to an aspiring seasoned, senior level professional in your field. Every experience in the workplace comes with its own benefits as well as hurdles, thus it helps to tap into the knowledge, expertise and experience of someone who is further along in their career than you are. They typically offer sound advice and guidance out of relatability, having passed through the stage in your career that you are currently in.

Career success in the built environment depends on personal and professional development. One of the ways

that you can positively transform your career trajectory is by having a mentor.

What is a Mentor?

“A mentor is a person with experience in a job who supports and advises someone with less experience to help them develop in their work” (Cambridge Dictionary definition)

Receiving mentorship is another form of knowledge acquisition which is practical and in direct response to your personal needs.



WHY DO YOU NEED A MENTOR?

Having a mentor along your journey to success has some notable advantages;

NETWORKING OPPORTUNITIES

A mentor can expand your network and open doors to new opportunities. A mentor may introduce you to some influential people from their professional and social networks that they built up over the years, who may help you with your career development goals. A good professional network is one of the essential factors for success in the built environment.

PROFESSIONAL GROWTH

A mentor will help you to understand the professional skills that are critical in your career. You will be able to focus on those particular set of skills, develop them over time and improve in areas where you are lacking. Feedback from a mentor about your technical knowledge, leadership skills, communication and social skills can bring about significant improvements in your career.

DEVELOPING LEADERSHIP SKILLS

A mentor will assist you in developing leadership skills such as compassion, listening and giving. Skills such as self-awareness, adaptability, self-confidence, collaborations and communication are essential in career success. These can be developed from having someone who is the kind of person that you can have one on one conversations with and who you can lean on for guidance and support.

Who should be your mentor?

The first step in finding the right mentor for you is determining what you want in your career. It is important for you to determine what your career growth needs are in order to select a mentor who can best suit your developmental needs. You may not have knowledge of how your entire career will pan out due to so many factors in the industry, but you can at least define what your short-term goals are and begin to develop a clear plan from there. You can start by identifying what your dream job is, as well as someone in your

field with a similar set of strengths and skills as yours whom you admire. Select an individual in the industry who you are comfortable with, who is able to give good advice. Successful mentoring relationships happen when the mentor and mentee are a good match.

Identify someone who understands your current role, and can advise you on things like new projects, professional courses or certifications that may help you rise career wise.

How do you approach your mentor?

Try to find out which communication style your identified mentor prefers, and set up an initial informal meeting, maybe over coffee. Prepare a few questions that you would like to ask him/her and keep the meeting less than an hour. Develop the relationship with your mentor over time. Try not to rush the process by being forceful, as

lessons and advice will accumulate over time, based on mutual respect.

The benefits of mentorship are not only for the mentees. Mentors also get through the interaction to reflect on their careers. The right mentoring relationship can be a powerful tool for professional growth and discovering new career opportunities.

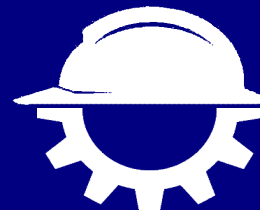
Network.



Engage.



Explore your Industry.



What sort of events do YOU want to take part in?

Let us know what Future Leader Group Events you would like to have in the future.



Life adjustments



Remote Work

Career adjustments



COVID-19 EFFECTS



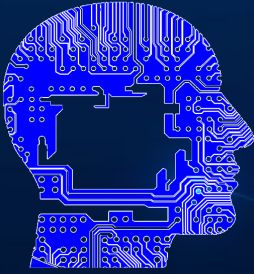
Finances



Mental Health

Industry adjustments

#Engineering



Trends in the Engineering Industry

By Pauline Phiri

#Engineering

What are Engineers into these days?

01

Industry 4.0



02

Internet of Things

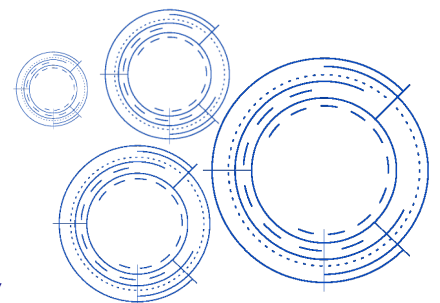


The dynamic, adaptive nature of engineering ascertains that there is an endless propensity to discover, reinvent and revolutionise new ways of creating things. Instinctively, keeping abreast with global industry trends should become second nature to any budding young engineer. Technological advancements have increased efficiency, productivity and accessibility of products and services. Everyday we discover something new in the world of engineering thanks to the power of the internet which has created a global community in which we can share ideas and resources.

With innovation taking center stage in the engineering industry, improvements in products and systems are the natural order of workplace practices. Here are some, among many, current engineering industry trends to look out for that could create new career opportunities for engineering professionals.

With the continued rise of the digital age, it is only natural that industries would respond to the ever-evolving needs of humankind. Industry 4.0, sometimes referred to as the Fourth Industrial Revolution, is the digitisation of the manufacturing/ production process. This is an advancement in the way that the industrial value chain is organised. It involves the intelligent networking of machines and processes with the help of information and communication technology. The physical cyber systems are interconnected and automated to collect, share and analyse data to drive intelligent actions in the physical world. This is what has been coined as “smart” manufacturing. Some of the essential components within Industry 4.0 include Internet of Things, 3D Printing, Cloud Technology, Artificial Intelligence and Model Simulations .

The internet is a global system of computer networks that are interconnected, and we are able to tap into this network using devices like our laptops and smartphones to transmit and receive information. We tend to look at this from just a human standpoint, but the Internet of Things allows us to connect physical ‘things’ to the internet. These physical objects are embedded with web enabled systems like sensors, processors and communication hardware to collect, share and act on data that they acquire from the environment. This data exchange is done over a network in which the objects, people or devices are provided with unique identifiers and assigned unique internet protocol (IP) addresses that connect and exchange data over a network, without requiring human to human or human to computer interaction.



03

3D Printing

A fast-emerging tool that has sped up the manufacturing process of prototypes is 3D Printing. It involves the manufacturing of a three - dimensional object from a CAD model/ digital file. The digital model is designed using a 3D software programme. The model is sliced into layers within the programme and converted into a design which is readable by a 3D printer. The 3D printer processes the selected material for use and lays it in many successive layers until it takes the complete shape of the 3D designed model which it reads. This technology has made production of parts for projects faster and cost-effective.

04

Digital Twins

Simulations have been taken to a whole new level through digital twinning. A digital twin is an exact replica of a physical object, process or service in the physical world in digital form. This technology uses a computer program that collects data in the real world to create simulations that can predict how a product or process will perform. In the real world the physical objects are embedded with sensors which give feedback to the computer program through simulations which mimic the exact behavior of the item in real life onto a generated computer model. The computer programme has a one-to-one connection to the real physical object and the observed changes are what is happening in real time. It is rapidly gaining popularity in the manufacturing, automotive and healthcare sectors.



05

Virtual Site Inspection

Following the onset of Covid-19, health and safety precautions became more robust, with social distancing and quarantining becoming increasingly normal. This had some effects on the productivity of industries, especially those which are labour intensive. It began with companies incorporating work rotation schedules, to them having virtual meetings and it eventually evolved into the rise of remote jobs. The built environment, which often requires physical site presence in terms of works execution, took a massive hit. As the industry began to adapt, the use of technology which allows one to remotely verify the quality and safety of a worksite began to increase. Technology such as drones, 360 videos and livestreams have proven to be advantageous to business continuity. They have saved time and costs by allowing inspections to be conducted anytime from any place.



06

Smart Products and Services

Convenience is the new currency which has been birthed from the continued evolution of technology. The Internet of Things has led to the production of intuitive products that can autonomously perform standardized tasks by translating human intent into action.

Smart products consist a network of physical devices which are embedded with smart components (sensors, processors, software etc.) and a connectivity component (wireless communication ports, bluetooth, antennas etc). These devices collect and analyse data from people, processes or machines in their field of view and interpret the information received to take a required action.



Smart services are digital services that respond to information collected and analysed from networks of intelligent technical systems. They include business/ organizational activities which use digital technologies to create an interconnection between physical services and digital services.

#Engineering

The Future looks bright

Engineers are some of the pioneers of innovative technologies and are in the forefront of discussions about sustainable development. The digital age has brought about new challenges and opportunities to contribute towards creating a positive impact on the environment and society. Engineers in turn, need to be one step ahead by being responsive to changes (both positive and negative) by providing long lasting solutions to global needs.

BECOME A MEMBER

Membership criteria

Future Leaders Group

- ✓ Must work under an ACEZ Member Firm
 - ✓ Must be a qualified engineering professional (registered with Engineering Institution of Zambia (EIZ))
 - ✓ Must be under the age of 40 Years
- Membership is voluntary and restricted to the above criteria.**
Annual Membership Fee: Free

Associate Member

- ✓ Must work under an ACEZ Member Firm
 - ✓ Must be a qualified engineering professional (registered with Engineering Institution of Zambia (EIZ))
 - ✓ Have less than 10 years experience in consultancy
 - ✓ Letter from Mentor (Must be ACEZ Member)
 - ✓ 2 ACEZ Member References
- Application Processing Fee:** K1,250* (Local)
Annual Membership Fee: K2,600*

Important Notes

- * Fees as at January 2023.
- Download Associate Member Application Form on: www.acez.co.zm
- Fill in Future Leaders Application Form on: www.acez.co.zm/about-us/future-leaders/



For all your membership queries

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