GhIE
GHANA INSTITUTION OF ENGINEERING

NEWSLETTER

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GhIE Explores AI Solutions to Improve Transportation and Mobility

In-person and online participants at the AI Seminar on "AI Tools and Applications in Civil Engineering" held on 9 April 2026 at the Engineering Centre, Accra.

The Ghana Institution of Engineering has highlighted the growing potential of Artificial Intelligence (AI) in transforming Ghana's transportation systems and improving urban mobility.

Speaking at a high-level panel discussion organised by GhIE in Accra, Transportation Engineer Ing Yaa Amanua Osafo stressed the need for Ghana to leverage AI-driven research and digital technologies to develop practical and locally relevant transportation solutions.

Presenting on "AI in Transportation Engineering," Ing Osafo explained that AI can support smarter traffic management through demand prediction, route optimisation, and travel pattern analysis, especially within shared transport systems. She noted that these technologies can improve efficiency, reduce congestion, and support sustainable urban mobility.

According to her, transportation planning in Ghana has largely relied on external models over the years. However, advancements in AI and data analytics now offer opportunities to develop data-driven solutions tailored to local transportation challenges.

The event formed part of GhIE's efforts to explore the role of AI in enhancing innovation, efficiency, and accuracy in engineering practice. Discussions focused on AI applications in design optimisation, project management, predictive maintenance, and data-driven decision-making.

The programme brought together engineers, policymakers, researchers, and technology experts to examine opportunities, challenges, and policy considerations surrounding AI adoption in engineering and infrastructure development in Ghana.

FROM THE PRESIDENT'S DESK

Dear Members,

The GhIE Newsletter continues to serve as an important platform for sharing knowledge, celebrating achievements, and advancing conversations that shape the engineering profession in Ghana.

I encourage every member to take time to read this edition, engage with the ideas shared, and contribute actively to future publications. Your experiences, innovations, research, and professional insights are valuable to the growth of our institution and the development of engineering practice.

Let us use the Newsletter not only as a source of information, but also as a platform to inspire excellence, mentorship, innovation, and national development.
I wish you an insightful and rewarding read.

Ing Ludwig Annang Hesse
President
Ghana Institution of Engineering (GhIE)

GhIE Commends Academic City University for Launching New Engineering and Technology Programmes

The Ghana Institution of Engineering (GhIE) has commended Academic City University for launching a new set of undergraduate and graduate programmes aimed at preparing students for emerging opportunities in engineering, technology, innovation, and industry.

The programmes were launched in Accra on May 8, 2026, under the theme "Shaping Tomorrow - Programme Launch 2026: Bold Programmes. Designed for Impact," which brought together stakeholders from academia, engineering, industry, and the wider professional community.

The newly introduced undergraduate programmes include BSc Unmanned Aerial Systems Engineering, BSc Data Science and Artificial Intelligence, and BSc Nuclear Engineering, while the graduate programmes include the STEM MBA and MSc Management.

Speaking during the launch, the Director for Professional Practice at the Ghana Institution of Engineering, Ing Leonora Otu-Boateng, commended the university for introducing programmes that align with global technological trends and future workforce demands.

She said industries across the world were increasingly being shaped by artificial intelligence, automation, robotics, clean energy systems, and advanced engineering technologies, making it necessary for Ghana to prepare young people for future opportunities.

Ing Otu-Boateng noted that engineering was fundamentally about developing practical solutions that improve lives, strengthen economies, and support sustainable development.

FROM OUR YOUTH IN ENGINEERING

In this edition of the Newsletter, we invited young engineers across the profession to reflect on one important question: "What happens when mentorship and career guidance are missing?" Their responses reveal the silent struggles, uncertainties, and missed opportunities many young professionals face when support systems are absent

Without mentorship, many young engineers struggle in silence, uncertain, disconnected, and unaware of the opportunities ahead of them. Mentorship builds confidence, opens doors, and accelerates growth by helping young professionals avoid years of trial and error. Many talents remain hidden not because of lack of ability, but because no one showed them the way. A mentor helps young engineers see beyond their limits and reach their full potential.

Laudina Gloria Mends
Lecturer, Ho Technical University

Many young professionals struggle to navigate their careers due to limited mentorship and guidance. Without the right support, they often face delayed skill development, poor career decisions, isolation, burnout, and missed opportunities for growth and innovation. As a result, many talented individuals become disengaged or leave the profession altogether. Mentorship provides the clarity, confidence, and real-world insight needed to help young engineers thrive.

Ing. Karen Selasi Zeggey
Universal Engineering and Consultancy Services Limited

Most of us graduate with an engineering degree, full of ideas and energy, ready to build. Then we enter the industry and realize the textbooks didn't cover workplace politics and dynamics.Lectures didn't teach site realities. And no one shows you the unwritten rules. So many of us end up dealing with it alone especially when there's no one to look up to.

Some even end up quitting, others shrink and some just survive, never reaching their full potential. These are some of the things that happen when mentorship is missing.

Abednego Ehurone,
Contracta Construction UK Ltd

Coming from a background where engineering was barely known, I understand what it means to start a career in the dark. As a young Electrical Engineer, I made mistakes that the right mentor could have prevented. I had no guidance on which opportunities to pursue or how to turn technical skills into career growth.
I'm still figuring it out, but many young engineers never recover from that confusion. Some quit, others settle below their potential. Mentorship is not optional; Ghana's engineering future depends on it.

Pearl Mawusi Loggoh – AECI Mining Explosives

Without mentorship, many young engineers struggle to overcome challenges, build confidence, and navigate their career paths. They miss out on industry trends, emerging technologies, and valuable opportunities for growth. Taking on leadership roles or technical responsibilities becomes intimidating, slowing professional development and limiting both personal impact and contribution to the engineering field.

Ing Patricia Ankoh,
Ghana National Gas Limited Company

Many young engineers enter the profession with strong academic foundations but often face challenges navigating the demands of industry without proper mentorship and career guidance. Without experienced support, young professionals may struggle with confidence, career direction and professional growth, limiting their full potential within the engineering field.
Mentorship plays a critical role in bridging the gap between academic training and practical engineering experience. Through guidance, knowledge sharing and professional support, experienced engineers help shape the next generation of innovators, leaders and industry experts. Strengthening mentorship within the profession is essential to building a resilient and future-ready engineering workforce for Ghana.

Ing Michael Mawuli Yao Fiebo,
Ghana Water Limited

Branch 3 Engineering Practitioners Explore Innovation and Sustainability at Safisana, Helios Solar and Cargill

Branch members during a technical visit in Tema, fostering professional learning, industry engagement, and knowledge sharing on May 15, 2026

Members of the Eastern Regional Branch of the Ghana Institution of Engineering (GhIE) embarked on a technical field trip across the Greater Accra Region to enhance their understanding of industrial innovation, renewable energy and sustainable engineering practices.

The excursion brought together engineers from the Volta River Authority, Ghana Water Company Limited and Zijin Golden Ridge Limited, who visited Safisana Ghana Limited, Helios Solar Company and Cargill.

At Safisana, engineers observed West Africa's first waste-to-energy plant, where organic waste is converted into electricity and compost.

At Helios Solar, the delegation explored Africa's largest single rooftop solar installation, a 16.82MW project generating clean energy for industries within the Tema Free Zones Enclave.

The team also toured Cargill's automated cocoa processing facility, where cocoa waste is repurposed to fuel an in-house bio-boiler system, reinforcing the company's commitment to sustainability.

Speaking during the visit, Ing. Godfrey Jackson, Chair of the Eastern Regional Branch of GhIE, said the excursion was designed to strengthen technical learning, encourage professional networking and expose engineers to practical innovations shaping Ghana's industrial future.

How Ghanaian Engineers Are Driving the Green Building Revolution

By Ing. Lawrence Musey, PE MGhIE, MASHRAE

Ghanaian engineers are increasingly taking centre stage in the transition toward sustainable and energy-efficient buildings, positioning the country as an emerging leader in the green building movement across West Africa.

This commitment was evident at the recent "Buildings Energy Efficiency Policy for West Africa" workshop held in Dakar, Senegal, on 23 -24 March, 2026, where experts from Ghana, Nigeria, Senegal and Côte d'Ivoire gathered to shape the future of sustainable construction in the region.
Representing the Green Building Alliance Ghana in collaboration with the Ghana Institution of Engineering (GhIE), I joined a Ghanaian delegation made up of officials from the Energy Commission, Ministry of Energy, Ministry of Works and Housing, and the Ghana Standards Authority.

The workshop focused on strengthening building energy policies and aligning national standards with global climate commitments.

Discussions highlighted the growing role engineers play in designing buildings that are not only functional, but also environmentally responsible, energy - efficient and climate resilient.

My participation was grounded in practical experience across policy development, sustainable design and green certification in Ghana. As Lead Consultant for the Accra Metropolitan Assembly's review of building bye-laws, I worked on aligning local regulations with the Building Regulations, 2022 (L.I. 2465), while identifying critical energy efficiency gaps. I also served as Lead Energy and Sustainability Consultant for the University of Ghana UG@75 Legacy Projects design competition, which focused heavily on institutional net-zero modelling and sustainable infrastructure development.

Another key area of work involved leading sustainability efforts for the LEED certification of a landmark office building in Accra, demonstrating that green buildings are not only environmentally necessary, but commercially viable within Ghana's tropical climate.

A major highlight of the Dakar workshop was the International Energy Agency's Building Energy Code Content Assessment (BECCA) framework. The framework enables countries to assess the readiness of their building energy codes for future climate and energy demands, moving beyond basic efficiency measures toward smarter, grid-interactive and net-zero carbon buildings.

Ghana's assessment revealed promising strengths, including strong legal backing for building energy regulations and broad regulatory coverage. However, critical gaps remain, particularly in retrofit policies for existing buildings, renewable energy integration and smart-building readiness.

From left: Mr Daniel Kunifah, Project Assistant Officer, Ministry of Energy and Green Transition, Ms Rashida Sibawei - Assistant Engineer, Ministry of Energy and Green Transition, Mr Evans Asiedu, Director of Metrology, Ghana Standards Authority, Arc. Charles Komla Gbagbo, Principal Architect- Ministry of Works, Housing and Water Resources and Mr Henry Coleman-Officer, Energy Efficiency Regulation, Energy Commission

To address these challenges, Ghanaian engineers and policymakers proposed key reforms, including regular reviews of building regulations, adoption of whole-building energy performance systems, expanded energy management requirements and the development of smart, grid-responsive infrastructure.

The workshop reinforced one important reality: Ghana's Building Energy Code must evolve from a static compliance document into a dynamic tool for innovation, climate resilience and sustainable growth.

As engineers, we have a responsibility to lead this transformation. Through innovation, policy reform and sustainable design, Ghanaian engineers are helping shape a future where buildings become active contributors to a cleaner, smarter and more resilient nation.

Branch 6 WinE , ECG WinE and Layla Medad Foundation Donate Items to Akatsi Agorvega Basic School

The Women in Engineering (WiNE) Branch 6, in collaboration with the Layla Medad Foundation and the Electricity Company of Ghana (ECG) Women in Engineering (WiNE), Volta Region, on January 8, 2026, donated shoes and stationery items to pupils of Akatsi Agorvega Basic School.

Speaking at the presentation ceremony, the WiNE Branch 6 representative, Ing. Rosina Maku Martey, encouraged the pupils to develop a strong interest in Science, Technology, Engineering and Mathematics (STEM) as a pathway to future careers in engineering and related disciplines.

Pupils engaging the team with questions on engineering. (2nd from left) is Ing Rosina Maku and two ECG Wine members

Speaking at the presentation ceremony, the WiNE Branch 6 representative, Ing. Rosina Maku Martey, encouraged the pupils to develop a strong interest in Science, Technology, Engineering and Mathematics (STEM) as a pathway to future careers in engineering and related disciplines.

The pupils engaged the team with questions about engineering programmes and the academic requirements needed to pursue careers in the field.

The Headmaster of the school expressed gratitude to the organisers for their support and educational engagement, and appealed for more of such initiatives to benefit the school in the future.

GhIE Branch 5 Organises Industrial Site Visit for Engineering Students in Tamale

Pupils engaging the team with questions on engineering. (2nd from left) is Ing Rosina Maku and two ECG Wine members

The Ghana Institution of Engineering (GhIE) Branch 5, in collaboration with the Technical University Engineering Students Association of Ghana (TUESAG) at Tamale Technical University, organised an educational site visit to the Ghana Civil Aviation Authority (GCAA) and the Tamale International Airport for engineering students and professionals.

The initiative was aimed at bridging the gap between classroom theory and industry practice by giving participants firsthand exposure to real-world engineering operations, advanced technologies, and modern infrastructure systems.

During the visit, participants gained valuable insights into engineering standards and operational practices within the aviation and industrial sectors, further strengthening their technical knowledge and professional readiness.

Organisers indicated that the programme forms part of GhIE Branch 5's commitment to nurturing future engineers through practical learning experiences and stronger collaboration with tertiary institutions.

How AI Could Transform Transportation in Ghana and Across Africa

Yaa Amanua Osafo, PE

Every generation experiences a breakthrough that changes how society works. Electricity extended life beyond daylight. Computers changed how people communicate and work. The Covid-19 pandemic reshaped daily life and accelerated digital transformation. Now, many experts believe artificial intelligence (AI) could become the next major shift, especially for countries like Ghana.

For transportation engineers in Ghana and across Africa, AI is increasingly being seen not just as a technology trend, but as an opportunity to solve long-standing infrastructure challenges in a faster and cheaper way.

Africa has experienced similar leaps before. For years, millions of people had no access to traditional banking because bank branches were limited. Then mobile money changed everything. Instead of building expensive banking infrastructure over decades, countries like Ghana adopted digital financial systems that quickly became part of everyday life.

Some engineers believe AI could do something similar for transportation.

Traditionally, traffic planning and road management depended on expensive equipment such as traffic counters, sensors and large-scale data collection systems. Today, however, smartphones, GPS data, satellite imagery and low-cost digital devices can already provide large amounts of information for AI systems to analyse.

This means engineers can now study traffic patterns, predict congestion, monitor road conditions and improve transport planning at a much lower cost than before.

The technology is already being tested in different forms. AI-powered systems can detect potholes using motion sensors in ordinary smartphones placed inside vehicles. Machine learning tools can also analyse traffic flow, weather conditions and travel behaviour to predict congestion on busy roads such as Accra's N1 Highway.

One of the biggest opportunities may lie within Ghana's "trotro system" the informal minibus network used daily by thousands of commuters.

Despite its importance, the system largely operates without structured data. Drivers rely on experience to choose routes, while passengers often struggle to know waiting times or the best transport options available.

Engineers say AI could help change that. GPS-enabled phones inside trotros could collect route and demand data, helping transport authorities better understand traffic movement across cities. Passenger apps could also provide real-time arrival information in local languages and low-data formats.

Supporters argue that the trotro system does not need replacing. Instead, they believe it needs smarter management and better data.

For many Ghanaian engineers, the rise of AI represents more than technological progress. It is also about building local solutions for local problems.

Experts say the countries that benefit most from AI may not necessarily be the richest, but those willing to innovate and adapt technology to their own realities.

Ghana's engineers have long played an important role in national development. With AI, many believe they now have an opportunity to help shape a smarter and more efficient future for transportation across the country and the continent.

The Author is a licensed professional engineer with extensive experience in transportation infrastructure, traffic operations, and road safety.

WinE Leads Nationwide Health Walk to Promote Wellness, Safety and Resilience Among Women Engineers

The Women in Engineering (WinE) Health Walk and First Aid Session was successfully held across the country on 23 May 2026, bringing together members from Branch 1, Branch 4, Branch 5, and Branch 6 in separate sessions under the shared theme of promoting wellbeing, safety, and resilience for women in engineering.

The initiative provided a valuable platform for members to engage in physical wellness activities, strengthen professional bonds, and raise awareness on the importance of health and safety within the engineering profession. Participants also benefited from practical first aid sessions aimed at enhancing emergency preparedness and personal wellbeing.

The nationwide exercise reflected WinE's continued commitment to empowering women engineers through initiatives that promote healthy living, collaboration, and resilience both within and beyond the workplace.

Below are highlights and photographs from the various sessions held across the branches.

Branch 1 members in the Ashanti Region preparing for the WinE Health Walk in Kumasi, a beautiful show of unity, wellness, and resilience among women in engineering.

Branch 6 members in the Volta Region engaging in physical exercises during the WinE Health Walk, promoting fitness, wellness, and resilience among women engineers.

Branch 5 members from the Northern, Savannah, North East, and Upper West Regions converged in Tamale to say "yes" to health, wellness, and resilience during the WinE Health Walk.


WinE Health Walk
Women in Engineering
WinE
GhIE
Move Well. Respond Better.

Branch 4 members in the Greater Accra Region, together with the President of GhIE, Ing Ludwig Annang Hesse, and Branch Chair, Ing Osman Pinto, actively participated in various activities during the WinE Health Walk to promote wellness, fitness, and healthy living among women engineers.

Ghana Institution of Engineering Newsletter

Don't just read it - be part of it!

This newsletter is compiled and produced by the Newsletter, Website, and Magazine Sub-Committee of the Ghana Institution of Engineering's Publications Committee: Joseph Xavier Francisco Ribeiro (Ph.D.) • Emmanuel Kwame Appiah-Adjei • Augustina Nyarkoa Amoateng • Miriam Korantema Amponsah • Ing. David Addae • Ing. Daniel Asseh • Allan Kwame Sakyi-Bekoe

If you have news, photographs, or stories to contribute, please reach out to: Nii Odenkey Abbey, Communications and Publications Manager nii.abbey@ghie.org.gh | 024 306 7234

For more information, please contact the Committee Chair Ing Dr, Kwame Baah-Acheamfuor at (email) or (0246375700).