ChE | Issue 2 | March 2026

The ESChE Bi-monthly Newsletter

2022-2026

2016-2022

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Celebrating 25 Years of Active Community

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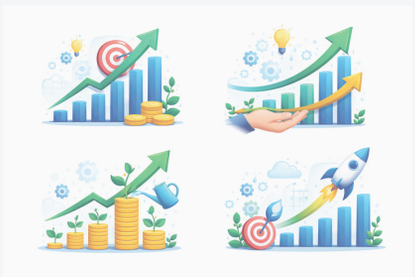

President's Message

Dear Members of the Ethiopian Society of Chemical Engineers,

As we celebrate the active 25 years of the Ethiopian Society of Chemical Engineers (ESChE), we reflect on both our achievements and the lessons that continue to shape us. Over the years, we have grown into a strong professional body, advancing chemical engineering education, research, and industrial practice. Yet, the most important lesson of this journey is that true professional maturity lies in our commitment to Safety, Health, and Environmental (SHE) stewardship.

Our recent activities have embodied this theme. The Sustainable Coffee Waste Valorization Workshop at Jimma Institute of Technology (2024) demonstrated how chemical engineers can transform waste into valuable products while reducing environmental impact. The Capacity Building Workshops on Innovative and Sustainable Management of Industrial Parks (ISMIP-Ethiopia, 2020 and 2021) addressed the urgent need for safer, cleaner, and more efficient industrial practices. Likewise, our Annual Congresses, including the 23rd Congress in 2024, have provided platforms to discuss pressing issues such as resource efficiency, process safety, and sustainable development. These initiatives reflect our growing recognition that safety and environmental stewardship are not optional; they are ethical imperatives central to our profession.

At the same time, we must acknowledge our limitations. Resource constraints, limited institutional capacity, and the challenge of expanding our outreach across all regions of Ethiopia remain hurdles. These realities remind us that growth is a continuous process and that humility is part of professional maturity. Addressing these limitations will require stronger partnerships, more sustainable funding, and deeper engagement with both government and industry.

Looking forward, ESChE will continue to champion SHE as a guiding principle. Our role as chemical engineers is not only to innovate but to safeguard lives, protect ecosystems, and contribute to sustainable growth. This is the legacy of our past active 25 years, and it is the responsibility we carry into the future.

With appreciation,
Sintayehu Nibret
President, Ethiopian Society of Chemical Engineers (ESChE)

Editor's Note: The 25th Anniversary Milestone

It is with profound pride that we present this Special 25th Anniversary Commemorative Edition of ChE. While our January re-launch marked a new digital era for ESChE, this March issue serves a distinct purpose: celebrating a historic milestone that reflects our 25 year journey as an institution.

This edition is intended to be more than a newsletter; it serves as a foundational reference for current and future members. By documenting the progress of our mission since its beginnings at Addis Ababa University in 1995, we aim to preserve the continuity, collective effort, and long-term impact of our Society are preserved for decades to come.

The content of this March edition is organized around three legacy-focused objectives:

- **Preserving Institutional Memory:** This issue acts as a formal record of ESChE's evolution, capturing key milestones of the past quarter-century to ensure our history is not lost over time.

- **Capturing Intergenerational Voices:** We have intentionally sought perspectives spanning our professional journey, from the first chemical engineering graduates of Addis Ababa University to today's Young Professionals.

- **Defining a Future Roadmap:** Beyond reflection, this issue outlines our strategic outlook, identifying the key professional and organizational priorities we aim to achieve in the next 10 years.

A Look Inside

While this March issue marks a commemorative milestone, we remain committed to maintaining our thematic features. Key sections include:

1. **Leadership Message:** An excerpt from an interview with the Society's second president, along with reflections from nine past presidents who have led ESChE, sharing firsthand insights into our history and leadership lessons.

2. **Evolution of Stewardship:** A reflection on how awareness of SHE responsibility has evolved from basic compliance to a core ethical and societal commitment within Ethiopia's industrial sector.

3. **Chapters' Corner:** Highlights the contributions of our Diaspora chapter in preparation for the anniversary celebration.

Future editions will feature thematic articles. "Looking Beyond" in the May issue, will explore the history and evolution of chemical and allied processing industries worldwide.

We invite all members to share their insights and contributions. We are currently seeking articles for our upcoming themes: Looking Beyond (May), Ethiopia's CPI (July), ChE's Viewpoint (September) and Catalyzing Incubation (November).

Please send inquiries, suggestions, historical anecdotes, or technical submissions to the Editor at cheditor@eschenew.com.

Anniversary Feature: The ESChE Journey

Interview with the second president of ESChE

Spotlight on Professor Desta Mebratu

For more than three decades, Professor Desta Mebratu has stood at the intersection of engineering, sustainability, and global policy. With over 37 years of international experience spanning academia, industry, and the United Nations system, he is widely regarded as one of the foundational figures of ESChE.

Professor Desta Mebratu

"Process Engineering is the profession of converting raw materials through a system of operations to create value for humanity."

Educated at Lund University within the International Institute for Industrial Environmental Economics, Professor Desta went on to serve in senior global roles, including Africa Regional Director for United Nations Environment Programme and leadership engagements with United Nations Industrial Development Organization on industrial waste reduction and cleaner production. He played a key role in shaping the global Green Economy framework following the 2007–2008 economic crisis, became a Fellow of the African Academy of Sciences, and in 2023 was recognized among the world's 280 Global Engineering Icons.

Yet beyond titles and accolades, he has made significant contributions to enhancing collaboration among different disciplines in Ethiopia. This contribution was recently recognized formally. During the opening session of the 38th Annual Congress of the Chemical Society of Ethiopia (CSE), Professor Desta was presented with an award in recognition of his "pioneer contribution to chemical sciences development."

The recognition did not merely celebrate an individual achievement, it also illuminated a broader philosophical position he has consistently championed.

In acknowledging this recognition, the event moderator, Professor Abi Tadesse of CSE, offered a powerful analogy in his remarks:

> *"The relationship between Chemistry and Chemical Engineering can be aptly illustrated using the analogy of a mother and child: In this analogy, Chemistry (the mother) nurtures and provides the essential knowledge and understanding that Chemical Engineering (the child) needs to grow, innovate, and address complex challenges. This interconnectedness emphasizes the importance of both fields in advancing research and technology, with Chemistry laying the groundwork and Chemical Engineering translating that knowledge into practical applications."*

The speech continued by highlighting Professor Desta's distinctive role in articulating this interdependence:

“Professor Desta Mebratu stands out as one of the few Ethiopian scientists who has profoundly recognized and articulated the critical interrelationship between Chemical Science (Chemistry) and Chemical Technology (Chemical Engineering). His keen awareness of this connection highlights not only his expertise but also his visionary approach toward the integration of these two fields. Professor Desta's commitment to strengthening Chemical Science likely stems from his understanding that nurturing the foundational principles of Chemistry—often likened to a mother—provides the essential groundwork necessary for the development of Chemical Engineering, which can be seen as the child. By promoting and advancing the study of Chemistry, he acknowledges that a solid grasp of fundamental chemical principles is crucial for the successful application and innovation within Chemical Engineering. This analogy emphasizes the importance of nurturing, as it reflects the idea that the health and growth of Chemical Engineering depend on the robust foundation established by Chemistry. Professor Desta’s dedication to this relationship not only enhances the field of Chemical Science in Ethiopia but also paves the way for future advancements in Chemical Engineering, ultimately benefiting a wide range of industries and societal needs. His insights serve as a reminder of how interconnected the disciplines are, guiding both educational strategies and research endeavours to yield innovative solutions to complex challenges.”

Redefining Chemical Engineering: “Process Engineering” for Humanity

Professor Desta prefers to describe the discipline not merely as chemical engineering, but as Process Engineering.
This framing shifts the emphasis from chemicals themselves to transformation.
At its core, the field is about value creation: converting resources into usable products through scientific design, optimization, and control.
He emphasizes that chemical engineering is inherently multidisciplinary, rooted in chemistry, physics, biology, and mathematics. It forms an often invisible backbone of modern civilization. The clothes we wear, the food we process, the cement used in construction, the fuels that power industry, and even the microchips that drive digital technology all pass through processes designed or optimized by chemical engineers.
Yet the dispiline has evolved. Today, the mission extends beyond production efficiency. It is about producing without destroying, maximizing human well-being while minimizing environmental impact.

The Early Days: Building a Home for Ethiopian Chemical Engineers

Compared to civil or mechanical engineering, chemical engineering is a relatively young discipline in Ethiopia. The first cohort graduated from Addis Ababa University around 1989G.C. At that time, there was no dedicated professional body representing chemical engineers.
During those formative years, graduates joined the Chemistry Professionals Society, where Professor Desta later served as president. However, as more engineers entered the field, a fundamental question emerged: should chemical engineers remain within the chemistry community, or should they establish their own professional society?

“In those early days, we were like a family looking for a home. We began within the Chemistry Society, but it soon became clear that the unique ‘engineering’ spirit of our work needed its own foundation.”

This realization eventually led to the founding of the Ethiopian Society of Chemical Engineers (ESChE) in 1995. Engineer Gizachew Shiferaw became its first president, and Professor Desta assumed the presidency in 2000.

The creation of ESChE marked more than an administrative milestone: it was a declaration of professional identity.

Beyond Silos: The Case for United Engineering

As ESChE matured, Professor Desta’s vision expanded beyond the boundaries of chemical engineering. He observed that isolated professional societies—civil, electrical, chemical, and others —could not achieve meaningful national impact on their own.

True advancement, he argued, requires interdisciplinary and transdisciplinary collaboration.

To this end, he helped initiate the Joint Engineering Professional Societies Association (JEPSA), designed to unify engineering societies together under a coordinated platform. The objective was to create a unified engineering voice capable of influencing national policy and development priorities.

A key issue he highlights is professional certification. In Ethiopia, a university degree often serves as the primary qualification for professional practice. In many developed systems, however, professional certification is administered independently by professional bodies. A degree provides academic grounding; certification verifies competence, ethical standards, and practical readiness.

Efforts to institutionalize such a framework in Ethiopia had faced setbacks, particularly following government restructuring of the relevant ministerial offices.

Investing in the Next Generation: ISID Ethiopia

After retiring from United Nations Environment Programme, Professor Desta turned his attention to youth empowerment.

Through his personal initiative, Innovation for Sustainable Industrial Development (ISID Ethiopia), funded from his own retirement savings, he provides financial support and mentorship to outstanding graduates in chemical engineering and chemistry. The program supports master’s and Ph.D. research focused on real-world industrial and sustainability challenges.

This effort reflects his belief that Ethiopia’s future industrial competitiveness depends not only on infrastructure, but also on innovation capacity.

Engaging the Diaspora: Global Expertise for National Development

Recognizing the vast potential of Ethiopian professionals abroad, Professor Desta spearheaded the creation of a Diaspora Chapter within ESChE. The goal is to establish a structured network for knowledge exchange between Ethiopian chemical engineers working internationally and their counterparts based at home.

Many Ethiopian engineers hold high-ranking positions globally, including senior research and policy roles in leading institutions. However, harnessing this collective expertise requires organized participation and sustained commitment.

He strongly advocates for active engagement in professional societies, arguing that isolation limits both personal growth and national contribution.

From Linear to Circular: The Sustainability Imperative

A central theme in Professor Desta's current work is the transition from a linear to a circular economy. Rather than the traditional "take–make–dispose" model, circular systems prioritize resource efficiency, waste minimization, and regeneration.

Within this framework, the chemical engineer's responsibility becomes even more critical: designing production systems that maximize efficiency while minimizing environmental impact across industries—from manufacturing to agriculture to hospitality.

"From the clothes on your back to the medicine that saves lives, there is a chemical engineer behind the scenes. Our task is to ensure that as we build the world, we do not destroy the environment that sustains us."

In this context, chemical engineers must move beyond being technicians and become innovators, constantly redesigning processes to improve sustainability, competitiveness, and resilience.

Preparing for the AI Era

Looking ahead, Professor Desta identifies artificial intelligence as a transformative force that will test all professions, including engineering.

The future, he argues, will not reward theoretical knowledge alone. What will matter most is skill, the ability to apply knowledge practically, adapt quickly, and solve real problems. Engineers must complement digital tools with creativity, systems thinking, and ethical judgment.

A Generational Legacy

Professor Desta's life story is perhaps best captured in his book, ***Yetewlid Wurs*** (Generational Legacy). Rather than commercializing it for profit, he chose to distribute printed copies freely to libraries and schools. The digital version is also freely accessible through the Society's Telegram channel allowing young Ethiopians to read it and draw life lessons from his experiences.

Messages from Past Presidents

Eng. Gizachew Shiferaw
1997-2000

As the first President of the Society, it is a great honor and pride for me to have been part of the early efforts to establish and strengthen this professional community. During those years, we worked with strong commitment to promote the role of chemical engineers in Ethiopia's industrial development and to advocate for employment opportunities for our graduates. Seeing the Society grow and continue its mission over the past 25 years is truly inspiring. I extend my sincere appreciation to all members, educators, students, and professionals who have contributed to this journey. I wish the Society continued success in the years ahead.

Professor Desta Mebratu
2000-2003

I wish to thank and congratulate all past leadership of the Society for keeping ESChE alive under difficult circumstances and wish all members a happy anniversary. We are entering at a global level a transformational moment which will redefine the role of chemical engineers. This will result in new opportunities and challenges. Professional societies such as ESChE will play a critical role in preparing ourselves for the emerging opportunities and challenges. I am confident that the next generation of leaders will take ESChE to a new height and call upon all chemical engineers to actively participate in the Society's activity in the coming years.

Commissioner Asrat Bulubula
2003-2007

I would like to congratulate all those who made this celebration of the 25th Anniversary of the Founding of ESChE. ESChE is now operating in an environment where the number of Ethiopian Universities and Innovation Institutes has grown by tenfold as compared to the early days of ESChE. Chemical Engineering graduates have also grown from less than thirty per year to hundreds per year. Given these conditions, ESChE has the task of promoting Self Employment and Entrepreneurship. Consequently, the impact of the multi-faceted contribution of the Chemical Engineering profession will be truly felt.

Eng. Lelissa Daba
2007-2012

As a Founding and Lifetime Member of ESChE, and having served two terms as Vice President and two terms as President, I have closely observed the Society's evolution. In the early 1980s, Ethiopia had fewer than twenty chemical engineers. Today, ESChE represents a strong and dynamic professional body with an estimated membership exceeding 2,000 professionals.

Over the years, ESChE has developed into a vital platform for professional collaboration, knowledge exchange, and capacity building. The Society embodies a significant reservoir of technical expertise that can play a strategic role in supporting Ethiopia's industrialization, particularly within the framework of resource-based and sustainable development.

The 25th Anniversary of ESChE is not only a celebration of past achievements but also a call to further strengthen professional unity, expand technical capacity, and enhance the Society's contribution to national transformation.

Eng. Getish Tekle
2012-2014

As we celebrate 25 years of our Society, my tenure as President from 2012-2014 stands in my memory not as a peak, but as a pivotal chapter of renewal and outward focus. We acted on a simple belief that Ethiopian chemical engineers are not just local professionals, but global citizens with a vital role in sustainable development. During our term, we secured our license, crafted a strategic plan, and stretched our reach—establishing foreign chapters and forging a direct partnership with UNEP to bring resource efficiency training home to leather sector. We expanded our budget not for its own sake, but to expand our ambition. I declined a second term believing that a robust foundation, not a single leader, sustains an institution. Today, seeing the Society thrive validates that principle. My message to the next generation is this: Build taller, but build upon the foundation of strategic vision and global connection. Use your expertise not only to innovate but to advocate for our planet, for sustainable industry, and for the irreplaceable role of the engineer in shaping Ethiopia's prosperous and green future. The next 25 years are in your capable hands.

Eng. Moges Abate
2014-2016

On behalf of my professional colleagues serving ESChE, I am delighted to congratulate the current Executive Committee, all ESChE members, and chemical engineers on the occasion of ESChE's 25th anniversary.

I would like to thank the engineers who have made tireless efforts and shown incredible dedication to the creation and growth of our Society. I also express my sincere gratitude to the Addis Ababa University, College of Technology and Built Environment for providing office space and continuous support to the Society. I hope ESChE continues to grow and reach even greater heights in the years ahead.

Dr. Eng. Abubaker Yimam Ali
2016-2018

As President of the Society from 2016 to 2018, I am proud to see ESChE mark its 25th anniversary. Despite the challenges it has overcome to sustain itself as a society, it has remained committed to advancing our profession. Today, significant opportunities exist for chemical engineers to play a strategic role in strengthening Ethiopia's mining sector, natural gas development, and fertilizer production. It is my sincere hope that ESChE will effectively harness these opportunities to contribute meaningfully to the nation's industrial transformation.

Dr. Hundessa Dessalegn Demsash
2018-2022

It is with profound pride and distinction that I extend my heartfelt congratulations to the Ethiopian Society of Chemical Engineers on the celebration of its 25th Anniversary.

Over the past quarter century, the Society has significantly advanced professional excellence, strengthened ethical standards, and contributed to Ethiopia's industrial progress. Having had the honor to serve as President, I remain deeply encouraged by the competence, dedication, and unity of our members.

As we look to the future, our mandate must be even more ambitious: to champion advanced materials and process innovation, strengthen industry–academia collaboration, influence evidence-based industrial policy, empower the next generation of engineers, and position chemical engineering at the heart of Ethiopia's economic transformation.

The coming decades demand bold vision, technological leadership, and institutional strength. I am confident the Society will rise to this responsibility with renewed purpose.

Dr. Shimelis Kebede
2022-2024

On the occasion of the 25th Anniversary of the Ethiopian Society of Chemical Engineers (ESChE), I extend my heartfelt congratulations to all members, students, industry professionals, and our diaspora community.

It was a great honor and privilege to serve as President of this remarkable Society. During my tenure, we worked with dedication and unity to strengthen ESChE's professional role and national engagement. I am proud of the collective achievements we realized together.

As we celebrate this milestone, I wish the Society continued growth, innovation, and greater impact in advancing Ethiopia's industrial and technological development.

History of the society: 25 Years of Active Community

The Roots: A Shared Beginning

In the early years of chemical engineering education at Addis Ababa University, the first groups of students and graduates found their home within the Chemical Society of Ethiopia. It was a natural fit. Chemistry and chemical engineering share scientific foundations, and the Chemical Society provided a platform for intellectual exchange and professional connection.

But as these young engineers started working in industry, academia, and government, a question began to surface—quietly at first, then with growing urgency:

"Does our profession need its own voice?"

The chemical engineers among the Chemical Society's membership recognized that their work was distinct. They were not only studying chemical reactions but designing processes, building industries, and transforming raw materials into products that served the nation.

The factory floor, the industrial plant, the production line—these were their classrooms as much as the university lecture hall.

A debate emerged within the Chemical Society: Should chemical engineers remain under the broader Chemical umbrella, or was it time to establish an independent society dedicated specifically to the engineering profession?

The Decision to Forge a New Path

The debate was not taken lightly. Many valued the collegiality and intellectual community of the Chemical Society. There were concerns about splitting a small professional community. There were questions about whether a new society could sustain itself. But those who advocated for independence carried a compelling vision: Chemical engineering was not merely a branch of chemistry—it was a distinct discipline with its own methods, challenges, and contributions to national development. If the profession was to grow, if it was to influence industry and policy, it needed its own platform, its own voice, its own community.

In the end, the vision for an independent chemical engineering society prevailed. The founders understood that promoting the profession and maximizing its impact on Ethiopian industry required its own platform.

The Vision Takes Root (1995–1997)

In 1995, that vision gave birth to the Ethiopian Society of Chemical Engineers (ESChE), formally established at the Addis Ababa University, then Faculty of Technology. The founders were a small but determined group of first-generation chemical engineering graduates and their colleagues. They envisioned a professional home where chemical engineers could gather, learn, and contribute their expertise to a nation in need.

The early years were a labor of conviction. Meetings were held in borrowed rooms. Records were kept by hand. There was no budget, no staff, no template to follow—only the belief that the profession mattered to Ethiopia's future. By 1997, this vision began to take active shape, as the first executive committee formed and the society's work truly began.

The transition from the Chemical Society to an independent ESChE was not a break but an evolution of a growing profession finding its own identity. The bonds formed in those early shared years remained, but the new society gave chemical engineers something they had lacked: a dedicated platform to advocate for their discipline, shape its practice, and amplify its contribution to national development.

Building Momentum (1997–2007)

The decade that followed was one of steady, quiet growth. Membership slowly expanded beyond the founding group. Seminars, workshops, and professional gatherings began to bring together chemical engineers who had previously worked in relative isolation.

Meanwhile, Ethiopia’s higher education system was expanding. The number of chemical engineering graduates grew from fewer than thirty per year to hundreds. This growth created both opportunities and new responsibilities for the Society: How could the society absorb and serve this expanding community?

ESChE responded by beginning to form regional chapters, bringing professional connection beyond Addis Ababa. The seeds of what would become the Ethiopian Chemical Engineering Conference (ESChECON) were planted. Each small success built momentum for the next step.

Resilience and Renewal (2007–2012)

Like any institution built by volunteers, ESChE's journey was not a straight line. There came a period when the society's activities slowed—a pause driven by the realities of volunteer burnout, competing demands, and the natural ebb of organizational energy. For a time, the society went quiet. But the vision did not die.

The silence was broken by those who refused to let the vision fade. Meetings were reconvened. Momentum was rebuilt. The interruption became not an ending but a lesson: those institutions are sustained not by flawless execution, but by people who return, again and again, to the work of building something together.

This period of renewal strengthened ESChE's foundation. The society emerged with clearer purpose and deeper commitment, carrying forward the understanding that resilience is itself a form of achievement.

Growth and Global Connection (2012–2016)

The years that followed brought a period of deliberate expansion. ESChE secured its official license, developed its first strategic plan, and began to stretch its reach beyond Ethiopia's borders.

Diaspora chapters were established, creating bridges between Ethiopian engineers at home and abroad. A partnership with UNEP brought international expertise to Ethiopian industry.

The society's budget grew—not for its own sake, but to fund greater ambition.
Membership climbed in numbers. Regional and student chapters multiplied. The annual conference became a fixture in the profession's calendar. ESChE was no longer a small gathering of pioneers; it was becoming the institution they had imagined.

Strengthening National Relevance (2016–2022)

As Ethiopia's industrial ambitions grew, so did the relevance of chemical engineering. The society positioned itself at the intersection of emerging national opportunities: mining, natural gas development, fertilizer production, and industrial policy.
Collaboration with national institutions deepened. The society's voice in policy discussions grew stronger. Research partnerships linked academia with industry. The vision of the founders—that chemical engineers should contribute directly to national development—was being realized in new and tangible ways. By the end of this period, ESChE had firmly established itself as the apex professional body for chemical engineering in Ethiopia, recognized by government, industry, and academic institutions alike.

Where We Stand Today

Today, ESChE is 2,000 members strong, with active chapters across regions, universities, and the diaspora. Our annual conference, ESChECON, is the premier gathering for chemical engineering in Ethiopia. Our training programs, workshops, and publications serve professionals at every stage of their careers.
Our work is guided by three key pillars:

- **Driving Sustainable Development** – Harnessing innovation for Ethiopia's environmental and societal needs
- **Championing Professional Excellence** – Setting the highest standards in practice, ethics, and safety
- **Empowering Future Engineers** – Creating pathways for the next generation to lead

Our **Mission** remains true to the founders' vision: To advance the application of chemical engineering in Ethiopia by engaging professionals, academia, and industry in achieving national development goals for the benefit of society.

Our **Vision** is bold but attainable: To improve the quality of life of Ethiopians and strengthen the capacity of national industries through the transformative power of chemical engineering, while positioning ESChE among the top five leading professional societies in Africa by 2030

Why We Celebrate 25 Years

You may ask: If ESChE was founded in 1995, why do we celebrate 25 years in 2026?

The answer is rooted in honesty about our journey. There were years of incubation before active operations began. There was a period of pause from which we rebuilt. We choose to celebrate not the mere passage of time, but the years of active, vibrant, impactful community engagement.

This is a celebration of:

- The years we gathered for conferences and workshops
- The years we published and trained and mentored
- The years we advocated for the profession and contributed to national development
- The years we remained resilient through every challenge

This is a celebration of substance over form, impact over inactivity, community over calendar.

Looking Ahead: ESChE Vision 2035

As we honor 25 years of active community, our eyes are fixed on the horizon. The theme of our anniversary: ***"Chemical Engineering for Circular Economy Transition in Ethiopia"*** is more than a slogan; it is our strategic north star for the decade ahead.

By 2035, ESChE envisions itself not just as a professional association, but as a movement woven into Ethiopia's industrial transformation, present in every region, connected to the global diaspora, and powered by a continuous pipeline of passionate students.

Student Chapters: The Backbone of Our Future

If ESChE is a tree, student chapters are its roots nourishing the Society, anchoring its values, and ensuring continuous renewal. The students of today are the industry leaders of tomorrow.

By 2035, every university offering chemical engineering will have a vibrant student chapter. No student will graduate without a professional home. Student chapters will be launch pads for engineer-entrepreneurs, leadership training grounds, and bridges to industry through plant visits, internships, and mentorships.

Regional Chapters: ESChE in Every Corner of Ethiopia

Ethiopia's industrial future will not be built in Addis Ababa alone. From Jimma to Mekelle, Bahir Dar to Hawassa, chemical engineers are at work.

By 2035, every region will have a self-sustaining chapter, solving local industrial challenges, hosting continuous learning programs, mentoring nearby student chapters, and giving chemical engineers a voice in regional policy.

Diaspora Chapter: Our Global Network

Ethiopian chemical engineers span the globe. Their expertise is a treasure we have only begun to tap.

By 2035, our diaspora chapter will be a true bridge, bringing knowledge home through structured exchanges, mentoring students seeking global opportunities, advocating for Ethiopia in international forums, and investing in Ethiopian startups.

Our Call to Action

- To every **student:** ESChE is yours. Build it. Use it. One day, you will lead it.
- To every **regional leader**: You are ESChE's face in your community. Make it proud.
- To every **diaspora member**: You have not left Ethiopia behind. You have taken it with you. Now bring the world back.

The founders who gathered in a modest room at the then Faculty of Technology in 1995, carrying with them the lessons and debates of their years in the Chemical Society, could not have imagined the journey that would follow. Yet they planted a seed that has grown into a strong and vibrant community, with roots deep in Ethiopian soil and branches reaching across the world.

The next 25 years of our journey begin now. Let us build them together.

Welcome to the 25th Anniversary of ESChE. This is our story. This is our future.

Beyond the Boom: Engineering a Culture of Safety, Health, and Environment in Ethiopia

1. Introduction: The Cost of Progress

Ethiopia's industrial landscape is transforming at breakneck speed. From the sprawling textile sheds of the Hawassa Industrial Park to the agro-processing zones in Bure and the active mining belts in Oromia, the nation is racing toward industrialization. But this rapid growth brings a hidden cost. As chemical engineers, factory managers, and policymakers, we must ask: Is our infrastructure outpacing our safety culture? Establishing robust Safety, Health, and Environment (SHE) protocols is no longer just a legal checkbox; it is the bedrock of sustainable industrial growth.

2. Decoding SHE: More Than Just Hard Hats

In many local facilities, "safety" is mistakenly reduced to handing a worker a pair of goggles. True SHE management is a comprehensive, interconnected discipline:

- **Safety (Process & Occupational):** Preventing catastrophic failures like chemical spills, boiler explosions, and mechanical injuries.
- **Health:** Protecting workers from chronic, invisible threats—such as inhaling silica dust in cement plants or solvent fumes in leather tanneries.
- **Environment:** Safeguarding public health by ensuring factory effluents and gaseous emissions don't poison local rivers or the air breathed by neighboring communities.

3. Hard Lessons Learned: Local Case Studies

We cannot improve without facing our past failures. By analyzing local incidents forensically, we uncover critical engineering lessons.

- **The Koshe Landfill Collapse (2017):** Often dismissed as a simple landslide, geotechnical and environmental engineers know better. Decaying organic matter created trapped methane pockets, building pressure beneath un-compacted waste *(7)*.

Lesson: Proper venting systems (like the semi-aerobic Fukuoka method) and strict zoning laws are non-negotiable for municipal waste management.

Source: ZACHARIAS ABUBEKER/AFP/Getty Images

- **Lega Dembi Gold Mine:** Years of protests highlighted the severe public health impacts of chemical runoff, specifically cyanide and heavy metals, contaminating local water sources (5).

Lesson: Environmental Impact Assessments (EIAs) must be continuously monitored, and toxic leaching requires heavy investment in closed-loop effluent treatment.

Source: Planet Labs PBC, 26 Jan. 2023

- **Factory Floor Fires & Injuries:** Insurance adjustors in Addis Ababa frequently trace industrial fires back to improper storage, such as placing powerful oxidizers next to flammable organic solvents without proper Globally Harmonized System (GHS) labeling.

Source: @addisstandard

4. The Evidence: What the Data Tells Us

Research paints a candid picture of our current safety landscape. A recent study published in Cogent Engineering *(4)* revealed that over **56% of reported occupational accidents** in Addis Ababa occur in the metal and manufacturing sectors. The core gaps identified by researchers include:

- **Misplaced Priorities:** Treating Personal Protective Equipment (PPE) as the first line of defense rather than the last.

- **The Training Gap:** Operating manuals and safety warnings are often exclusively in English or complex technical jargon, leaving floor workers unaware of the actual risks they handle daily.

5. The Blueprint: Bridging International Standards and Local Realities.

On paper, Ethiopia has a solid foundation. The Institute of Ethiopian Standards (IES) has adopted international frameworks like ES ISO 45001, and the Ministry of Labor and Skills actively enforces workplace proclamations *(1, 2, and 3)*. However, the reality on the factory floor often falls short. While international standards demand a proactive "Safety Culture" where any worker can stop the line for a hazard *(6)*, local culture often leans heavily on hierarchy, making workers hesitant to report near-misses for fear of punitive action. Bridging this gap means shifting compliance from a "bureaucratic hurdle" to a core operational value.

6. Engineering Prevention: Best Practices

To move from reactive firefighting to proactive prevention, Ethiopian industries must adopt the **Hierarchy of Hazard Controls**:

a) Elimination/Substitution: Swap highly toxic chemicals for safer alternatives (e.g., water-based dyes instead of solvent-based in textiles).

b) Engineering Controls: Install automated shut-off valves, gas detectors, and proper ventilation hoods to remove human error from the equation.

c) Administrative Controls: Implement mandatory, continuous training in local languages (Amharic, Afaan Oromo, Tigrinya, etc.). Cultivate a "Just Culture" that rewards near-miss reporting.

d) Information Sharing: Reproduce and translate educational materials, like the American Institute of Chemical Engineer's (AIChE's) Process Safety Beacon, to share specific troubleshooting tactics across the ESChE network.

7. Conclusion & Call to Action

Industrialization without safety is a liability, not an achievement. The responsibility falls squarely on the shoulders of engineers, site managers, and insurance auditors to drive this change.

We must advocate for stricter, transparent reporting of chemical incidents. We must push for continuous SHE education that reaches from the university lecture halls to the factory floor. By sharing data, analyzing our failures, and enforcing standards, we can ensure that Ethiopia's industrial boom is safe, sustainable, and prosperous for all.

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As we celebrate our 25 Years anniversary, there has never been a better time to be part of the Ethiopian Society of Chemical Engineers (ESChE). From our modest beginnings, we have grown into a vibrant community of around 2,000 members dedicated to advancing the profession in Ethiopia.

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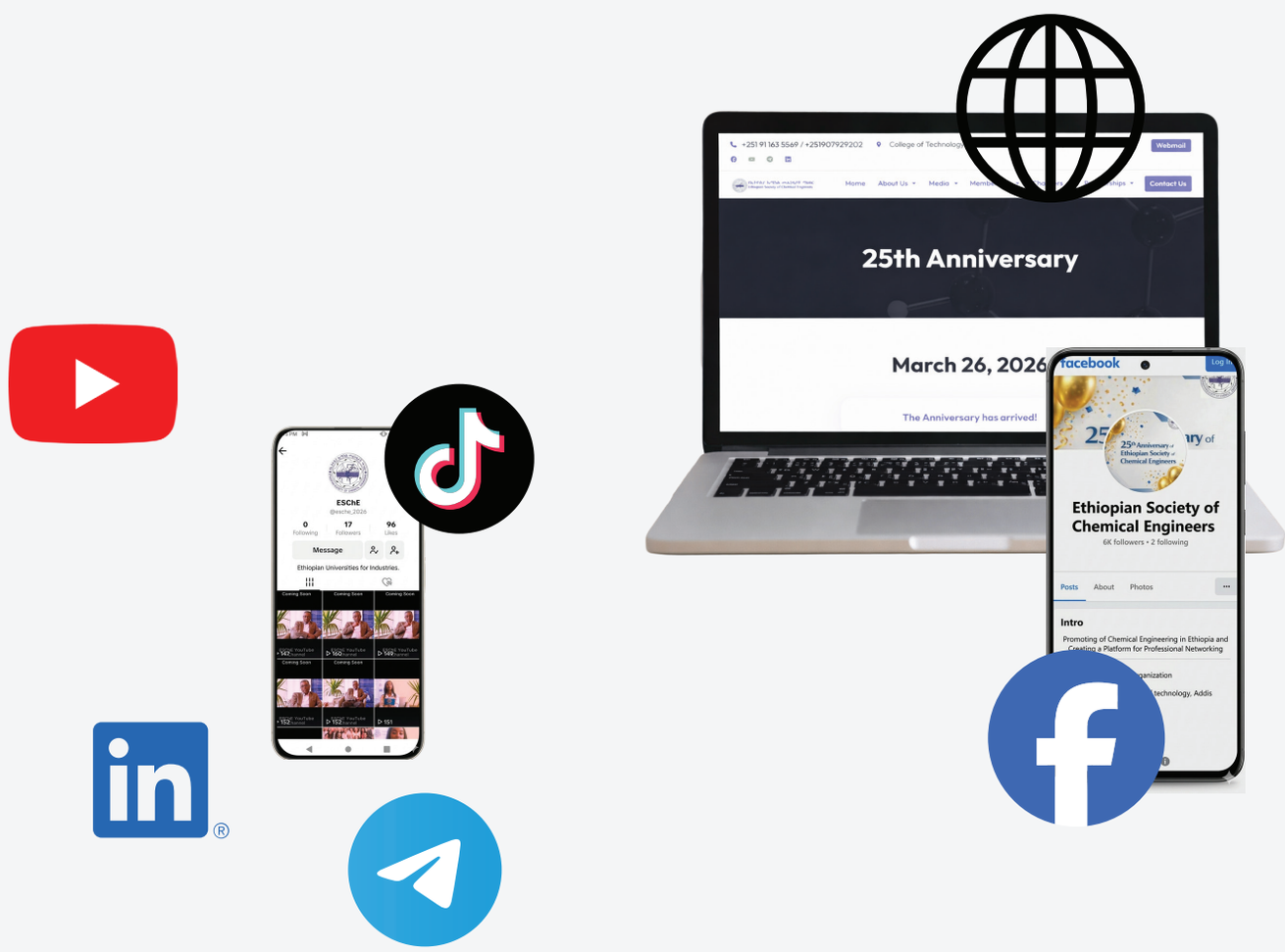
Digital Expansion: Rebranded Website and YouTube Channel Launch

In our ongoing effort to enhance communication with our nearly 2,000 members, the Society is proud to announce the official launch of its rebranded website and dedicated YouTube channel. These platforms are designed to keep members informed with the latest updates, notices, and important professional announcements. Members can now access these resources, along with our Facebook, Telegram, and LinkedIn profiles, directly through the official website to engage with our growing digital community.

Silver Jubilee Countdown: Anniversary Preparations Well Underway

Preparations for our Silver Jubilee celebration are well underway. Scheduled for March 26–28, 2026, at the Quality Village, the event commemorates our journey from a modest beginning at Addis Ababa University to becoming the apex professional body for chemical engineering in Ethiopia. For more information, please visit the anniversary webpage to view the detailed program.



Chapters' Corner

As part of the 25th Anniversary celebration scheduled for March 26–28, 2026, the Diaspora Chapter plays an essential role in ensuring the event's success and supporting the Society's long-term sustainability. The Chapter is actively contributing to the celebration through financial support.

In addition, a panel discussion titled "Just Energy Systems Transition" will be hosted virtually, featuring distinguished experts from the Diaspora Chapter. The session will focus on the transition to sustainable fuel alternatives and highlight emerging technical innovations in the energy sector.

Brief Profiles of Panelists from the Diaspora Chapter

Dr. Ibrahim Yimer
Canada

Dr. Yimer is the Vice President of the Division of Transportation and Manufacturing at the National Research Council of Canada, leading over 2,000 scientists. He is a renowned expert in gas turbine combustion and received the Public Service Award of Excellence for his scientific contribution to the 100% Biofuel Flight Demonstration in 2013. He holds a Ph.D. in Chemical Engineering from Queen's University.

Dr. Ramadan Ahmed
USA

A Professor and Mewbourne Chair at the University of Oklahoma, Dr. Ahmed serves as the Director of the Well Construction Technology Center. His extensive research includes the mechanical integrity of pipelines in hydrogen and corrosive environments, as well as geothermal well integrity. He has led over $10 million funded research and holds a BSc in Chemical Engineering from Addis Ababa University.

Dr. Mohammed Saedi Jami
Malaysia

Dr. Jami is a Professor and Head of the Department of Chemical Engineering and Sustainability at the International Islamic University Malaysia (IIUM). As a Chartered Chemical Engineer (UK and Malaysia), his expertise lies in wastewater reclamation, reuse, and bio separation processes, focusing on sustainable environmental systems. He earned his Ph.D. from Nagoya University, Japan.

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