Being the text of a Convocation Lecture delivered by His Excellency, Engineer Oluseyi Abiodun Makinde, fnse GSS D.Sc., the Executive Governor of Oyo State, represented by the Chief of Staff, Otunba Segun Ogunwuyi a*t the Maiden Convocation Ceremony of Thomas Adewumi University, Oko-Irese, Kwara State on Tuesday November 2024*.

Protocols:

I bring you warm greetings and congratulations on this momentous occasion on behalf of the Executive Governor of Oyo State, His Excellency Engineer Oluseyi Abiodun Makiinde,

Today, we gather in celebration of a historic milestone, which is the culmination of hard work, dedication, and resilience. This maiden convocation ceremony is more than a milestone for Thomas Adewumi University; it is a testament to the enduring power of vision, excellence, and determination—a legacy that began with Thomas Adewumi College and continues to grow stronger.

It is an honor to deliver this lecture on the theme: *"Fostering a Globally Competitive and Self-Reliant Nation: The Impact of Innovative STEM Education."*

The Legacy of Excellence

Before we delve into the topic, let us take a moment to reflect on the remarkable journey that has brought us here.

Thomas Adewumi College, the precursor to this university, has set an enviable standard of excellence. The College, known for its stellar academic achievements, consistently ranked among the top in Nigeria and beyond. For years, its students outperformed their peers in academics, innovation, and global competitions, excelling in science competitions, secured scholarships to prestigious global institutions, and demonstrated leadership and innovation in various fields.

That success laid the foundation for this university—a place where dreams are not just nurtured but equipped with the tools to thrive. A place where young minds, armed with quality education, combined with discipline and vision, produce a future of limitless opportunities that knows no bounds.

This university is not just a collection of buildings or a hub of learning; it is a symbol of vision, excellence, and determination. Its roots lie in remarkable legacy—built on high performance, rigorous discipline, and an unwavering commitment to excellence.

Today, the Class of 2024, the pioneering graduates, carry the torch of that legacy forward into the world.

The Global Context:

We live in a world defined by rapid technological advancements, environmental challenges, and shifting economic paradigms.

The Fourth Industrial Revolution, driven by artificial intelligence, biotechnology, quantum computing, and renewable energy, has fundamentally altered the landscape of human endeavor.

In this dynamic global environment, nations must adapt or risk being left behind.

Let me tell you a story. In the 1960s, two countries—South Korea and Nigeria—had similar GDPs. Today, South Korea is one of the world's technology giants. Why? Because it invested in education, particularly STEM, making innovation a national priority.

The lesson here is clear: a nation's global competitiveness doesn't rely solely on natural resources or population size but on its ability to innovate.

Competitiveness is no longer measured by sheer size or resources but by a nation's capacity for innovation, resilience, and strategic foresight. Self-reliance, meanwhile, is not isolation but the ability to sustainably harness local resources, talents, and technologies while engaging effectively on the global stage.

The Nigerian Context: Challenges and Opportunities

Nigeria today stands at a pivotal moment.

With one of the youngest populations in the world, vast natural resources, a vibrant culture of entrepreneurship, and a huge reservoir of creativity, we have immense potential. Yet, challenges persist.

We are a nation of over 200 million people, brimming with talent, energy, and potential. Yet, we are faced with the stark reality of undeniable challenges:

1. Youth Unemployment: A significant portion of our young population struggle to find meaningful employment. Employability and a dearth of transferable skills is at the root if this menace.
2. Dependence on Foreign Technologies: We import what we should produce locally, from basic goods to advanced technologies.
3. Underutilized Human and Natural Resources: Despite our wealth in talent and resources, we are not fully leveraging them.

But alongside these challenges lie immense opportunities.

The question before us is: *How do we channel these opportunities into building a globally competitive and self-reliant nation?*

STEM Education: A Catalyst for Transformation

Let mee see your hands up if you have used a smartphone in the last 24 hours.

Now, keep your hands raised if you think you could explain how the smartphone you are using works, from the coding of apps to the physics behind its touchscreen.

You see, many of the tools we use daily come from the intersection of science, technology, engineering, and mathematics—STEM. Yet, the real power lies not just in using them but in creating, innovating, and adapting them to solve problems.

It has the transformative power to address Nigeria's challenges and unlock its potential.

Let me share some ways that STEM education can drive our nation's development:

a. **Building a generation of Problem-Solvers:**
   STEM education is not just about learning formulas or theories; it is about solving real-world problems. Imagine graduates who can design novel renewable energy systems for rural communities, create apps to revolutionize agriculture, or build affordable healthcare solutions. These are not far-fetched dreams—they are the practical outcomes of an innovative STEM education.

   Let me share an inspiring story. A group of young engineers at the Robotics and Artificial Intelligence Networks (RAIN), in Iyaganku, Ibadan recently developed an AI-powered traffic monitoring system. This innovation, born out of necessity, has the potential to revolutionise traffic management in Nigeria's busiest cities. These are the kinds of solutions STEM education makes possible.

   Let me ask you another question.

   How many of you would love to be like the rich tech giants like Bill Gates, Mark Zuckerberg, Elon Musk?

   That is the number of problem solvers we need. That is the number of innovators that needs to rise and break the status quo.

b. **Driving Economic Growth:**
   STEM-driven economies are thriving worldwide. Let's look at Japan, South Korea and India—nations that invested heavily in STEM education and now lead in technology and innovation.

   Nigeria can emulate these countries by focusing on industries such as:
   - **Fintech:** Where we are already making strides.
   - **Renewable Energy:** To solve our power challenges sustainably.
   - **Biotechnology:** To address healthcare and agricultural needs.

   In Oyo State, we have witnessed the transformative power of STEM in agriculture. Let me share a good example of tech-driven initiatives we have used to support

our teeming farming populace. We partnered with Hello Tractors to provide 50% subsidies on land clearing costs to our farmers in Oyo State. This scheme has revolutionized the way agricultural support is delivered with real-time data on the farming fields cleared. We monitor each farmland and provide specific support for improvement of the livelihood of each farmer.

c. **Empowering Communities**
   STEM education is not just for urban centers; it has the power to uplift rural communities. Imagine a healthcare worker in Oko-Irese using locally developed diagnostic tools to save lives or a farmer accessing weather data via a mobile app. STEM brings practical solutions to everyday problems.

   As a nation, we must ensure that STEM education reaches every corner of Nigeria, breaking barriers of gender, geography, and socioeconomic status.

d. **Promoting Sustainability**
   From combating climate change to ensuring food security, the challenges we face require interdisciplinary STEM solutions. Our world needs engineers who can design resilient infrastructure, scientists who can pioneer breakthroughs in renewable energy, and technologists who can optimize resource usage.

What Makes STEM Education Innovative?

To obtain the maximum benefits to truly transform Nigeria, STEM education must be:

1. Technology-Driven: Equip our classrooms with cutting-edge tools like AI, robotics, and virtual reality.
2. Interdisciplinary: Blend science with the arts and social sciences to foster creativity.
3. Entrepreneurial: Train students to become job creators, not just job seekers.
4. Globally Relevant but Locally Focused: Solve Nigeria's unique challenges while meeting international standards.

A Vision for Nigeria

Now, let us paint a picture of the future.

Picture a Nigeria, where:

- Our engineers design renewable energy systems used globally.
- Our scientists develop solutions for diseases that transform global healthcare.

- Our tech entrepreneurs compete on the world stage, powered by ideas born here at home.
- Our students develop AI technologies that are used worldwide.
- Our scientists pioneer cures for diseases that transform global healthcare.

To ensure that Nigeria becomes a globally competitive and self-reliant nation, we need to take deliberate steps:

i. **Invest in the Integration of Emerging Technologies into Learning**: Our classrooms must evolve to incorporate novel technologies and immersive concepts like artificial intelligence, robotics, virtual reality, biotechnology, and other cutting-edge tools.
ii. **Focus on Local Relevance with Global Standards:** STEM education must address our unique challenges while meeting global benchmarks. For instance, how can we use technology to manage the nation's agricultural resources more efficiently?
iii. **Foster Entrepreneurship and entrepreneurial mindsets:** Let us create ecosystems that encourage start-ups. Incubation programs can turn ideas into thriving businesses. There needs to be a convergence between what industry needs and what our educational systems produce.
iv. **Expand Access and Inclusivity:** Every young Nigerian, regardless of background, should have the opportunity to excel in STEM. Let us ensure that no talent is wasted.
v. **Promote Interdisciplinary Approaches**: The greatest innovations occur at the intersection of disciplines. STEM must collaborate with the arts, humanities, and social sciences to address complex challenges holistically.
vi. **Enhance Teacher Training and Infrastructure**: None of this can be achieved without empowering our educators and ensuring access to state-of-the-art facilities. Teachers are the backbone of innovation in STEM education.

This is not just a dream—it is a vision that can be achieved with commitment, innovation, and leadership.

Your Role as Graduates

Dear graduates, today marks the beginning of your journey as leaders and innovators. You are the torchbearers of the Thomas Adewumi legacy.

As you step into the world, I urge you to:

1. **Think Big:** Dream of solutions that impact millions.
2. **Act Locally:** Address the challenges in your communities.
3. **Lead Boldly:** Be unafraid to break new ground.

Conclusion: A Call to Action

As I conclude, I leave you with these words: ***The future belongs to those who dare to innovate, who challenge the status quo, and who commit to creating solutions for the betterment of all***.

Thomas Adewumi University has equipped you with the tools to succeed. Now, it is your turn to rise to the challenge.

As the pioneer graduates of this university, you have the unique opportunity to set a new benchmark for future generations. The nation is watching. The world is waiting. Go forth and be the change-makers who will shape a globally competitive and self-reliant Nigeria.

The future isn't something that happens to you—it's something you create.

So, what will YOU do to shape the future?

What innovations will you introduce to healthcare?

What start-ups will you launch in the tech space?

What renewable energy solutions will you pioneer?

As you step into this new phase of life, remember that you are not just graduates but problem-solvers, innovators, and builders of a brighter future.

Congratulations, Class of 2024. Go forth and make us proud. The nation is counting on you. The world is waiting as your stage.

Thank you, and God bless.