

ACADEMIA–INDUSTRY COLLABORATION: CREATE INNOVATIVE AND MAKE

By

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Preamble

If you will permit me, let me start this presentation with a provocative question: *can any of us explain why or how certain individuals, or nations for that matter, record great achievements which in retrospect seemed impossible?*

While you ponder that question, let me graciously express my appreciation to the organisers of this 'Research Day' for inviting me to share my ideas on Nigeria's never-ending quest for sustainable (and equitable) national development. I am conscious of the fact that we have here a diverse group of participants: researchers from academia, scientists, technologists, industrialists, entrepreneurs, and possibly administrators. Through this presentation, my primary goal is to galvanise everyone in this audience to become more vigorous in seeking ways to contribute meaningfully to the economic progress of our nation.

Before I proceed, I want to acknowledge the fact that this event is being hosted by one of the leading private Universities in Nigeria. In my letter of invitation, a number of mind-blowing achievements of this institution, in the past decade were highlighted. In a rather quiet way, the institution is marching on to greatness. Kudos to all contributors to this impressive performance and wish you all the best as the University gets transformed into a smart institution.

We are here to consider how best we Nigerians can arrest past development cycles characterised by uneven, and frankly mediocre, performance to a future underpinned by a well-structured diversification policy framework.

But first, I want to refer us to the story behind the invention and commercialisation of electricity. Thomas Edison (arguably the greatest inventor that ever lived) conceived and pioneered the

first electric utility system. He collaborated with J. P. Morgan, a legendary American banker, to commercialise this system through the establishment of “Edison Electric”. During the start-up phase, it could be said that Edison (the researcher and scientist) was the creative genius, while Morgan, by mobilising huge financial resources, transformed the invention into a viable business venture. This was through the application of his entrepreneurial skills in scaling up the innovation for the benefit of consumers. It was a classic case of effective collaboration of creative/innovative mind and business astuteness. The concluding part of this story will be narrated later in this presentation. For now, my immediate focus is to articulate how I think we can as Nigerians, within the shortest possible time, achieve the necessary breakthrough towards building our own indigenous “Edison Electric”.

To put this in proper perspective, the potential impact of improved partnership between academia and industry in our quest for sustainable development cannot be overstated. Following decades of illusory and failed attempts by successive administrations, do we have a choice but to innovate and diversify our economy?

There Is No Alternative (TINA)

For too long, particularly since the early ‘70s, dependence on the proceeds from sales of petroleum products (crude oil and gas) has essentially compromised development of all other sectors of our economy. The total revenue accruing from the oil sector amounts to well over 80% of Nigeria’s total earnings. However, with the recent drop in global crude oil price and challenges encountered in the exploration and protection of oil and gas assets in the country, the need to look beyond the industry has

become imperative. Popularised in the 1980s by the late British Prime Minister, Margaret Thatcher, '**There Is No Alternative**' (TINA) was a slogan she deployed to create a sense of national emergency. Unsurprisingly, there is now a frantic clarion call, across Nigeria, for diversification. But what exactly are the driving forces behind economic diversification?

Simply put, a diversified economy is "an economy that has multiple or varied revenue streams that provide a nation with the ability for sustainable growth". Thus, a diversified economy is one that provides a nation with security and reliability such that when its primary revenue stream falters, its social stability is maintained. Essentially, other sources of revenue are expected to fill the void. Although Nigeria's domestic economic activities and operations have always been diversified, however our government's revenue base has remained virtually monolithic ever since oil became the dominant foreign exchange earner.

Notwithstanding, it is common knowledge that Nigerians are very enterprising, demonstrated by their active engagement in myriad industries. Unfortunately, often they have very little to show for their efforts in terms of stable earnings and capital formation. So, in my opinion, the difficulty is finding ways to strengthen and deepen our already diversified economy, by raising the productivity and standards of our institutions and industries. Beyond mere intentions and wishes, we must find a plausible way to design a workable and vibrant economy, which will meet the domestic needs of Nigerians and create opportunities for export growth. Presently, naysayers would have us believe that the masses are on the verge of starving, even as the economy flails on life support.

In the event, how do we invigorate and fortify our poorly diversified economy? The answer to this question is partly

embodied in a once popular show on CNN called **“Make, Create, Innovate”**. The message in the slogan is that invention and technological breakthrough are re-shaping our modern world. Therefore, if Nigeria intends to compete and succeed in the global market, we must embrace the culture of continuous ideas generation, new product development, process improvement and innovation. Coincidentally, we have seated among us here an eminent group of Nigerians who can kick-start our economic revival and foster the national renaissance that we so desperately desire.

Where is Nigeria currently?

It is often said that ‘we’ are now in “the fourth industrial revolution”. But is Nigeria part of the ‘we’? By the way, I read somewhere that the worst tool for understanding history is the eraser. In my opinion, Nigeria is yet to master the first industrial revolution (exemplified by mechanical production and steam power), which implies that we are in arrears of the 2nd, 3rd and 4th revolutions. Presumably, this explains why imported technology has not positively impacted our economic performance. One of the objectives of this Research Day is to explore how to fast-track our technological advancement in a bid to close the widening gap. By doing this, we would not only ensure our food security, develop a strong industrial base, but also contribute meaningfully to an integrated, knowledge-driven global economy. This will hopefully result in the growth of our domestic economy and expressly support the emerging socio-economic and demographic changes taking place in the country.

As we strive to diversify the economy, I suggest we pay special attention to the following:

1. Greater commitment to academia-industry collaboration which will stimulate creativity and innovation in our wealth-creation activities.
2. Vigorously exploit opportunities in agriculture, solid minerals and manufacturing, without reinventing the wheel, but by adapting available technologies to our advantage.
3. Step up infrastructure spending, and clearly define and differentiate capital and operating expenditures.
4. Aggressively promote the export of goods produced from the following activities: mining, agro-based manufacturing/processing, refined petroleum processes, and information and communications technology (ICT).
5. Streamline and improve the taxation system, and make it more equitable.
6. Reduce government red tape and curb stifling regulations.
7. Increase public-private-partnership in the management of the economy.
8. Promote better utilization of our human capital and accentuate the central role of each citizen as a stakeholder within the local community, state and nation.

As I conclude my views on economic diversification, I want to remind us all that Nigerians are not interested in technology or research findings per se, rather they want solutions to the problems besetting them. As you do your **creative** and **innovative** thinking, the masses are waiting for the tangible output, which represents the **make** variable in what is a skewed and non-linear equation. As I mentioned earlier, this process can be jump-started through concerted academia-industry cooperation. By training and exposure, researchers are best suited to **CREATE** and **INNOVATE** in our diversification drive while industrialists pursue how to **MAKE** things by leveraging the output from researchers.

Forerunners in Academia-Industry Collaboration

A developing nation like Nigeria has a lot to learn from more advanced economies in using academia-industry collaboration as the engine for economic diversification and growth. Various models exist. For example, in Germany, there is a well-entrenched apprenticeship scheme that ties a college graduate to a “master” for upwards of 5 years, before such a graduate can be integrated into industry. Similar programmes are in operation across Europe. But the classic case is the American model, which I think will be welcomed in our nation. We can take a cue from its style of economic diversification and superior innovation techniques. Furthermore, I would advocate that Nigeria revives its old trade schools and invest massively in vocational and technical education, which will form the bedrock of skills needed for industrial development. In addition to scientists, researchers and engineers, Nigeria must train and empower local welders, plumbers, electricians and other artisans, if we are serious about reviving our economy.

Despite all the progress that the U.S. had made technologically, in the early ‘70s, the country realised that it was lagging the likes of Japan in the areas of innovation, birthing start-ups, continuous process improvement, and overall quality of products and services. It discovered that a major reason for this was that there was inadequate collaboration between its academia and industry. Academia and industry were found to be operating in separate silos, due to a lack of trust and a misunderstanding of each party’s role in America’s economic development. While industry was bleeding and losing ground to competition from Japan in particular, researchers who had credible solutions were wrapped up in their own world, busy with arranging talk shops (seminars and workshops).

Remedial action was taken by the promulgation of the Bayh-Dole Act. In simple terms, the Bayh-Dole Act spelt out competitiveness parameters and an economic revitalisation initiative, which connected academic research and innovation to the mainstream economy. This legislation, when passed, brought phenomenal results by drastically improving the working relationship between academia and industry. A few of the recorded benefits of these enhanced cooperative efforts are as follows:

- From 1980 to 2008, 6,652 start-up companies were formed as a result of universities' research efforts. In 2008 alone, 595 new ventures were incorporated – that is, 11 new companies every week!
- More than 70% of these companies had their primary place of business in the institution's home state.
- Every state in America, except Alaska, has had at least one start-up company formed by licensing technology from university research.
- In a study of 100 university spin-outs, total employment of 81 of the companies was 167,000 and total revenue of just 31 of these companies was \$95 billion in 2008. At current Naira value, that is more than 6 times Nigeria's 2016 budget of ₦6.0 trillion.
- Another study of the Bayh-Dole effect found that, from 1996 to 2007, university-licensed products created over 279,000 jobs and that academia's technology transfer contributed as much as \$187 billion to the U.S. GDP.
- An entire industry, biotechnology, was created from university start-up companies. More than 50% of current biotechnology companies secured licences from universities. Annual streams of revenue to universities from these licences had risen from about \$160 million in 1991 to

\$682 million in 1999. As a researcher, you may ask, “What is in it for me?” While sharing ratios may vary from one institution to another, it is usually 40% faculty, 40% researcher, and 20% university technology transfer office. Indeed, academic entrepreneurship benefits across the board. It is of interest to note that the bioscience sector eventually generated over 8 million jobs within the specified period.

Existing Relationships between the Nigerian Academia and Industry

Over the years, we have all hoped that the relationship between academia and industry will improve, resulting in innovative solutions to economic problems, as well as creative buildout of tangible, beneficial products in the market place. However, we cannot keep hoping forever; rather, deliberate steps must be taken by both sides of the divide to access the potential benefits locked within the proposed alliance.

The renowned Spanish painter, Pablo Picasso, once said “*there is only one way to see things, until someone shows us how to look at them with other eyes*”. What are the missteps of the past that kept Nigeria’s academia and industry apart, and how do we make them synergise their efforts in the future?

Let me seize this moment to X-ray the platform from which academia and industry currently relate in Nigeria:

a) Student Industrial Work Experience Scheme (SIWES).

This is a laudable programme designed to serve as a glue between our tertiary institutions and industry. Unfortunately, the programme has been so debased that its relevance and importance have been lost. The Scheme has degenerated into a hall of mirrors in which fingers point everywhere.

Through my experience and from reports, it has been observed that SIWES supervisors (i.e. lecturers) sparingly interact with their students' industry supervisors during the training period. There are some extreme cases where supervisors fail to undertake a single visit to industrial sites over the entire 6-month training period. By every measure, these are opportunities missed since scheduled meetings at intervals between parties (i.e. university and industrial supervisors) underscore the intrinsic benefits of SIWES.

b) Lecturers' Sabbaticals

Lecturers very seldom spend their sabbatical year in industry. This stems, in part, from a general lack of appreciation of its intrinsic benefits. Other reasons include:

- Lecturers generally find it difficult to prepare financially sound proposals. In turn, for the most part, industry is averse to allocating funds and other requisite resources.
- Lecturers have a highly lucrative alternative as visiting lecturers to sister tertiary institutions; that is, universities, polytechnics or research institutes. Incidentally, no cost-benefit analysis is required to secure such appointments.
- Industry is usually overly profit-conscious. Many corporate leaders are not mindful that profit is only a strategic necessity, not the supreme end-point of doing business.

c) Consultancy Services

Occasions arise when industry approaches academia directly for assistance. However, most of these cases are in the Humanities, Business Administration, Legal and

Environmental Sciences. It is unfortunate that whenever it comes to engineering, operational processes, medical sciences, ICT and other science-based disciplines, our industrialists quickly jump into the next aircraft to seek help from foreign lands. Consequently, the contributions of our scientists to industrial growth of the nation is minimal.

d) **Donations**

This is a beggar-like relationship. It is pathetic for our academia, who potentially can offer the society so much, to cap-in-hand lobby corporate bodies for donations. This is due to their inability to effectively market their skills and competencies.

I believe there are many more platforms and areas through which academia and industry can symbiotically cooperate and interface. In the past, I have watched in dismay the fruitless efforts that are being undertaken to strengthen this relationship. Before offering my recommendations, I suggest that the following be considered:

- Dons (researchers) and corporate executives (profit-seekers) should do away with their planet-sized egos.
- The central purpose of science and technology should be to dispel ignorance, solve problems, and make products and services available to our people.
- Researchers should realise that, in research and development, there are no final destinations, only new beginnings. There is no alternative to rigorous and continuous hard work.
- Researchers should also note that, in modern times, no one wants to hear about the labour pains, people just want to see the baby! On their part, profit-seekers compensate with results and performance.

- Ultimately, “*a candle loses nothing if it is used to light another one.*” Trust is built through information-sharing for enduring collaboration.

The Way Forward – Suggestions & Recommendations

In this section, I will try to weave together a narrative by which academia and industry can cooperate across the country. For starters, we should remind ourselves that the world’s leading technology multinationals have hundreds, if not thousands, of strategic partnerships with leading universities. These relationships have encouraged many of these corporations to set up numerous research centres (especially pharmaceutical, telecommunications, computer and chemical hubs) across the globe. One way Nigeria can move forward is to imaginatively build a structured relationship based on strong commitment to measurable goals and milestones.

If we are to derive quick-wins, I will advocate a multi-disciplinary approach to the proposed collaboration at the strategic, operational, and transactional levels. I suggest we take the following concrete steps:

1. Let us recalibrate. There is a need to overhaul the way SIWES is currently managed if it is to serve as a relationship-building vehicle. It should not be seen and treated as a mere requirement for students’ graduation.
2. Greater emphasis should be placed on the management of the scheme. In my opinion, it is the most crucial and potentially rewarding of all collaborative efforts involving students, lecturers, university administrators, corporate executives, and industry personnel.
3. Some of the future projects undertaken by undergraduate final year students should be designed in collaboration with industry and should be cross-disciplinary. This way,

low-cost prototypes can be built and tested. Similarly, M.Sc. and Ph.D. projects can be jointly executed with industry. I want to assure you all that many industrialists will happily finance projects that have potentials for commercialization.

4. More lecturers (especially those very active in research studies) should be encouraged to spend sabbaticals in industry. Dons should learn how to prepare compelling and professional work plans (clearly stating potential benefits) that will facilitate approval of submitted proposals to industry. This will, in turn, promote the culture of sustained research studies in our industries.
5. Professors should be encouraged to do more networking with industry to attract streams of funding into budding research programmes.
6. A typical approach to stimulating university-industry collaboration is to adequately design R&D grants, matching grants, and tax-incentives by a consortium of companies and universities for project eligibility. The innovation voucher-credit should be provided by governments to industries to purchase services from universities and public research centres, with a view to introducing innovations in industry's business operations. This is another possible instrument to promote collaboration. This has been successfully tested in countries like the Netherlands, Ireland, and the UK.
7. University leadership needs to make industry-university partnerships a strategic priority. Periodic well-publicised visits of Vice-Chancellors (accompanied by other principal officers of the institution) to the big corporations should target headline news. During such visits, promising opportunities for cooperation should be identified and highlighted.

8. Universities need to sponsor advocacy that will impel government to allocate a portion of the education tax fund to bridge the gap between what industry can afford to pay for research findings and the financial expectations of academia.
9. A departmental unit (under the supervision of a very top university official) should be entrusted with the tracking of alumni worldwide. Each university should leverage the successes of its alumni. Through carefully crafted schemes, the university should be able to get support for programmes from highly placed alumni in industry and from the diaspora.
10. I am convinced that every university should set up a Marketing Department that should be charged with the responsibility of managing each university's brand. Universities can generate lots of income this way (many Ivy League universities do this worldwide). Specific suggestions include:
 - Inviting and wooing companies to maintain and brand existing laboratories, lecture theatres, etc.
 - Affiliate departments can partner with construction companies to design and build multi-layer car parks on campuses, corporate and public work spaces. In addition, the ticketing system can be designed by appropriate faculties.
 - Companies can be persuaded to build bespoke research laboratories in partnership with universities.
 - Complementary roles can be assigned to targeted companies at major public events (e.g. pharmaceutical companies during medical-related programmes)

- Periodic hosting of exhibitions that will display research findings, alongside products locally developed jointly by universities and manufacturers (under the aegis of the Manufacturers Association of Nigeria, MAN)
11. The National University Commission (NUC) must ensure the development of appropriate curricula to enable the acquisition and application of appropriate R&D skills in all our tertiary institutions (particularly Universities of Technology)
 12. Companies with standard R&D programmes should be encouraged to partner with researchers in the universities.
 13. Entrepreneurship training programmes in tertiary institutions should be broadened to accommodate practical real-life inputs from industry executives. Infusion of certified, experienced corporate executives into the entrepreneurship faculty will stimulate cross-fertilization of ideas.
 14. For us to have indigenous companies that are 'built to last', we must jettison our pervasive rent-seeking, short-term, get-rich-quick business mentality.
 15. Granted that interest rates are perpetually stuck in the double-digit range, start-up companies and SMEs in general would require 'patient' venture capital that would allow them to grow and prosper, to avoid being choked to death at birth.
 16. Finally, I suggest that we should, like the Americans, develop the culture of cutting *quid pro quo* or win-win deals in our business relationships.

Reality Check

Discussion of academia-industry partnership will be incomplete without analysing potential areas of conflict, that is, whenever research findings are to be commercialised.

The inherent goals of the typical university researcher are: academic recognition and possible commercialisation of research findings. Contrast this with the goal of the industry/business executive who has a fixation on profit maximisation. Due to apparently conflicting motivations, envisaged collaboration between academia and industry can sometimes end up in recrimination and litigation. So, how do we amicably handle matters related to Intellectual Property (IP) Rights and patent registration? To answer this, I want to narrate the concluding part of the Thomas Edison story.

After the formation of **Edison Electric** and the commercialisation of the nascent electric light bulb, a dispute arose over how best to transmit electric current over large distances – the two options were Direct Current (DC) or Alternating Current (AC). Edison voted for DC, but J.P Morgan was convinced AC had more commercial value. Since Morgan was the financier, he threw Edison out of the company and re-named the company General Electric. Subsequently, J. P. Morgan built it to become one of the most successful companies in history.

So, who is the boss at the commercialisation stage?

It is only in story books that you read about 'equal partnership'. No such thing exists in the real world. He who pays the piper dictates the tune; that is, the risk-taker calls the shot. The great researchers and inventors of this world seldom appreciate this veritable fact. Thomas Edison moved on to perfect and capitalise on his invention of photography, etcetera and similarly, in a more contemporary example, Steve Wozniak moved on to other things when the heat in the Apple kitchen became unbearable. Mind

you, Edison and Wozniak still made fortunes from their efforts, though as junior partners.

In response to the question I posed at the beginning of my presentation, let me briefly share with you the near-impossible feat accomplished by one of J. P. Morgan's contemporaries. His name was Andrew Carnegie, a pioneer steel magnate, who alongside American oil baron John D. Rockefeller were two of the wealthiest men in history. Prior to the age of glass-and-steel skyscrapers, Carnegie faced the daunting task of building the world's first all-steel bridge across the Mississippi River in southern United States.

Unfazed, Carnegie defied the conventional wisdom of the late 19th century and successfully completed the project although he had to contend with another unexpected hurdle – no one would use the bridge! To demonstrate how safe and sturdy the bridge was, he arranged for an elephant to be led across in full public glare thereby cementing his fame and stupendous fortune, which derived from his ownership of the company that later became U.S. Steel. Men like Morgan, Carnegie and Rockefeller defined the business ethos of a generation of American business pioneers who ruthlessly shaped the American spirit of innovation and free enterprise.

Perhaps another lesson from the story of Andrew Carnegie, and Nigeria's own Aliko Dangote, is that very few things in life are impossible. I suggest that we teach our students and children to dream big, to work hard, and never to be afraid to fail. Not trying or persevering is arguably the worst crime of all.

Partnering with Academia – The Vitafoam Experience

In its relatively short history of 57 years, Vitafoam has interacted extensively with several Nigerian universities and research institutes. The outcomes of these interactions have been rather mixed. For completeness of my presentation, I will now recount

some of the experiences of Vitafoam in its past associations with academia:

- In the early '80s, Vitafoam made a move to computerise its operations, particularly the accounts and sales functions. The computer science department/centre of one of the leading universities was invited to midwife the project. After 9 months on the assignment, the Centre failed to deliver. Failure was not due to lack of technical competence, but for bureaucratic bottlenecks and poor appreciation of the “time value of money” by the institution’s personnel on the project.
- Sometime in the mid '80s, one of the country’s research institutes advertised the acquisition of a modern foundry technology and the competency to manufacture intricate spare parts for machines and industrial plants. Vitafoam submitted a sample of “shuttle stick” (one of the consumables used in operating fabric quilting machine) for copy. The institute successfully replicated the stick in every detail. An order, which was fully paid for, was placed. Disappointingly, the items were never delivered and no refund was made. We later learnt that many other big manufacturers in the country suffered a similar fate. Reason – it was discovered, painfully, that the institute was never structured for commercialization and mass production of industrial items.
- Between January 2005 and December 2009, a student of one of our universities carried out his research studies using Vitafoam’s laboratory facilities, along with technical back-up given by experienced engineers of the company. The project was successfully completed when a thesis titled, ***“The Predictive Effects of Filler Materials on the Mechanical Properties of Flexible Polyurethane Foam”***,

was submitted for the award of a doctoral degree. Vitafoam was very proud of this accomplishment. Unfortunately, the trail has since gone cold.

- Between 2010 and 2012, two leading universities were engaged to research the local extraction and refining of castor oil. Castor oil is one possible local substitute that can be introduced into our foam formulations. Vitafoam committed a substantial amount to these projects, with no tangible outcome. Eventually, the institutions unceremoniously abandoned the project.
- Most recently, one of Vitafoam's subsidiaries (Vitapur Nig. Ltd.) needed to generate some technical data for its marketing communication materials. Samples of our manufactured insulated materials were passed on to a university faculty that has the technical competency to handle the assignment. Despite ready availability of funds, the job remained uncompleted for over 18 months. The contract has since been re-awarded to a laboratory in South Africa.
- On the other hand, as I speak, Vitafoam/Vitapur is building and equipping a state-of-the-art chemical laboratory with the active support of the UNDP. Along with this laboratory, the first '*System House*' to be established in sub-Saharan Africa is under construction. This is a massive project that already has the involvement of researchers and scientists from Brazil, South Africa, Poland and Czech Republic. Since time is of the essence and huge financial resources are committed to these projects, Vitafoam is implicitly reluctant to involve local collaborators, given its past experiences. Sadly, reactors and other equipment were successfully designed and fabricated in the UK and South Africa.

I want to quickly assure this gathering that Vitafoam has not abandoned its quest for close cooperation with indigenous researchers and technicians. Vitafoam is currently attempting to restructure its strategic approach to building a more enduring relationship with tertiary institutions like yours. Indisputably, the past approach was glaringly faulty.

Vitafoam Mantra – Make, Create and Innovate

It is a well-known fact that since 1962, Vitafoam has been in the business of making high quality flexible foam products – mattresses, pillows and cushions for the Nigeria market. Through her activities the ‘VITAFOAM’ strong brand has been established in the mind of consumers nation-wide. But in the past decade the company has transited into the world of CREATIVITY and INNOVATION. So as of today the heartbeat of the organisation is premised on “Create, Innovate and then Make”. Through intense collaboration in recent past with leading companies and institutions in the UK, Brazil, France, China and Taiwan, Vitafoam Nigeria Plc is on an on-going basis exciting her stakeholders by doing the following:

➤ Inner Core Spring Mattresses

Inner core Spring Mattresses are designed and produced using the latest technology offered by the use of Infinity Spring Machines. Through the ingenuity of our Engineers and well trained Artisans we now manufacture bespoke spring mattresses that incorporate in its construction regular flexible foams, visco-elastic foam, special woven steel coil, belt, chip foam and flat fibre sheets.

➤ Chemical System House Project

The first chemical system House in sub-Sahara Africa was established by Vitafoam about 5 years ago. In a System

House, chemicals are blended and formulated from base chemicals. Highly trained Scientists and Engineers who have flair towards research studies, are engaged to develop innovative approach to develop systems needed by processors who manufacture adhesives/glues, shoe soles, moulded foams for car and furniture parts, coolers, insulated panels, and so on.

➤ **Rigid Foam Products**

Multiple variants of rigid foam products are currently offered the market. The technology of incorporating fire-retardency into our rigid foam products has been acquired and mastered. Vitafoam now routinely manufactures the following:

- Rigid foam panels for thermal insulation of poultry farm warehouses.
- Composite panels for partitioning, cladding and structures.
- Insulated roofing sheets.
- Insulated panels for construction of cold and chill rooms, clean rooms and other controlled environment.

➤ **Fibre – Based Products**

In line with Vitafoam innovation drive, the company recently acquired a state-of-the-earth fibre sheet making machine that is configured to produce variety of fibre sheets that are used in soft furnishing and mattress making industries.

Conclusion

As I begin to conclude, I want to say that many of our universities and companies have been around for decades, but unfortunately they have been rather insular and have mostly been operating in

silos. Had the Universities been working in concert with industry, the resulting synergy might have brought about much greater progress in our nation's economic growth and evolution. It is said that a child that is just born cannot be expected to run, but the child should at least be walking one of these days.

Our universities are not only for teaching, but are also expected to excel in research – **create** and **innovate**. Likewise, our industries are not supposed to operate sub-optimally, but to perform at ever-improving productive levels - **make**. If we agree with William Shakespeare that “*the fault is not in our stars, but in ourselves*”, then we should all come together across all sectors to find lasting solutions to our extricable problems. It is very likely that successful academia-industry alliances driving the diversification process would bring about a tide of recovery, which will lift all boats in our economic ocean.

I thank 7you all for listening.

Dele Makanjuola

(August, 2019)