

1. NOTAP-INDUSTRY TECHNOLOGY TRANSFER FELLOWSHIP (NITTF) SCHEME

The NOTAP-Industry Technology Transfer Fellowship (NITTF) is a Public-Private Partnership (PPP) platform designed to create indigenous critical technological competence of elite applied knowledge workers in Nigeria through special PhD programmes tenable in Nigerian Universities. The support is for a maximum period of 4 years to be jointly implemented by NOTAP and Industry. The fellows will basically be all future academic workers in Universities and Research Institutes and will be required to enter into clear contracts/agreements with NOTAP, Industry, Universities/Research Institute such that close relationship will be developed during the study period after completing their studies, they will return as lecturers or Researchers in the Universities or Research Institutes (RIs). This mode of fellowship will ensure speedy technology transfer.

The scheme is a triparties arrangement where industry will provide fund and laboratory facilities, the University will train and employ the fellows while the government i.e. NOTAP initiates and manages the interface to produce “pool of critical mass of manpower” needed for speedy economic development of the country.

NOTAP is partnering with all industries having technology transfer agreements registered with the office and other organizations and individuals in the implementation of this scheme. NITTF is administered by NOTAP and its partners.

2. Objectives:

The objectives of NITTF are to:

- Create a pool of knowledgeable and skilled manpower that will facilitate technology acquisition, assimilation and diffusion
- Provide academic staff of Universities with broad and direct experience of industry to benefit research and enhance the relevance of teaching.
- Stimulate and translate research results to the private sector to develop a sustainable technology-based economy.
- Establish appropriate linkages between universities, research institutions and industrial sectors.

- Establish a process and system for the commercial exploitation of research results.
- Encourage the setting up of joint ventures and partnerships to sufficiently promote and profit from R&D results.
- Encourage the use of spin out and spin off companies as vehicles for promotion technology transfer and commercialization.
- Create a robust and dynamic R&D structure in Nigeria.

3. Justification:

- Acquisition of foreign technology over the years has not been successful, thereby leading to capital flight and abandonment of costly facilities.
- Modernizations of production facilities are dependent of imported technology with little effort to upgrade using local technology.
- The bulk of raw materials used in the industries are imported.
- There are little in-house R&D efforts going on in Nigerian industries.
- There is no deliberate attempt to engage in technological learning from imported technologies.
- The main motivation for technology transfer has been to increase production and not to acquire skills.
- Staff training programmes were focused only on plant operation, quality control and maintenance.
- No efforts were made to provide highly specialized skills necessary for the acquisition, absorption, adaptation and replication of imported technology.
- There were insufficient and very weak (where it exists) linkages and interactions between manufacturing firms and the National Innovation System.

The total number of twenty-four (24) beneficiaries of the NITTF from inception 2015 – 2025 is tabulated below:

S/N	BENEFICIARIES BY BATCH	COMPLETED	ONGOING	PULL OUT	ABSCOND	LATE	TOTAL
1.	Beneficiaries of NITTF 1 st Batch	5	0	0	0	0	5
2.	Beneficiaries of NITTF 2 nd Batch	3	2	2	2	1	10
3.	Beneficiaries of NITTF 3 rd Batch	0	5	1	0	0	6
4.	Beneficiaries of NITTF 4 th Batch	0	3	0	0	0	3
	TOTAL	8	10	3	2	1	24

First (1st) batch - Five (5) beneficiaries (completed research studies)

Second (2nd) batch - ten (10) beneficiaries (three (3) have completed research studies)

Third (3rd) batch - six (6) beneficiaries (four (4) ongoing, one (1) completed and one (1) pulled out of the research studies)

Fourth (4th) batch - Three (3) beneficiaries (Ongoing)

2. TECHNOLOGY STORY BOARD FOR POPULARIZING SCIENCE AND TECHNOLOGY IN SECONDARY SCHOOLS

The technology Story Board (TSB) project presented a unique opportunity for government to partner with industry and evolve a viable teaching tool to popularize Science, Technology and Innovation (STI) at the basic education level, i.e primary and junior secondary school, using the manufacturing flow processes in industry in a simplified form. It is, thus, an educational and instructional tool aimed at sustaining the interest of school children in STI as well as building the capacity of science teachers. The concept involves a graphic pictorial representation of processing of raw materials to final consumable products.

2.0 OBJECTIVES

- To promote Science, Technology and Innovation (STI) at basic education level
- To serve as an instructional and detaching tool

- To develop the creative talent of children at their tender age
- To build the capacity of science teachers
- To arouse school children's interest in science and technology

3.0 JUSTIFICATION

When children are repeatedly informed about the story behind the production process of a product, the lasting impression that will be created in them triggers their enthusiasm for STI courses and arouse their interest to develop careers around scientific field. This will enhance Nigeria's opportunity in growing the critical mass of knowledge based workers that will fast-track Nigeria's technological and economic development.

The Office has carried out national launching in 2016 in Abuja and zonal launching in five zones now the last one in south west making it six zones. In 2023 budget the office has carried out zonal evaluation to all schools in the South South zone. The achievement so far from inception is as shown in the table below:

S/N	VENUE	STATE	ZONE	DATE
1	Katsina Sate Institute of Technology Management Conference Hall	Katsina	North West	9 th march 2020
2	Distinguished Senator Lelian Uche Ekwunife Centre, Awka	Anambra	South East	19 th November 2020
3	Ministry of Education, Science and Technology Conference Hall, Lafia	Nasarawa	North Central	17 th June 2021
4	Ministry of Education, Science and Technology Conference Hall, Owerri	Imo	South East	10 th August 2021
5	Ministry of Education and Human Capital Development, Ilorin	Kwara	North Central	26 th August 2021
6	Ministry of Education Conference Hall, Abdulkareem Lafene Secretariat, Minna	Niger	North Central	7 th September 2021
7	Custodian Hotel Limited, Bauchi Road	Gombe	North East	10 th March 2022
8	Amunice Event Centre, 85 Aka Itiam Sreet, Uyo	Akwa Ibom	South South	30 th June 2022
9	Ibadan Grammar School	Oyo	South West	14 th June 2023
10	Evaluation through administration of questionnaire	Akwa Ibom	South South	Questionnaires retrieved

SAMPLES OF TECHNOLOGY STORY BOARD MATERIALS IN BANNERS AND BOOKLETS

S/N	NAME OF COMPANY	RAW MATERIALS	DESCRIPTION	MANUFACTURING PROCESS	FINAL PRODUCT
1.	Nestle Nigeria Plc	Soya beans	Conversion soya beans to Maggi cubes	• Farming • Soya beans • Fermentation • Cooking • Drying • Mixing • Pressing & Wrapping	Maggi Cube
2.	Nestle Nigeria Plc	Maize	Conversion of maize and soya flour to Nestle Golden Morn	• Farming • Processing • Mixing • Drying • Powder receiving • filling	Nestle Golden Morn
3.	Northern Nigeria plc	Limestone	Conveyance of Limestone to cement bags	• Quarrying • Crushing • Limestone mixing • Raw milling • Kiln and Clinker • Cement Storage	Cement
4.	Eleme Petrochemical	Oil and Gas	Conversion of oil and gas to Plastics	• Oil and Gas extraction • Gas separation and Treatment • NGL extraction • NGL Cracking • Polymerization • Polyethylene Pellets • Polymer Process extrusion	Plastic Product
5.	Dufil Prima Nigeria Plc	Wheat	Conversion of wheat flour to Indomie Noodles	• Wheat flour • Press • Pre-dryer • Slitting • Steaming • Cutting and Drying • Packaging • Single packets	Indomie Noodles
6.	Nestle Nigeria Plc	Cocoa beans	Conversion of Cocoa beans to Nestle Milo	• Farming • Processing • Mixing • Drying • Powder Receiving • Filling	Nestle Milo

3. DEVELOPMENT OF MODEL SCIENCE LABORATORY FOR SECONDARY SCHOOLS

The National Office for Technology Acquisition and Promotion (NOTAP), an agency of Federal ministry of Science, Technology and Innovation (FMSTI), conceived the idea of the Development of Model Science Laboratory of Secondary Schools Project. This Concept was borne out of the desire to upgrade adequately, equip Science Laboratories with necessary apparatus and chemicals in support of Science and Technology Education at Secondary School levels using locally sourced materials.

The main Objectives of the Projects are:

- To make science laboratories attractive to students
- To encourage science education at secondary school level across the country.
- Create further synergy and collaboration between states and federal ministries of science and technology.
- To aid teachers in conducting practicals in science subjects.
- Provision of equipped laboratories to facilitate learning of science.

The Stakeholders for this project are identified as:

- National Office for Technology Acquisition and Promotion (NOTAP)
- Nigerian Institute for Science Laboratory Technology (NISLT)
- State Ministries of Education/Science and Technology

However, due to Paucity of funds, the office only limits upgrading to only 3 Chemistry laboratories. Presently, in 2021 capital budgets the Chemistry Laboratories in 3 Zones have been upgraded waiting for commissioning and the Schools and Zones are:

Government Girls Secondary School Ogbosi, Anambra state in Southeast

Gifted School Soro, Ganjuwa LGA, Bauchi state in Northeast

Government Science Secondary School Batagarawa, Batagarawa LGA, Katsina state in Northwest

In 2022 the office upgraded 2 other Schools one in Ibadan grammar school in Oyo State in South West Zone (awaiting commissioning) and Govt. Science

Secondary School, Uke, Nassarawa State in North Central zone of the country slated for commissioning in 20th April 2023.

In 2023 the office upgraded Migrants Community Secondary School, Ibakang Nsit, Nsit Atai, LGA, Akwa Ibom State on 21st May 2024.

In 2024, the Office upgraded Akpugo high School, Akpugo, Nkanu West LGA, Enugu State and Omuma Technical College, Omuma Orlu East Local Government, Imo State.

IMPLEMENTATION STRATEGY/COMPONENTS:

The Model Science Laboratory for Secondary Schools Project is among other activities, to be implemented in three major components namely:

- Site Inspection of the Project
- Supply of apparatus and chemicals to the laboratories
- Verification of the supplied equipment and apparatus.
- Commissioning of the laboratories.
- Training of Laboratory technicians, from selected secondary Schools states.

S/N	NAME OF SCHOOLS	GEOPOLITICAL ZONES	PERIOD OF UPGRADE	STATUS
1	Government Science Secondary School Batagarawa, Batagarawa LGA, Katsina State	North West	2021 project	Commissioned 20 th August 2022
	Government Girls Secondary School, Ogbosi, Anambra State	South East	2021 project	Pending
	Gifted School soro, Ganjuwa LGA, Bauchi State	North East	2021 Project	Pending
	Government science Secondary School (GSSS) Uke, Nasarawa State	North Central	2022 project	Commissioned 20 th April 2023
	Ibadan Grammar school, Oyo State	South West	2022 project	Commissioned 14 th June 2023
	Migrants Science Community Secondary School in Ibakang, Nsit Atai LGA, Akwa Ibom State	South South	2023 project	Commissioned 21 st May, 2024
	Omuma Secondary Technical School Omuma, Oru east LGA, Imo State	South East	2024 project	Commissioned 17 th July, 2025
	Akpugo High school, Nkanu West LGA, Enugu Sate	South east	2024 project	Commissioned 18 th July, 2025

4. ASSIMILATION AND DIFFUSION OF FOREIGN TECHNOLOGY (FRUIT JUICE)

The National Office for Technology Acquisition and Promotion (NOTAP) in the process of achieving its mandate of Assimilation, Domestication and Diffusion of Foreign Technology visited Songhai Centre in three locations in Nigeria. In its zeal to acquire, assimilate, domesticate and diffuse foreign technology in Nigeria visited Songhai Regional Centre in Portnovu Benin Republic on 8th and 9th February, 2019 and finalized a commitment for acquisition of “Fruit juice processing” machine. NOTAP had procured Fruit Juice Processing machines from Songhai Farm who are the manufacturer of the machine and the machines had since been supplied and installed by the Songhai Technicians at the Pilot Plant site in Paiko, Niger State. The installation was completed early in 2023.

2.0 OBJECTIVES:

- To domesticate foreign Technology.
- To promote Technology Transfer in Nigeria
- To prevent post-harvest wastages of fruits
- To generate employment in the agricultural value chain
- To discourage capital flight resulting from importation of fruit juice concentrate.

3.0 JUSTIFICATION

When the machines are finally installed, thus it will reduce post-harvest wastages of fruits and discourage the importation of fruit juice into the country, this will save to reduce capital flight and generate employment opportunities for our teeming youths.

5. DAIRY DEVELOPMENT PROGRAMME

The Dairy Development program (DDP) was started by the Company in August 2010 for the sole purpose of increasing its local content and support the Federal Government’s initiative to grow the Agriculture sector. The project is gradually developing into a full national programme as the company is dedicated to making the Dairy Development Program a success by ensuring the transfer of Technology and Know-how on milk production to Nigerians. Under the programme Friesland Campina WAMCO is enabling local dairy farmers to run

their businesses optimally and raise the quality and quantity of their dairy production. Other key partners in the programme are; Federal Ministry of Agriculture and Rural Development and International Fertilizer Development Centre/towards sustainable clusters in Agribusiness through Learning in Entrepreneurship (IFDC/2SCALE)

While NOTAP facilitates the acquisition of the necessary technologies, the other partners, provide infrastructure and capacity development.

OBJECTIVE OF THE PROGRAMME

The DDP whose primary targets are the dairy farmers and Fulani Herdsmen have the following objectives:-

- Network 3000 dairy farmers
- Strengthen the capacity of dairy farmers to produce and supply up to 150,000kg of raw milk per day.
- Increase the market share of locally produced milk
- Creating employment, and
- Expansion of investment opportunities (wealth generation)
- Encourage Dairy Entrepreneurship.

The Office had carried out three (3) Dairy Development Programme workshops to sensitize youths and farmers on modern dairy business in three zones of the country as follows:

- | | | | |
|------|---------------|---|------|
| i. | North West | - | 2020 |
| ii. | North Central | - | 2021 |
| iii. | North East | - | 2022 |

The CS department had carried out an impact assessment of commercial dairy farms as part of the Dairy Development programme under 2023 capital project.

The CS department had also carried out both sensitization workshop and impact assessment of commercial dairy farms at Iseyin and its environs, Oyo State in the South West as a part of the Dairy Development programme under 2024 capital project.

6. PROJECT NOVA (Nigerian Outsourcing Value Acceleration)

UNLOCKING NIGERIA'S POTENTIAL: THE IMPACT OF PROJECT NOVA

In a bid to drive economic growth, innovation, and technological advancement, the National Office for Technology Acquisition and Promotion (NOTAP) has launched Project NOVA, a groundbreaking initiative aimed at increasing inventive and innovative skills and accelerating Nigeria's outsourcing capabilities. Nigerian Outsourcing Value Acceleration (Project NOVA) promises to revolutionize the country's technology landscape and unlock its vast potential, especially in the area of information and communications technology (ICT), with emphasis on software development.

Technology has made the world a global village, and the advancement and penetration of information and communication technology in the continent of Africa and in particular, Nigerian rural areas, have made it even more imperative to ensure a more pragmatic and systematic approach towards indigenous skills development.

NOTAP is an agency of government, saddled with the responsibility of regulating the inflow of foreign technologies into the country through the registration of technology transfer agreements, but also has the responsibility to encourage efficient development and domestication of locally motivated technologies. This is to ensure the fast-tracking of the nation's technological and economic advancement in the comity of nations.

The Office has been strategic in executing these responsibilities to ensure critical skills acquisition and development and overall growth of science, technology, and innovation for speedy industrialization of the country. This is the step that the developed countries took to become technology giants and critical service providers in the area of Science, Technology, Engineering, and Mathematics (STEM).

In line with NOTAP's drive for technology domestication, Project NOVA is a strategic initiative designed to groom Nigerian youths in cutting-edge technologies, equipping them with the skills required to compete in the global technology market and increase their relevance in the outsourcing industry.

By bridging the gap between academia and industry, Project NOVA aims to create a pool of talented professionals who are capable of developing indigenous technology to curb overdependence on foreign technologies as well as grow the propensity to deliver high-quality services to clients worldwide.

If well-implemented, Project NOVA can have a transformative impact on Nigeria's economy and technology sector and numerous other potential benefits such as job

creation and foreign exchange earnings. Project NOVA can create thousands of jobs for Nigerian youths, hence reducing unemployment rates and providing opportunities for economic empowerment.

Nigeria has long depended on imported technologies, thereby causing depletion of foreign reserves and putting pressure on the local currency. However, when critical skills are developed to the point of outsourcing, it attracts foreign exchange earnings. By delivering high-quality outsourcing services to global clients, Nigeria can earn significant foreign exchange, boosting its economy and improving its balance of payments.

This initiative tends to create technological advancement and increase the nation's competitiveness, drive innovation and technological growth in Nigeria, positioning the country as a hub for outsourcing and technology-driven service providers in Africa.

Knowledge institutions across the Western world have established technology and incubation hubs to groom highly skilled manpower that has become a source of technology supply chain, especially to third-world countries. NOTAP is standing as those technology giants in Africa to not only develop critical knowledge workers for African consumption but also to be a major player in the technology outsourcing ecosystem.

Africa and Nigeria, in particular, have become a technology dumping ground for foreign technology providers, but Project NOVA, by bringing cutting-edge skills and expertise, will enable Nigerian professionals to compete effectively in the global outsourcing market, enhancing the country's reputation and increasing its competitive value.

Nigeria has depended on oil as its major source of economic sustainability for a long time. This has significantly affected the technological growth and global competitiveness of the country, but with the Project NOVA initiative, there will be economic diversification through the development of other critical sectors. This will therefore ensure the avoidance of the negative effect of oil price vulnerability with a severe impact on Nigeria's revenue and economy.

Project NOVA can contribute to Nigeria's economic diversification efforts, reducing the country's dependence on oil revenue and promoting sustainable economic growth. During the launching of Project NOVA recently at the Hall 16, Yar'adua Way, Victoria Island, Lagos, the former Permanent Secretary, Federal Ministry of Innovation, Science, and Technology, Mrs. Esuabana Nko-Asanye, said that Project NOVA would scale up youth skill acquisition and push the country towards speedy industrialization. She stated that NOTAP's efforts at developing Nigeria's science, technology, and innovation ecosystem through its programs and projects are yielding positive results.

Asanye observed that when NOTAP, as a regulatory body, noticed weak research infrastructure in Nigerian knowledge establishments, the Office initiated the NOTAP-Industry Research Laboratory Upgrade (NIRLUP) scheme to upgrade selected laboratories in the country's tertiary institutions.

She said that the major goal of the scheme was to engender research collaboration between the beneficiary institutions and multinationals while providing adequate laboratory facilities required to carry out research locally. The former Permanent Secretary commended NOTAP for being at the forefront of Nigeria's technology development. She said that the ministry is pleased with the various developmental programs and projects of the Office and will continue to support the successful implementation of the programs.

She added that the success of Project NOVA remains critical to the ministry, as the project is capable of springing up many other projects and services that can propel the country in the comity of nations. She added that the project is in line with the Renewed Hope Agenda of the present administration and the local content policy aimed at increasing the value of indigenous skills.

Also speaking during the launching, the Director-General and Chief Executive Officer of NOTAP, Dr. Obiageli Amadiobi, said that over the years, NOTAP had observed an increasing demand for foreign technologies by Nigerians, even when the capacity to develop such technologies abounds locally. She said that while the unfortunate and unacceptable situation is partly attributable to the weak research infrastructure within Nigeria's national innovation system, the weak chain of transition from innovation to the commercialization stage is also a major factor.

She said that the Office is playing a leading role in the fight for Nigeria's technological self-reliance, adding that Project NOVA is a flagship project, dear to her heart, aimed at bringing industry experts, academia, and technology-savvy Nigerians under one roof to groom them to become technology experts and service providers for the benefit of the country and for the purposes of outsourcing.

The Director-General emphasized that Project NOVA is the Nigerian Outsourcing and Value Acceleration scheme targeted at developing a mass of critical skilled manpower in various sectors of the Nigerian economy to ensure that Nigeria not only attains technological independence but also outsources critical skills for the economic posterity of the nation.

She said that awareness of Project NOVA among Nigerian youths as well as industry experts who will provide the technical know-how is ongoing. She added that the country will soon experience an upsurge in outsourcing of technical skills and put a stop to over reliance on imported foreign technologies to safe our indigenous capabilities.

Project NOVA has the potential to unlock Nigeria's vast potential and drive economic growth, innovation, and technological advancement. With effective implementation, this initiative can create jobs, earn foreign exchange, drive technological advancement, increase competitiveness, and contribute to economic diversification. As NOTAP continues to drive this initiative forward, it is essential for stakeholders to collaborate and ensure the project's success.

By Raymond Onyenezi Ogbu



Group Picture of the Sensitization workshop

**NOTAP-INDUSTRY RESEARCH LABORATORY UPGRADE
PROJECT (NIRLUP)**

National Office for Technology Acquisition and Promotion (NOTAP) by its mandate has the responsibility of regulating the inflow of foreign technology, monitoring the transfer of foreign technology to Nigeria and commercialization of inventions, research and development (R&D) results emanating from the National Innovation System (NIS) and provision of other related services.

Arising from the office regulatory roles coupled with enormous basic research from the NIS in Nigeria due to inadequate infrastructure, the advocacy for upgrade of research laboratories with industries was championed. This necessitated the need to upgrade research laboratories in Universities and Research Institutes arises from the realization of the fact that our research infrastructure is weak which contribute to our incapacity to produce commercializable research and development (R&D) results.

The Office is convinced that government alone cannot adequately provide such facilities and the need for private sector to assist cannot be over emphasized. NOTAP in its attempt to address the above challenge came out with the initiative to upgrade the Research Laboratories of our tertiary institutions in partnership with industries on voluntary term. The pioneer industry to respond to this call is PZ Cussons Nigeria Plc on 20th March, 2014.

2.0 Objectives

- To strengthen the research infrastructure by providing state of the art equipment
- Provide adequate training facilities for both undergraduate and post graduate students
- Encourage the evolution of viable research and development (R&D) results through the Upgraded laboratories for Commercialization
- To forge research-industry linkage

3.0 Justification

- Lack of adequate research laboratories in our tertiary institutions.
- There are little industries base R&D efforts going on in our tertiary institutions.
- No effort by government to provide highly specialized equipment needed in the tertiary institutions to help R&D process

PZ Cussons Nigeria Plc under the partnership NOTAP-Industry Research Laboratory Upgrade Project (NIRLUP) funded the upgrade of laboratories in

ten (10) institutions which are already commissioned with one (1) pending for commissioned.

S/N	NAME OF UNIVERSITY/RESEARCH INSTITUTE	STATE	GEOPOLITICAL ZONE	TYPE OF LABORATORY UPGRADE	DATE OF COMMISSIONING
1	Modibo Adama University of Technology (MAUTECH)	Adamawa	North East	Chemical Engineering	26 th August, 2016
2	University of Calabar (UNICAL)	Cross River	South South	Chemistry	3 rd February, 2017
3	National Research Institute Chemical technology (NARICT)	Kaduna	North West	Chemical Engineering	17 th March, 2017
4	Alex Ekwueme Federal University Ebonyi	Ebonyi	South East	Chemical Engineering	31 st January, 2019
5	Abubakar Tafawa Balewa University (ATBU)	Bauchi	North East	Chemical Engineering	25 th October, 2019
6	Michael Okpara University of Agriculture, Umudike	Abia	South East	Chemistry/ Chemical Engineering	23 rd May, 2024
7	Federal University of Technology Akure (FUTA)	Ondo	South West	Chemistry	July 18, 2024
8	University of Jos (UNIJOS)	Plateau	North Central	Applied Chemistry	18 th February, 2025
9	University of Port Harcourt	Rivers	South South	Chemical Engineering	11 th September, 2025
10	Usmanu DanFodiyo University Sokoto (UDUS)	Sokoto	North West	Chemistry	Pending

LIST OF COMPANIES PARTICIPATING IN NOTAP-PARTNERSHIP PROJECT

- PZ Cussons Nigeria Plc
- FrieslandCampina WAMCO Plc
- Nestle Nigeria Plc
- Dufil Prima Nigeria Plc
- Nigeria Bottling Company
- Nigerian Breweries Plc
- Okomu Oil Palm Company Plc
- Guinness Nigeria Plc