BUSINESS PORTFOLIO

Dr. Michael Olawuyi and Dr. Esther Olawuyi
C.E.O.s
mgolawuyi@gmail.com
esthero611-wisetag@ieee.org

OUTLINE

COMPANY BRIEF

OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218 is a UK Engineering Company established on February 16, 2023 to create, design, develop and produce robotics, automation and control engineering products for various industries.

Our Company is a Supporter of the Aiming for Zero Methane Emissions Initiatives in the Oil and Gas Climate Initiative (OGCI) (https://www.ogci.com) in both the United States and the United Kingdom. We are also a registered Independent Oil and Gas Company with the Society of Petroleum Engineers (SPE) in the United Kingdom (https://www.spe.org). And, we are LIFE MEMBERS of the Institute of Electrical and Electronics Engineers (IEEE) in the United States.

We have Innovative Engineering Products for the Oil and Gas Industry, the Medical Industry, the Environmental Industry, the Power Industry, the Agriculture Industry, the Education Industry, and the Manufacturing Industry.

The Core values are Innovation and Research & Development.

C.E.O.s

Dr. Michael Olawuyi and Dr. Esther Olawuyi are the C.E.O.s. of OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218. Dr. Michael Olawuyi obtained his Bachelors of Medicine and Bachelors of Surgery (M.B.B.S.) from Igbinedion University, Okada, Nigeria in 2007. He obtained his Masters in Public Health (M.P.H.) from the University of Aberdeen, United Kingdom in 2010. Dr. Esther Olawuyi Obtained her Bachelors of Science in Electrical Engineering (B.S.E.E.) from HOWARD UNIVERSITY, Washington, DC, USA on May 8, 2004, a Masters of Science in Electrical Engineering (M.S.E.E.) from HOWARD UNIVERSITY, Washington, DC, USA on December 31, 2006, and a Doctor of Science (D.Sc.) in Electrical Engineering from the GEORGE WASHINGTON UNIVERSITY (GWU) on January 31, 2012.
Their official email address is esthero611-wisetag@ieee.org.

MISSION AND VISION
MISSION

- To create, design and produce Engineering Creations and Products that address needs and challenges in every Industry.
- To execute Special Missions that address the needs and demands of the country in which OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 operates.
- To revolutionize the Educational Sector by the successful Implementation of Product-Based Courses.
- To Train, and Equip Engineers to be able to come up with innovative products and to found their own successful Engineering companies.
- To carry out Research Executions to produce Innovations for all Industrial Sectors.

VISION

- To Commercialize AT LEAST THREE (3) of our Company's Innovative Engineering Products in the Next Five (5) years.
- To sell off the exclusive PATENT RIGHTS to AT LEAST ONE (1) of our Company's Innovative Engineering Products in the Next Five (5) years.
- To earn $4,000,000.00 USD in Revenue in the Next Three (3) years.

OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218

INNOVATIVE PRODUCTS

ALL OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 Products herein listed are already patented or are in the process of being patented in the United States Patent and Trademark Office (USPTO) in USA, and are owned by Dr. Michael Olawuyi, and Dr. Esther Olawuyi.

INDUSTRIAL SECTOR: AGRICULTURE

- Automated Irrigation System (AIS)
- Automated Irrigation System (AIS) Software

INDUSTRIAL SECTOR: EDUCATION

- PRODUCT-BASED COURSES

INDUSTRIAL SECTOR: ENVIRONMENT

- Environmental Drones

INDUSTRIAL SECTOR: MANUFACTURING

- CUSTOM 3D CASES.

INDUSTRIAL SECTOR: MEDICAL

- MEDLINK AND SOFTWARE

INDUSTRIAL SECTOR: OIL AND GAS

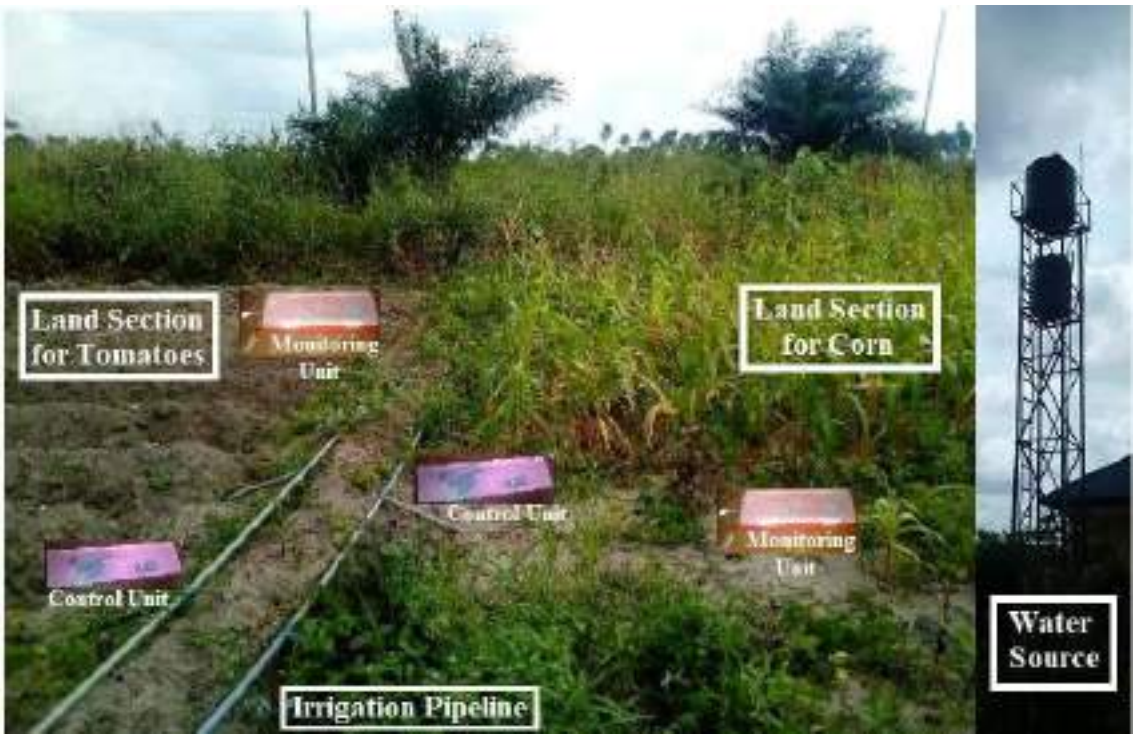
- Ground Robotic Oil Spill Surveillance (GROSS) System
- Aerial Robotic Oil Spill Surveillance (AROSS) System
- Underwater Robotic Oil Spill Surveillance (UROSS) System
- Petroleum Product Volume Estimator, Adulteration Detector, and Tracker (PePVEAT)
- Automated Oil and Gas Pipeline Vandalization Detection System
- Automated Refiner
- Automated Crude Transporter
- Automated Crude Constituent Extractor
- Automated Refinery
- Crude Oil Spill Imaging Database

INDUSTRIAL SECTOR: POWER

- National Power Optimization Software (NPOS)

AGRICULTURE INDUSTRY

AUTOMATED IRRIGATION SYSTEM (AIS)



The Automated Irrigation System (AIS) consists of Monitoring Units, Control Units, Irrigation Pipeline Valves, and a Network of Irrigation Pipelines to provide Automatic Irrigation to Irrigation Blocks.

The Automated Irrigation System (AIS) automatically and continuously measures the temperature, humidity, and moisture level in the soil using a Monitoring Unit embedded in the soil.

Each valve in the Irrigation Pipeline is fitted with a Control Unit that electrically controls its power supply. The water pump at the water source is also fitted with a Control Unit.

When the moisture level drops below a certain threshold, the Monitoring Units send a wireless message to the water pump and the pipeline valves of the Irrigation System, altering their power supply, causing water to flow through the system and water the soil in the Irrigation Block.

When the moisture level rises above a certain threshold, the system sends a wireless message to the water pump, and the pipelines in the Irrigation System, altering the power supply to the water pump and valves to close them, causing water to stop flowing through the system, into the irrigation pipelines, and into the soil in the Irrigation Block.

The Automated Irrigation System (AIS) can be applied to a Single Irrigation Block (20m by 20m) requiring irrigation, or multiple Irrigation Blocks with differing Irrigation Requirements.

website. www.olawuyiracettnigerialtd.com

AUTOMATED IRRIGATION SYSTEM (AIS) SOFTWARE

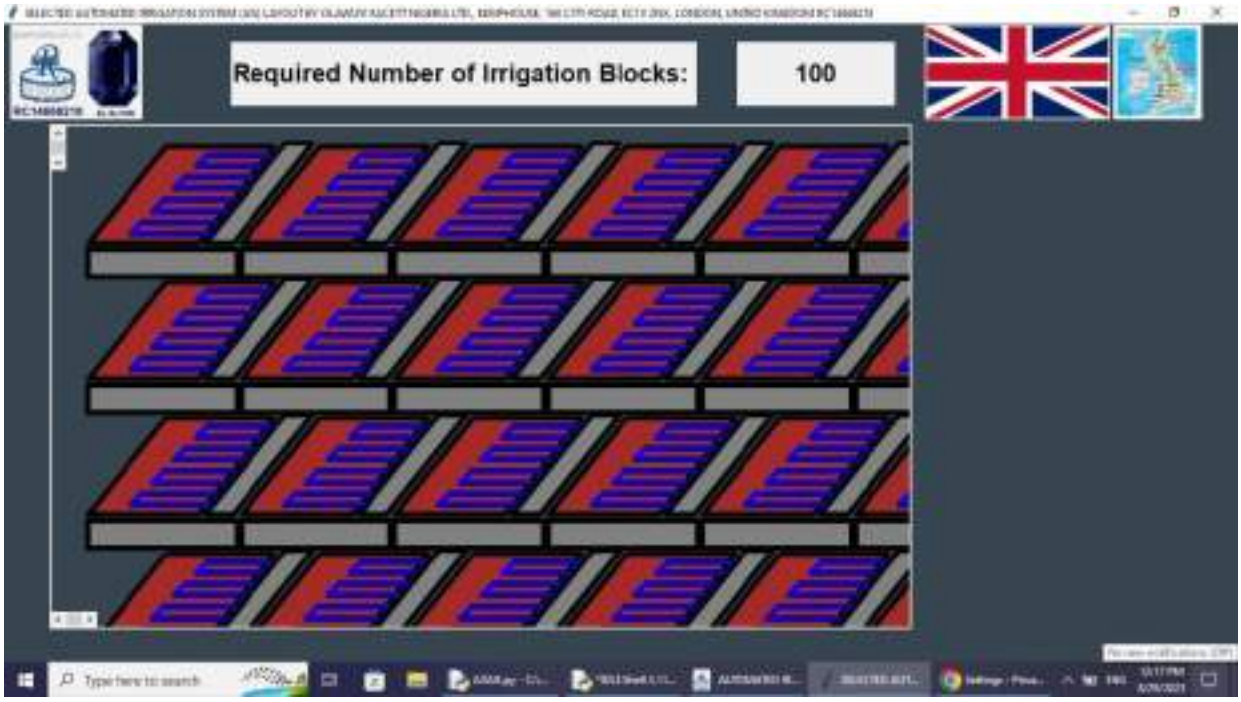
The Automated Irrigation System Pipeline Network Optimization Software enables farmers accurately model the appropriate irrigation system best suited for their lands, prior to installation. It also enables farmers to estimate the cost of the ideal large-scale and small-scale irrigation system.

The user simply needs to input the following parameters:

- The size of the land to be irrigated.
- The type of irrigation system desired by the user.
- The type of water source available
- The type of crop(s) to be cultivated on the land.

Once these parameters are obtained from the user, the software automatically generates the irrigation pipeline network for the land, and shows the placement of every component of the system on the farmer's land. Monitoring Units with soil moisture sensors, humidity and temperature sensors are

embedded within each land subsection and are used in determining when that subsection requires irrigation. Control units are attached to the irrigation pipeline valves to ensure control of the valves for automatic irrigation. The software also provides a cost estimate for the customized system.



The software also provides simulation of irrigation on farmer's lands, simulation of the farmer's crops on their lands (from planting to harvest), the expected harvest from his or her land as a result of the employed irrigation (in terms of quantity and quality), and the expected profit (in pounds) to be realized as a result of installing the customized irrigation system.

More details on this software can be found at our company website: www.olawuyiracettnigerialtd.com

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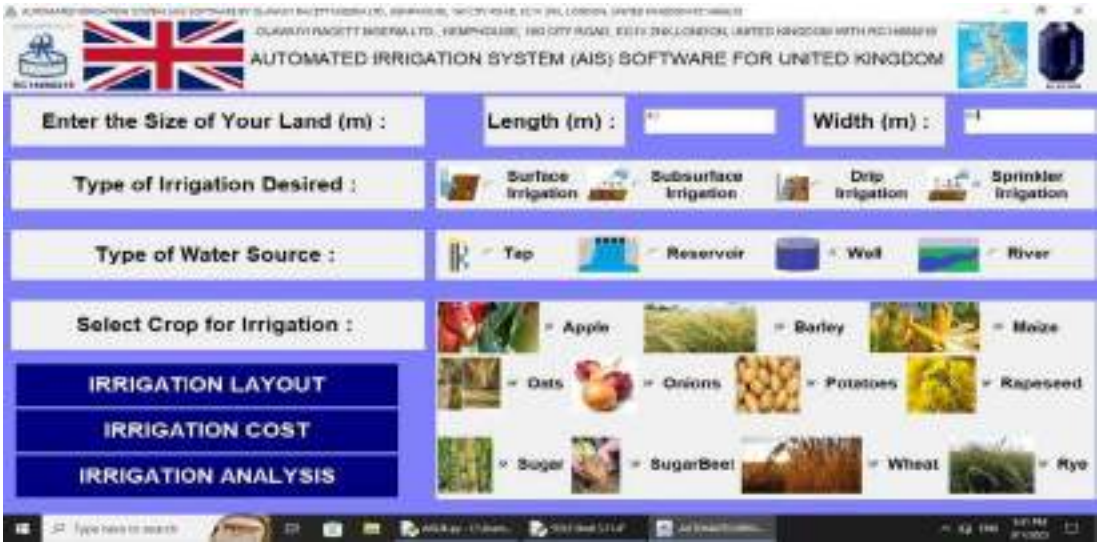
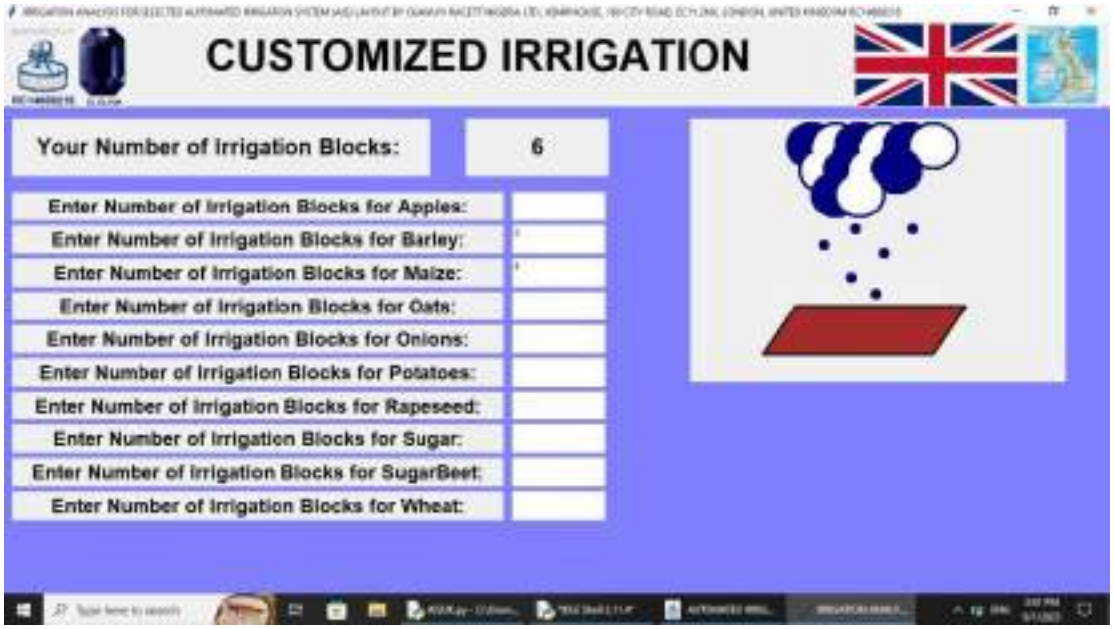
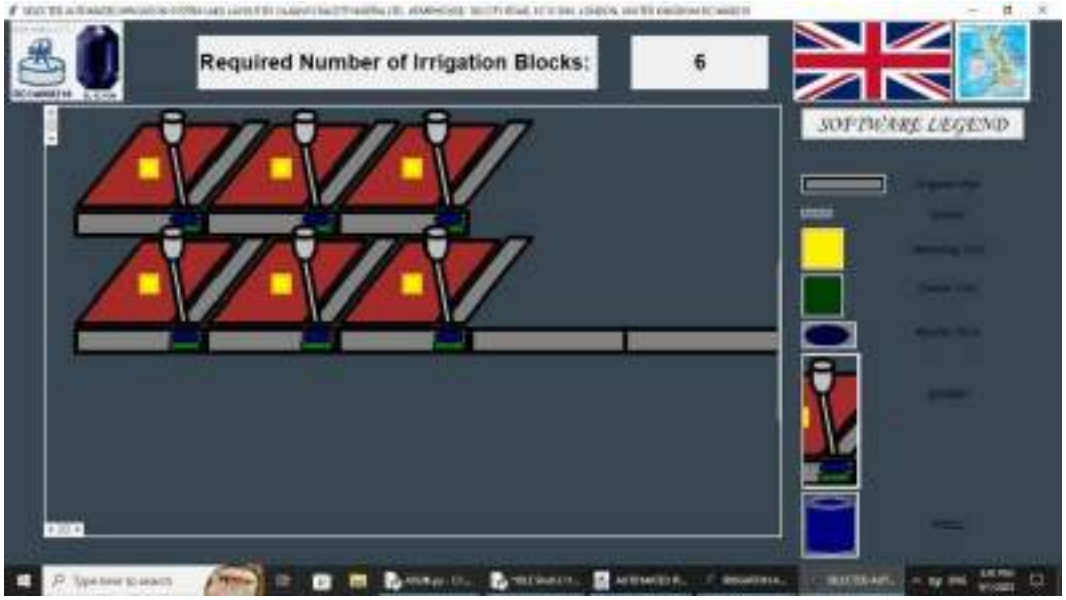
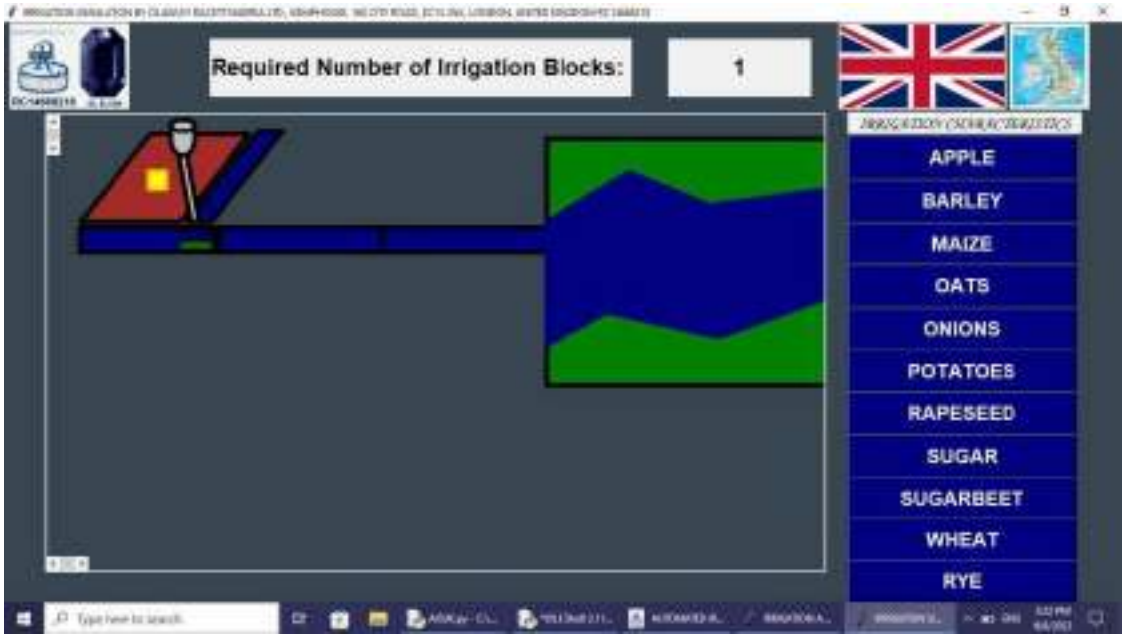
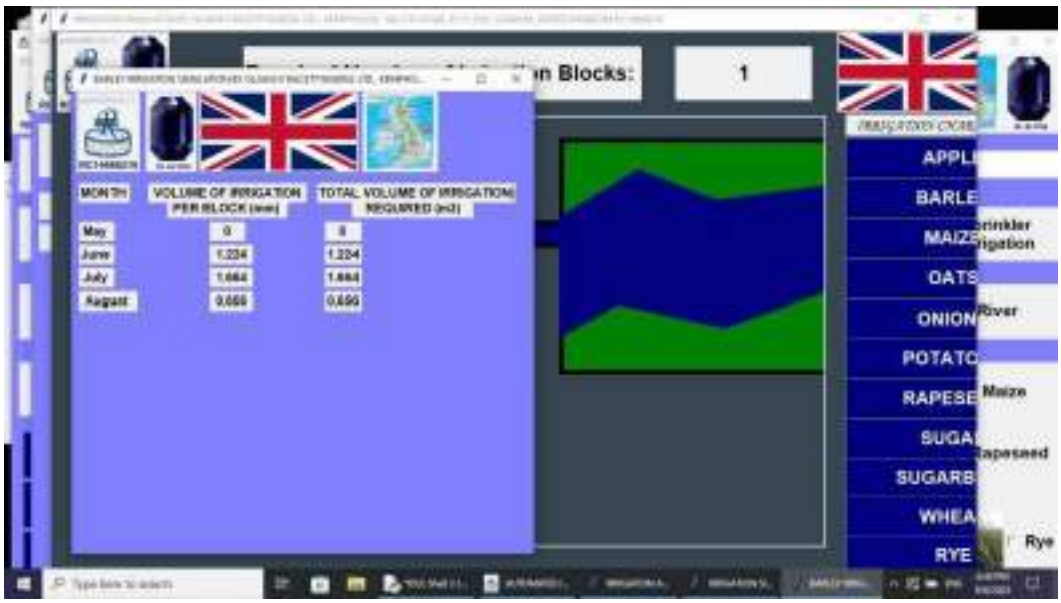
WELLINGTON SQUARE, OXFORD
OX1 2JD, LONDON, UNITED KINGDOM
esthero611-wisetag@ieee.org
RC14668218
ENGINEER FRANCIS OLAWUYI
EL ELYON

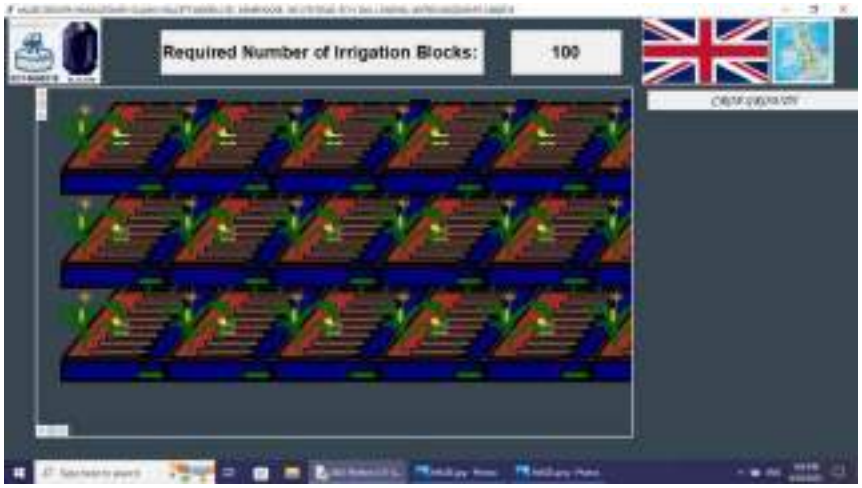





Required Number of Irrigation Blocks:
6
SOFTWARE LEGEND


Required Number of Irrigation Blocks:
1
APPLE
BARLEY
MAIZE
OATS
ONIONS
POTATOES
RAPESEED
SUGAR
SUGARBEET
WHEAT
RYE


Blocks:
1
MONTH
VOLUME OF IRRIGATION PER BLOCK (mm)
TOTAL VOLUME OF IRRIGATION REQUIRED (m3)
May
June
July
August
APPL
BARLE
MAIZ
OATS
ONION
POTATO
RAPESE
SUGA
SUGARB
WHEA
RYE
Maize
Rye


Required Number of Irrigation Blocks:
100

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WELLINGTON SQUARE, OXFORD
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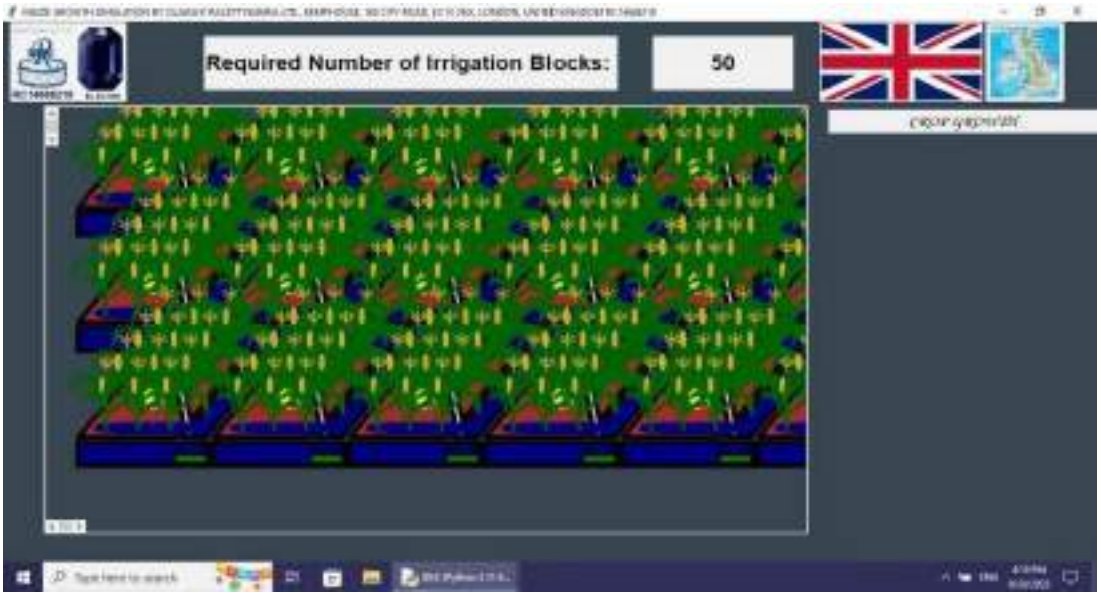
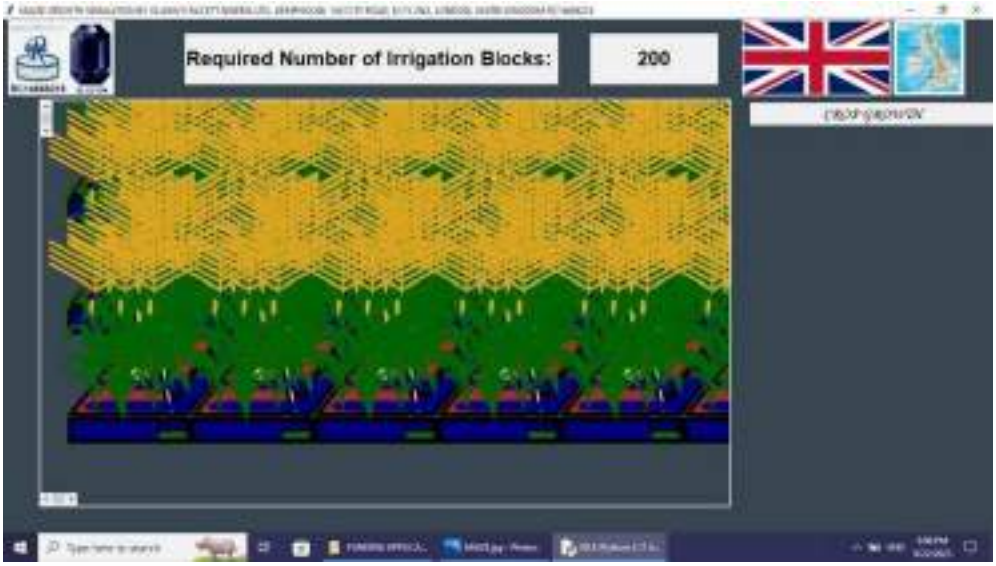
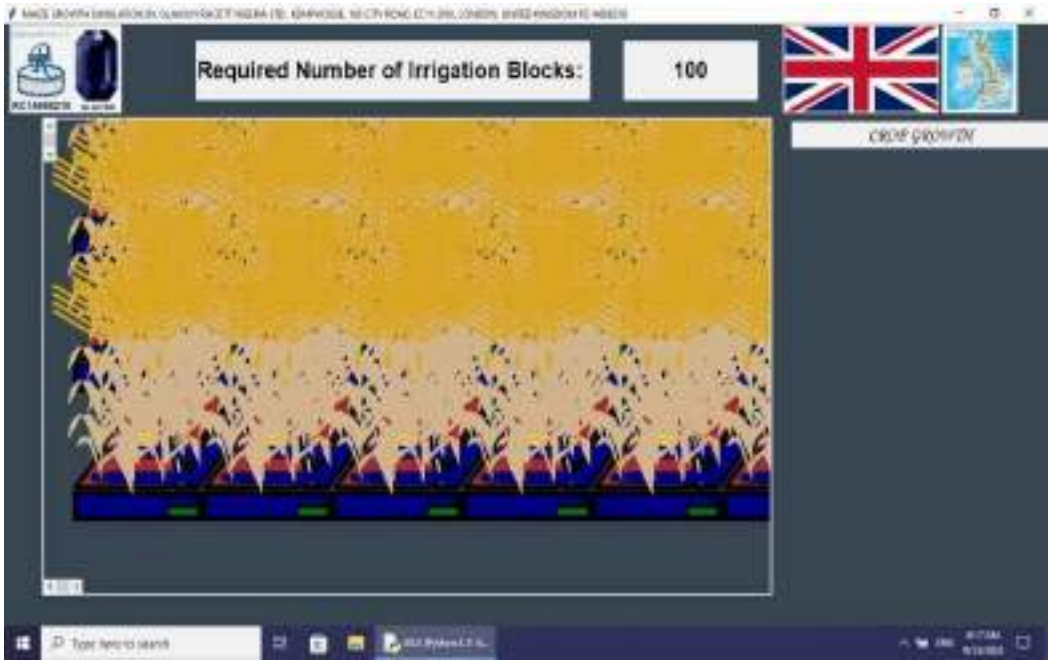
esthero611-wisetag@ieee.org
RC14668218
ENGINEER FRANCIS OLAWUYI
EL ELYON




Required Number of Irrigation Blocks:
200


Required Number of Irrigation Blocks:
100

EDUCATION

PRODUCT-BASED COURSES

OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 revolutionizes the Education Sector by the successful Implementation of Product-Based Courses in Universities. Each of the products listed in our Portfolio above have corresponding product-based courses to be implemented in the University System. Product-Based Courses is a novel way to teach engineering with practical hands-on experience in manufacturing a company product from start to finish. It ensures that the engineers that are being trained in our universities are actively involved in the design and development and manufacturing of a product that is currently being used in the industry today. The choice of industry depends on the product that is utilized for the Product-Based Course. This also ensures that our university students have superior and excellent experience in engineering prior to graduation and enables them secure lucrative and solid engineering positions within their respective fields. In collaboration with OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218, Universities establish Product Test Sites (PTS) where their Students can work on the manufacturing of our company's products.

Some of the product-based companies developed for some of our innovative products are shown below. Each product-based course is completed within 14 weeks to ensure that the courses can be accommodated and implemented during regular University semesters. Final Grading is based on the student's final product demonstration, power-point presentation, and research carried out on the product during the Product-Based Course.

For more information about our Product-Based Courses, contact the C.E.O.s of OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 at esthero611-wisetag@ieee.org.

GROSS PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - GROSS Product Introduction	

	- Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity - Lecture Presentation by GROSS ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for GROSS product). - Introduce Teaching Assistants (TAs) and their design hours - Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design - Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** Path Adjustment Algorithm to ensure unit drives in a straight line beside pipeline in PTS **In Class:** Connection to Chassis, Arduino Mega, moto shield & battery **Next week:** video of your unit driving beside your assigned pipeline section + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	Chassis Arduino Mega Mega Moto shield Battery

3	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should drive in a straight line, stop for one minute, turn 180^0, and drive in opposite direction. **In Class:** Connection to magnetometer with sample codes, code to turn 180^0 and stop. **Next week:** video of your unit driving in a straight line, stopping for one minute, turning 180^0, and moving in the opposite direction + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 2 components + magnetometer
4	**Best Student Video and PowerPoint Presentation** **Group Assignment and Discussion:** How would you prevent your unit from colliding with obstacles? **Design Task:** Unit should successfully detect and avoid obstacles. **In Class:** Connection to ultrasound sensors and characterization n of ultrasound sensors with sample codes	Wk 3 components + ultrasound sensors

	Group Discussion: Design and Develop algorithm for obstacle detection **In Class:** Code for obstacle detection and avoidance **Next week:** video of your unit successfully detecting and avoiding obstacles during patrol beside your assigned pipeline section + Power-point Hand out TAs video and Power-point for the week's Design Task	
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Patrol start to end of assigned pipeline section using GPS. **In Class:** Connection to GPS, sample code using GPS, get start and end GPS of your assigned pipeline section, integration of GPS code into patrol code. **Next week:** video of your unit patrolling beside your assigned pipeline section using start and end GPS location + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 4 components + GPS
6	**Best Student Video and PowerPoint Presentation** **Group Assignment Discussion:** How would you know when your unit has been tampered with physically? And what would you want to happen if this occurred? **Design Task:** Unit should successfully detect when it has been physically tampered with. **In Class:** Test and develop tampering algorithm, sample code given. **Next week:** video of your unit successfully detecting when it has been physically tampered with, during and in between patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 5 components
7	**Milestone 1 Grading (TAs and GROSS PRODUCT ENGINEERS AT PTS)** - Does unit patrol in a straight line? - Does unit successfully avoid obstacles beside pipeline? - Is unit able to detect when it has been physically tampered with? Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the GROSS PRODUCT, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	

8	**Group Assignment & Discussion:** How would you detect when a spill is occurring from your pipeline section? What would you like your unit to do after it detects a spill? **Design Task:** Unit should be able to detect when a spill has occurred its pipeline section	WK 5 + Oil Spill Sensor

	In class: connection to spill sensor, characterization of spill sensor, threshold selection, initial sample code provided **In class:** integration of spill detection code into unit code **Next week:** video of your unit successfully detecting crude oil spills from assigned pipeline section + Power-point Hand out TAs video and Power-point for the week's Design Task	
9	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should be able to obtain spill GPS location and images after spill detection **In class:** connection to camera, take pictures with camera and display on PC (initial code provided), integrate camera code into unit code. **Next week:** video of your unit successfully obtaining spill GPS location and images after spill detection during patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 8 + Camera
10	**Best Student Video and PowerPoint Presentation** **Design Task:** Wireless Transmission of spill image and Location to Remote PC **In class:** connection of wireless communication modules, wireless transmission of data from unit to PC, integration of wireless code into unit code. **Next week:** video of your unit successfully wirelessly transmitting spill GPS location and images after spill detection during patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 9 + Wireless Communication Modules
11	**Milestone 2 Grading (TAs and GROSS PRODUCT ENGINEERS AT PTS)** - Is unit able to detect when a spill has occurred from pipeline section? - Is unit able to successfully obtain spill GPS location and take images of spill site? - Is unit able to successfully transmit required spill data to appropriate authorities? Submit 2nd research manuscript draft to TAs	WK 10 Components

12	**Group Assignment and Discussion:** How would you ensure that your unit has constant power supply to provide continuous surveillance for your pipeline section? **Design Task:** Ensure Unit has continuous power supply using solar panels **In class:** connection to solar panel, characterization of solar panel charging + how long does your unit need to be charged in-between patrols? Battery voltage measurement before and after patrol.	WK 10 Components + Solar Panel

	Next week: video of your unit successfully patrolling with solar panel, solar charging data + Power-point Hand out TAs video and Power-point for the week's Design Task	
13	**Best Student Video and PowerPoint Presentation** **Design Task:** Final Unit Code Testing and Debugging **In class:** Work with TAs to ensure your unit is ready for final test.	WK 12 Components
14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, GROSS ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission - Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM	

AROSS PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - AROSS Product Introduction - Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity - Lecture Presentation by AROSS ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for AROSS product).	

	- Introduce Teaching Assistants (TAs) and their design hours - Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design - Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** AROSS unit should take off to 1m above ground, hover for 10 seconds and return back to ground **In Class:** Connection to Chassis, motors, propellers, Arduino Mega, ESCs, & battery, sample codes for altimeter. **Next week:** video of your unit taking off from the ground, hovering for 10 seconds at 1m above ground and then descending back to ground + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	Chassis Arduino Mega Motors, Propellers, ESCs, altimeter Battery

3	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should take off to 0.5 m above ground, and move forward in a straight line beside the pipeline until it gets to the end of the pipeline. It should then turn 180^0 and descend to the ground. **In Class:** Connection to magnetometer and gyrometer with sample codes, patrol algorithm development and testing code to turn 180^0 and stop, code to determine when unit has reached end of pipeline using distance traveled. **Next week:** video of your unit taking off to 0.5 m above ground, moving forward in a straight line beside the pipeline until it gets to the end of the pipeline, turning, turning 180^0, and descending to the ground + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 2 components + magnetometer and gyrometer
4	**Best Student Video and PowerPoint Presentation** **Group Assignment and Discussion:** How would you prevent your unit from colliding with obstacles? **Design Task:** Unit should successfully detect and avoid obstacles. **In Class:** Connection to ultrasound sensors and characterization n of ultrasound sensors with sample codes **Group Discussion:** Design and Develop algorithm for obstacle detection **In Class:** Code for obstacle detection and avoidance	Wk 3 components + ultrasound sensors
	Next week: video of your unit successfully detecting and avoiding obstacles during patrol beside your assigned pipeline section + Power-point Hand out TAs video and Power-point for the week's Design Task	
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Patrol start to end of assigned pipeline section using GPS. **In Class:** Connection to GPS, sample code using GPS, get start and end GPS of your assigned pipeline section, integration of GPS code into patrol code. **Next week:** video of your unit patrolling beside your assigned pipeline section using start and end GPS location + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 4 components + GPS

6	**Best Student Video and Power Point Presentation** **Group Assignment Discussion:** How would you know when your unit has been tampered with physically? And what would you want to happen if this occurred? When is your unit vulnerable to physical tampering? **Design Task:** Unit should successfully detect when it has been physically tampered with. **In Class:** Test and develop tampering algorithm, sample code given. **Next week:** video of your unit successfully detecting when it has been physically tampered with, during and in between patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 5 components
7	**Milestone 1 Grading (TAs and AROSS PRODUCT ENGINEERS AT PTS)** - Does unit patrol in a straight line? - Does unit successfully avoid obstacles beside pipeline? - Is unit able to detect when it has been physically tampered with? Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the AROSS PRODUCT, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	
8	**Group Assignment & Discussion:** How would you detect when a spill is occurring from your pipeline section? What would you like your unit to do after it detects a spill? **Design Task:** Unit should be able to detect when a spill has occurred its pipeline section **In class:** connection to spill sensor, characterization of spill sensor, threshold selection, initial sample code provided	WK 5 + Oil Spill Sensor

	In class: Integration of spill detection code into unit code **Next week:** video of your unit successfully detecting crude oil spills from assigned pipeline section + Power-point Hand out TAs video and Power-point for the week's Design Task	

9	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should be able to obtain spill GPS location and images after spill detection **In class:** connection to camera, take pictures with camera and display on PC (initial code provided), integrate camera code into unit code. **Next week:** video of your unit successfully obtaining spill GPS location and images after spill detection during patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 8 + Camera
10	**Best Student Video and PowerPoint Presentation** **Design Task:** Wireless Transmission of spill image and Location to Remote PC **In class:** connection for Wireless Communication Modules, wireless transmission of data from unit to PC, integration of wireless code into unit code. **Next week:** video of your unit successfully wirelessly transmitting spill GPS location and images after spill detection during patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 9 + Wireless Communication Modules.
11	**Milestone 2 Grading (TAs and AROSS PRODUCT ENGINEERS AT PTS)** - Is unit able to detect when a spill has occurred from pipeline section? - Is unit able to successfully obtain spill GPS location and take images of spill site? - Is unit able to successfully transmit required spill data to appropriate authorities? Submit 2nd research manuscript draft to TAs	WK 10 Components
12	**Group Assignment and Discussion:** How would you ensure that your unit has constant power supply to provide continuous surveillance for your pipeline section? **Design Task:** Ensure Unit has continuous power supply using solar panels. Assemble Solar Panel Base Charger and Embed along your pipeline section in PTS. **In class:** Characterization of solar panel base charger, algorithm to accurately land on solar panel base charger after pipeline patrol, Battery voltage measurement before and after patrol.	WK 10 Components + Solar Panel

	Next week: video of your unit successfully patrolling and landing on solar panel base charger after patrol, solar charging data + Power-point Hand out TAs video and Power-point for the week's Design Task	

13	**Best Student Video and PowerPoint Presentation** **Design Task:** Final Unit Code Testing and Debugging **In class:** Work with TAs to ensure your unit is ready for final test.	WK 12 Components
14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, AROSS ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission - Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM.	

UROSS PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - UROSS Product Introduction - Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity - Lecture Presentation by UROSS ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for UROSS product). - Introduce Teaching Assistants (TAs) and their design hours	

	- Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design - Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** UROSS unit should descend to bottom of water tank and come back up to surface of water tank. **In Class:** Assembling of UROSS chassis, floatation pack, electronic housing, thrusters. Connection to Arduino Mega, Battery, Relays, depth sensor. Simple code for UROSS unit to move up and down in PTS water tank. Simple code for UROSS unit to move forward and backwards and sideways in water tank, sample code provided. **Next week:** video of your unit descending to the bottom of water tank, rising to the surface of water tank, moving forward and backwards, and moving sideways in water tank + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	Chassis, Floatation Pack, Thrusters Electronic Housing, Battery, Arduino Mega, Relays, Depth Sensor.
3	**Best Student Video and PowerPoint Presentation** **Group Assignment and Discussion:** How would your unit locate the start point of their assigned subsea pipeline section? **Design Task:** Unit should descend to bottom of water tank and locate start RFID Tag 1. **In Class:** Connection to RFID Tag 1, Development of algorithm to search and locate start RFID Tag 1 after system activation. **Next week:** video of your unit descending to bottom of water tank and locating start RFID Tag 1 + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 2 components + RFID Tags and RFID Tag Readers
4	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should successfully patrol beside subsea crude oil pipeline after locating Start RFID Tag 1, path adjustment during patrol using side ultrasound sensors. **In Class:** Connection to ultrasound sensors and characterization n of ultrasound sensors with sample codes, algorithm development and testing to ensure unit travels in a straight line beside subsea crude oil pipeline, tracking distance covered, identification of End RFID Tag 2 after completion of pipeline patrol and stopping **Next week:** video of your unit successfully identifying start RFID Tag 1, patrolling beside subsea crude oil pipeline in a straight line using side ultrasound sensors, tracking distance covered, locating	Wk 3 components + sideways ultrasound sensors

	end RFID Tag 2 after completion of patrol and stopping + Power-point Hand out TAs video and Power-point for the week's Design Task	
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should successfully avoid obstacles during pipeline patrol. **In Class:** Connection to Forward ultrasound sensors and characterization n of ultrasound sensors with sample codes, algorithm development and testing to ensure unit detects and avoids obstacles during patrol **Next week:** video of your unit successfully detecting and avoiding obstacles during patrol of subsea crude oil pipeline in water tank at PTS + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 4 components + Forward ultrasound sensors
6	**Best Student Video and PowerPoint Presentation** **Group Assignment and Discussion:** How would your unit know when a spill is occurring from its subsea pipeline section? **Design Task:** Unit should successfully detect when a crude oil spill is emanating from the assigned subsea pipeline section. **In Class:** Connection to spill detector. Characterize spill detector, characterization of spill sensor, threshold selection, initial sample code provided, Integration of spill detection code into unit code **Next week:** video of your unit successfully detecting crude oil spills from assigned subsea pipeline section + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 5 components + spill detector
7	**Milestone 1 Grading (TAs and UROSS ENGINEERS AT PTS)** - Does unit patrol in a straight line beside subsea crude oil pipeline? - Does unit successfully avoid obstacles beside pipeline? - Is unit able to detect crude oil spills from its assigned subsea pipeline section? Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the UROSS PRODUCT, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	

8	**Design Task:** Unit should be able to obtain spill images after spill detection **In class:** connection to camera, take pictures with camera and display on PC (initial code provided), integrate camera code into unit code. **Next week:** video of your unit successfully obtaining spill images after spill detection during patrol + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 6 + Camera

9	**Best Student Video and PowerPoint Presentation** **Group Discussion & Assignment:** How and why would you close the pipeline valves after detection of subsea crude oil spills? **Design Task:** Unit should be able to manually close valve after spill detection, return to spill detection site, and then rise to surface of water tank **In class:** Algorithm to automatically locate pipeline valve and close it, integrate valve closure algorithm into unit code. **Next week:** video of your unit successfully closing pipeline valve after spill detection, returning to spill detection site and then rising to the surface of the water tank + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 8 Components
10	**Best Student Video and PowerPoint Presentation** **Design Task:** Wireless Transmission of spill images and Location to Remote PC **In class:** connection for wireless communication shields, wireless transmission of data from unit to PC, integration of wireless code into unit code. **Next week:** video of your unit successfully wirelessly transmitting spill GPS location and images after spill detection during patrol rising to the surface of the water tank + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 9 + Wireless Communication Shields
11	**Milestone 2 Grading (TAs and UROSS PRODUCT ENGINEERS AT PTS)** - Is unit able to manually close pipeline valves after spill detection for subsea pipeline section? - Is unit able to obtain spill images after spill detection? - Is unit able to obtain spill GPS location and transmit spill images and GPS to PC at surface of water tank? Submit 2nd research manuscript draft to TAs	WK 10 Components

12	**Design Task:** Unit should activate Personal Locator Beacon (PLB) after subsea spill detection and rising to the surface of the water tank. **In class:** Development of Algorithm to electronically turn on PLB. **Next week:** video of your unit successfully rising to surface of the water tank and electronically activating PLB. Hand out TAs video and Power-point for the week's Design Task	WK 10 Components + Personal Locator Beacon
13	**Best Student Video and PowerPoint Presentation** **Design Task:** Final Unit Code Testing and Debugging **In class:** Work with TAs to ensure your unit is ready for final test.	WK 12 Components

14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, UROSS ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission - Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM.	

MEDLINK PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - MEDLINK Product Introduction - Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity - Lecture Presentation by MEDLINK ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for MEDLINK product). - Introduce Teaching Assistants (TAs) and their design hours - Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design	
	- Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** MEDLINK unit should be able to determine if it is being used by a physician or by a patient. **In Class:** Installation of Battery Holder, power switch, and rotation knob sensor. Simple code to determine if unit is being used by a physician or a patient using the analog output of the rotation knob sensor **Next week:** video of your unit correctly identifying when it is being used by a physician and when it is being used by a patient using the output value of the rotation knob sensor + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	Case, 6 AA Battery Holder, power button switch, rotation knob sensor, Arduino Mega.

3	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should audibly greet physician after entering physician programming mode; unit should audibly greet patient after entering patient reporting mode. **In Class:** Install Emic 2 text-to-speech synthesizer and speaker. Develop algorithms and code to verbalize a series of texts. **Next week:** video of your unit should audibly greeting physician after entering physician programming mode and audibly greeting patient after entering patient reporting mode + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 2 components + Emic 2 text-to-speech synthesizer + speaker
4	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should be able receive physician and patient responses using input from keypad and to store responses in SD card Module. **In Class:** Connection for keypad and SD card module. Simple code to test keypad, sample code provided. Algorithm and code for unit to ask physician series of questions and to receive and store input using keypad and SD card module respectively. **Next week:** video of your unit verbally interacting with physician and storing physician responses, and verbally interacting with patient and storing patient responses. Hand out TAs video and Power-point for the week's Design Task	Wk 3 components + SD card Module + Keypad
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Finalize Algorithm and Code for Physician Programming Mode. **In Class:** Algorithm and code Development and testing for Physician Programming Mode	WK 4 components

	Next week: video of your unit demonstrating your final Physician Programming Mode + Power-point Hand out TAs video and Power-point for the week's Design Task	
6	**Group Discussion:** What are the relevant physiological parameters, how are they measured, why and when is it important to measure them? **Best Student Video and PowerPoint Presentation** **Design Task:** Characterization and Installation of Three Biomedical Sensors for Physiological Parameter Measurement. **In Class:** Installation of three biomedical sensors, connection for sensors and algorithm and code to acquire measurements using these sensors, sample codes provided. **Next week:** video of your unit successfully taking measurements using the three installed biomedical sensors + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 5 components + Biomedical Sensors

7	**Milestone 1 Grading (TAs and MEDLINK PRODUCT ENGINEERS AT PTS)** - Is your unit able to identify if it is being used by a physician or by a patient? - Is your unit able to interact with a physician, obtain all the physician's responses and store them in the SD card? - Is your unit able to take accurate measurements of certain physiological parameters using the three installed biomedical sensors? Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the MEDLINK, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	
8	**Design Task:** Characterization and Installation of Additional two/three Biomedical Sensors for Physiological Parameter Measurement. **In Class:** Installation of additional two or three biomedical sensors, connection for sensors and algorithm and code to acquire measurements using these sensors, sample codes provided. **Next week:** video of your unit successfully taking measurements using the additional two or three installed biomedical sensors + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 6 + more Biomedical Sensors
9	**Group Discussion:** Privacy concerns when dealing with patient medical data **Best Student Video and PowerPoint Presentation** **Design Task:** Send text messages and e-mail messages to physician's e-mail via wireless communication shields.	WK 8 Components + GPS/GSM/GPRS Shield

	In Class: Install wireless communication shields in unit. Develop and test and finalize algorithm to send information from unit to Physician's e-mail using the wireless communication shield. **Next week:** video of your unit sending e-mail message to the physician's e-mail. (show sent messages in e-mail) + Power-point Hand out TAs video and Power-point for the week's Design	

10	**Group Discussion:** How would you automate the system to guide the patient in obtaining their medical data for their physician? **Best Student Video and PowerPoint Presentation** **Design Task:** Finalize Algorithm and Code for Patient Reporting Mode. **In Class:** Algorithm and code Development and testing for Patient Reporting Mode **Next week:** video of your unit demonstrating your Patient Reporting Mode + Power-point Hand out TAs video and Power-point for the week's Design	WK 9 Components
11	**Milestone 2 Grading (TAs and MEDLINK ENGINEERS AT PTS)** - Is your unit able to verbally interact and guide the patient is medical data acquisition? - Is unit able to measure all the physician-requested physiological parameters? - Is your unit able to transmit measured patient data to physician's e-mail?	WK 10 Components
12	**Design Task:** Data Acquisition for Remote Patient Monitoring for Research Topic. **In class:** Assistance from TA on Product Build & Research Topic. Submit 2nd research manuscript draft to TAs	WK 10 Components
13	**Design Task:** Data Acquisition for Remote Patient Monitoring for Research Topic. **In class:** Assistance from TA on Product Build & Research Topic.	WK 12 Components
14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, MEDLINK ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission	

	- Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM.	

E-DRONE PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - E-DRONE Product Introduction - Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity - Lecture Presentation by E-DRONE ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for E-DRONE product). - Introduce Teaching Assistants (TAs) and their design hours - Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design - Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** E-DRONE unit should autonomously take off to 1m above ground, hover for 10 seconds and return back to ground **In Class:** Connection to Chassis, motors, propellers, Arduino Mega, ESCs, & battery, sample codes for altimeter. **Next week:** video of your unit taking off from the ground, hovering for 10 seconds at 1m above ground and then descending back to ground + Power-point	Chassis Arduino Mega Motors, Propellers, ESCs, altimeter Battery

	Hand out TAs video and Power-point presentation for the week's Design Task	
3	**Best Student Video and PowerPoint Presentation** **Design Task:** Unit should take off to $E_{altitude}$, hover for 10 seconds and descend to ground; Path Adjustment Algorithm to ensure unit flies up in a straight line to $E_{altitude}$. **In Class:** Connection to magnetometer and gyrometer with sample codes, patrol algorithm development and testing code to ensure unit flies up in a straight line. **Next week:** video of your unit taking off to $E_{altitude}$, hovering for 10 seconds and descending to ground + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 2 components + magnetometer and gyrometer
4	**Best Student Video and PowerPoint Presentation** **Group Assignment and Discussion:** Algorithm to accurately land on Solar Panel Base Charger after descent to ground. **Design Task:** Unit should successfully land on Solar Panel Base Charger after descent to ground. **In Class:** Characterization of solar panel base charger, algorithm to accurately land on solar panel base charger after descent, Battery voltage measurement before and after environmental data acquisition. **Next week:** video of your unit successfully flying to $E_{altitude}$, hovering for 10 seconds, descending to the ground and landing on Solar Panel Base Charger + Power-point Hand out TAs video and Power-point for the week's Design Task	Wk 3 components + Solar Panel Base Charger
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Install and Test Group 1 Environmental Sensors (AQHI Sensors). **In Class:** Testing, Characterization and Installation of Group 1 sensors; sample code provided. Integrate environmental data acquisition code for Group 1 sensors into unit code. **Next week:** video of your unit measuring and acquiring environmental data using Group 1 sensors + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 4 components + Group 1 sensors (AQHI sensors)

6	**Best Student Video and PowerPoint Presentation** **Design Task:** Install and Test Group 2 Environmental Sensors (Temperature Sensor, Humidity Sensor, Barometric Pressure sensor, Wind Seed and Direction Sensor). **In Class:** Testing, Characterization and Installation of Group 2 environmental sensors; sample code provided. Integrate	WK 5 components + Group 2 sensors
	environmental data acquisition code for Group 2 sensors into unit code. **Next week:** video of your unit measuring and acquiring environmental data using Group 2 sensors + Power-point Hand out TAs video and Power-point for the week's Design Task	
7	**Milestone 1 Grading (TAs and E-DRONE ENGINEERS AT PTS)** - Is your unit able to ascend to $E_{altitude}$, hover for 10 seconds, and descend back to ground? - Is your unit able to descend and land on Solar Panel Base Charger? - Are your Group 1 and 2 sensors in your unit able to successfully measure and acquire the required environmental and AQHI data? Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the E-DRONE PRODUCT, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	
8	**Design Task:** Acquire environmental and AQHI data at $E_{altitude}$ using Groups 1 and 2 sensors **In class:** integrate environmental and AQHI acquisition code into unit code. Determine optimum time to acquire and measure each data. Determine total hover time needed to measure all environmental and AQHI data, update unit code to hover for total measurement time and acquire all data at $E_{altitude}$ during hover time before descent to Solar Panel Base Charger **Next week:** video of your unit successfully taking off, hovering at Ealtitude and measuring environmental and AQHI data before descending back to land on Solar Panel Base Charger + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 6 components

9	**Best Student Video and PowerPoint Presentation** **Group Assignment & Discussion:** What are the current methods of reducing/abating air pollution? How effective do you think they are? **Design Task:** Algorithm and code to calculate and classify AQHI for Group 1 sensors. Installation of pollution abatement solutions. **In class:** Write calculation and classification of AQHI algorithm and code and integrate into unit code. Install pollution abatement solutions in unit.	WK 8 + Pollution Abatement solutions

	Next week: video of your unit successfully taking off, hovering at $E_{altitude}$ and measuring environmental and AQHI data, the calculation and classification of the measured AQHI data, and the unit descending back to land on Solar Panel Base Charger + Power-point Hand out TAs video and Power-point for the week's Design Task	
10	**Best Student Video and PowerPoint Presentation** **Design Task:** Implement Pollution Abatement Solutions at $E_{altitude}$. **In class:** Testing, Characterization and Installation of Pollution Abatement Solutions on unit. Write and test code to implement pollution abatement solutions for each air pollutant with measured AQHI above recommended threshold set by Health Canada and Environment Canada, sample code provided. Implementation of Pollution Abatement solutions at $E_{altitude}$. **Next week:** video of your unit successfully implementing pollution abatement solution of AT LEAST ONE air pollutant with a measured AQHI above the recommended threshold + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 9 + Components

11	**Milestone 2 Grading (TAs and E-DRONE PRODUCT ENGINEERS AT PTS)** - Is your unit able to calculate all the AQHIs for the Group 1 sensors? - Is unit able to detect when an AQHI measurement is above the recommended threshold set by Health Canada and Environment Canada? - Is unit able to successfully implement the appropriate pollution abatement solutions for each air pollutant with a measured AQHI above the recommended threshold? Submit 2nd research manuscript draft to TAs	WK 10 Components
12	**Group Assignment and Discussion:** What would be the most effective way to use the data your unit measures? How is that data valuable? **Design Task:** Transmission of measured and acquired environmental data by unit to computers in monitoring stations using e-mails via wireless communication modules. Generation of AQHI maps using custom software. **In class:** Characterization and Installation of wireless communication modules. Write code to transmit measured environmental data + AQHI data from unit to phones and	WK 11 Components + Wireless Communication Module.
	computers in monitoring stations using e-mails via wireless communication moduels and upload into unit code. Integrate transmitted data into custom software to generate AQHI maps. **Next week:** video of your unit successfully transmitting acquired environmental + AQHI data to phones and computers in monitoring stations using e-mails via the wireless communication modules. + Power-point Hand out TAs video and Power-point for the week's Design Task	
13	**Best Student Video and PowerPoint Presentation** **Design Task:** Final Unit Code Testing and Debugging **In class:** Work with TAs to ensure your unit is ready for final test.	WK 12 Components

14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, E-DRONE ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission - Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM.	

AUTOMATED IRRIGATION SYSTEM PRODUCT-BASED COURSE

WEEK #	DESIGN TASK DESCRIPTION	COMPONENTS USED
1	- Introduction to Robotics, Automation and Control Engineering (R.A.C.E.) - Applications of RACE in different industries - What to Expect from the Course (Grading, Weekly Power Point, videos, etc.) - AUTOMATED IRRIGATION SYSTEM Product Introduction - Grading Scheme – Milestone 1 Grading, Milestone 2 Grading, Product Demonstration and Presentation, Unleash Your Creativity	

	- Lecture Presentation by AUTOMATED IRRIGATION SYSTEM PRODUCT ENGINEER, experience working as an engineer, how the product works, possible challenges the students will encounter while working on this product and what to watch out for, helpful tips and suggestions (include videos, pictures & data for AUTOMATED IRRIGATION SYSTEM product). - Introduce Teaching Assistants (TAs) and their design hours - Location of University PTS and assignment to specific pipelines - Hand out Product Components - Hand out Weekly Schedule for Product Design - Hand out initial reading material on Product, including product publications - Research Topic Assignments (Group or Individual depending on class size)	
2	**Design Task:** Preparation of Land Sections for Irrigation **In Class:** Plant crops, flowers, plants, etc. on land sections for irrigation. Demarcate each land section. Identify which type of automated irrigation system you are designing and manufacturing. **Next week:** video of your land preparation showing you demarcating your land and planting the crops in your land sections Hand out TAs video and Power-point for the week's Design Task	None
3	**Best Student Video and PowerPoint Presentation** **Design Task:** Design and Optimization of Irrigation Pipeline network using customized software. **In Class:** Use provided software to design the irrigation pipeline for your land sections. Be sure to pay special attention to pipeline size, effective coverage area of your watering mechanism, and irrigation valve placement. Determine how many monitoring units and control units your automated irrigation system requires. **Next week:** Video of your Irrigation pipeline network explaining why you believe your design has been optimized + Power-point Hand out TAs video and Power-point for the week's Design Task	None
4	**Best Student Video and PowerPoint Presentation** **Design Task:** Installation of irrigation pipeline network + irrigation pipeline valves + water source + main water pump + power supply for pump and pipeline valves. **In Class:** Use the pipelines and pipeline valves provided to construct your optimized irrigation pipeline network on your land	Irrigation Pipeline network, irrigation pipeline valves, water source, main water pump, power

	section (s). Install your water source and water pump. Connect pipeline valves and water pump valves to their power supplies. **Next week:** video of your land section showing the physical installation of your optimized irrigation pipeline network on your land section (you can label each component) + Power-point Hand out TAs video and Power-point for the week's Design Task	supply for pump and pipeline valves.
5	**Best Student Video and PowerPoint Presentation** **Design Task:** Testing, Characterization and Installation of Sensors (Soil Moisture Content, Temperature, Humidity, water level) in monitoring unit case. Write code to autonomously and continuously measure and acquire sensor data and determine optimum time interval between sensor data acquisition. **In Class:** Install and Connection sensors to Arduino Mega inside monitoring unit case. Write codes to autonomously and continuously measure and acquire sensor data and upload into Arduino Mega (sample codes provided). **Next week:** video of your monitoring unit measuring and acquiring sensor data (soil moisture content, temperature, humidity, water level, etc.) from your land section + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	WK 4 components + Monitoring unit case, battery, Arduino Mega, soil moisture sensor, temperature sensor, humidity sensor, water level sensor.
6	**Best Student Video and PowerPoint Presentation** **Design Task:** Monitoring unit should ask user to select crop being cultivated on the land and should monitor soil moisture content based on the selected switch button. **In Class:** Testing, Characterization and Installation of LCD Display and switch buttons and relays. Write simple code to ask user to select crop currently being cultivated on the land. Obtain user response from switch buttons and commence autonomous monitoring of soil moisture content in your land section(s). **Next week:** video of your monitoring unit asking user to select crop being cultivated on the land using LCD display, crop selection using switch buttons and autonomous measurement of soil moisture content commencing subsequently + Power-point Hand out TAs video and Power-point presentation for the week's Design Task	WK 5 components + LCD Display + switch buttons + relays

7	**Milestone 1 Grading (TAs and IRRIGATION ENGINEERS AT PTS)** - Optimized Irrigation Pipeline Network Automated Irrigation PTS set up evaluation - Is your monitoring unit able to autonomously and continuously measure the appropriate environmental data at optimum time interval?	

	- Is your unit able to request user input using LCD, receive user input using switch button? - Submit 1st research manuscript draft to TAs **Presentation by Representative from Company using the AUTOMATED IRRIGATION SYSTEM, the impact the product has had on its target industries, why the product is vital, product sales, etc.**	
8	**Group Assignment & Discussion:** How would you detect when a spill is occurring from your pipeline section? What would you like your unit to do after it detects a spill? **Design Task:** Unit should be able to detect when the land needs to be irrigated and when irrigation needs to stop for the user-selected crop based on the output of the soil moisture sensor. **In class:** Write and test code to autonomously detect when land needs to be irrigated, "TURN ON". Write and test code to autonomously detect when land irrigation needs to stop, "TURN OFF". This should be done based on the user-specified crop by means of the switch button. **Next week:** video of your monitoring unit successfully detecting that irrigation needs to commence and also detecting when irrigation needs to cease for the user-selected crop + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 6 components
9	**Best Student Video and PowerPoint Presentation** **Design Task:** Monitoring Unit Should be able to wireless communicate with the Control Unit to start or cease Irrigation. **In class:** building and connection of Control Unit(s), conducting wireless communication between Monitoring Units and Control Units. **Next week:** video of your system conducting automated watering of your Irrigation land on the University's PTS. + Power-point Hand out TAs video and Power-point for the week's Design Task	WK 8 + Control Units Casing, Arduino Mega, Battery Pack, and Wireless Communication Module

10	**Best Student Video and Power Point Presentation** **Design Task:** Automated Watering of your Irrigation Block on the University's PTS. **In class:** Automated Watering of your Irrigation Block on the University's PTS. **Next week:** NONE	WK 9
11	**Milestone 2 Grading (TAs and IRRIGATION ENGINEERS AT PTS)** - Is the Control Unit able to wirelessly communicate with the Monitoring Unit?	WK 10 Components
	- Is the Control Unit able to perform automated watering of an Irrigation Block when it is requested by the Monitoring Unit? - Is the Control Unit able to cease automated watering of an Irrigation Block when it is requested by the Monitoring Unit? Submit 2nd research manuscript draft to TAs	
12	**Best Student Video and PowerPoint Presentation** **Design Task:** Automated Watering of your Irrigation Block on the University's PTS. **In class:** Automated Watering of your Irrigation Block on the University's PTS. **Next week:** NONE	WK 10 Components
13	**Best Student Video and PowerPoint Presentation** **Design Task:** Final Unit System Testing and Debugging **In class:** Work with TAs to ensure your System is ready for final test.	WK 12 Components
14	- Final Product Demonstration and Power-point Presentation - Unleash Your Creativity - Grading by Representative from Company Using product, IRRIGATION ENGINEERS, and TAs. - Power-point presentation given by Research Groups - Individual Final Product Demonstration - Final Research Manuscript Submission - Visit to OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218.	

ENVIRONMENTAL INDUSTRY

ENVIRONMENTAL DRONES

Environmental drones (E-drones) are programmed autonomous drones used ro pollution monitoring (CH_4, CO_2, CO, O_3, $P.M._{2.5}$, $P.M._{10}$, NO_2, SO_2, NH_3), detection, and abatement at altitudes above ground level in a specific geographic region.

E-dronnes produce Air Quality Health Index (AQHI) maps of covered regions for environmental data monitoring and long-term analysis.

E-drones are the first aerial systems (especially drone-wise) to conduct aerial pollution abatement, following successful pollution detection.

E-drones will enable any country to not only monitor and detect the concentrations of major air pollutants, but will also enable them to automatically and autonomously perform pollution reduction where and when it is required.

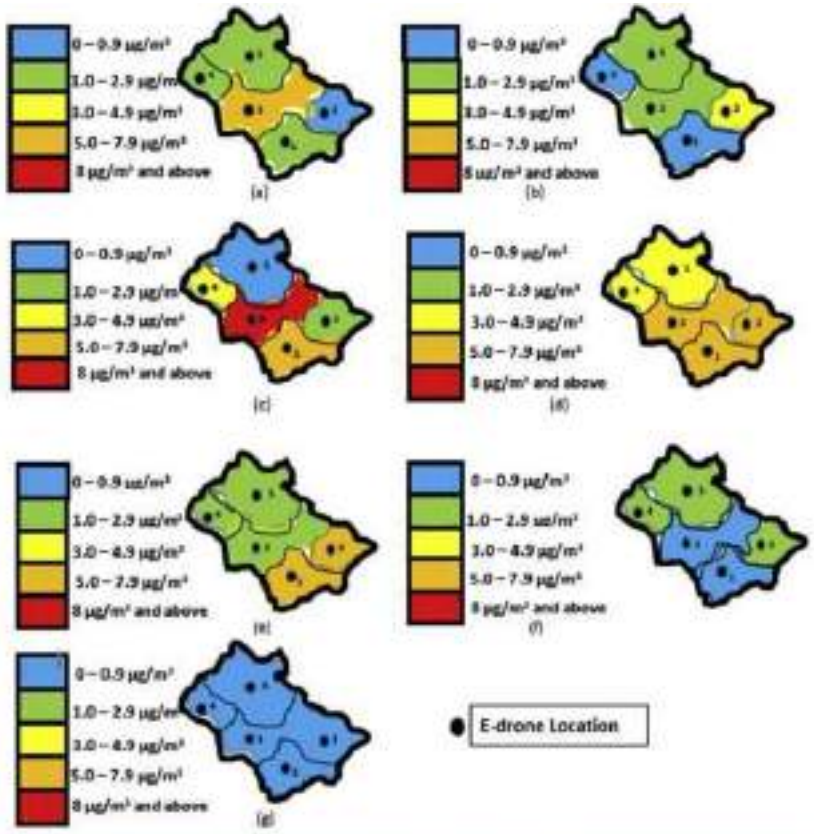

0 – 0.9 µg/m³
1.0 – 2.9 µg/m³
3.0 – 4.9 µg/m³
5.0 – 7.9 µg/m³
8 µg/m³ and above
(a)
(b)
(c)
(d)
(e)
(f)
(g)
E-drone Location

Table 1. Test Data from a single E-drone.

Date	April 30, 2017
Time	11:05 a.m.
Temperature	18 ± 2.2 °C
Humidity	82 ± 6%
Barometric Pressure	1006 ± 2 hPa
Precipitation	2 mm
Wind Speed	1.39 ± 0.4 m/s
Wind Direction	West
AQHI	
O_3	6.0 μg/m^3
PM (Smoke)	1.9 μg/m^3
NO_2	15 μg/m^3
NO_2(After Pollution Abatement)	14.2 μg/m^3
CO_2	5.5 μg/m^3
SO_2	2.2 μg/m^3
CO	0.9 μg/m^3
NH_3	0.1 μg/m^3
Maximum AQHI	15 μg/m^3

G. Rohi et al.

Table 2. Measured AQHI data by the E-drone.

	Location 1	Location 2	Location 3	Location 4	Location 5
	μg/m^3	μg/m^3	μg/m^3	μg/m^3	μg/m^3
O_3	2.8	0.7	6.0	2.5	1.2
PM (Smoke)	0.6	3.2	1.9	0.8	2.3
NO_2	7.2	1.5	15.0	3.8	0.4
NO_2 (After Abatement)	-	-	14.2	-	-
CO_2	7.7	6.2	5.5	3.4	4.4
SO_2	6.7	6.4	2.2	1.7	2.6
CO	0.3	1.1	0.9	1.4	1.2
NH_3	0.8	0.5	0.1	0.3	0.5

OLAWUYI RACETT NIGERIA LTD.
WELLINGTON SQUARE, OXFORD
OX1 2JD, LONDON, UNITED KINGDOM
esthero611-wisetag@ieee.org

RC14668218

ENGINEER FRANCIS OLAWUYI

EL ELYON

OLAWUYI RACETT NIGERIA LTD.
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esthero611-wisetag@ieee.org
RC14668218
ENGINEER FRANCIS OLAWUYI
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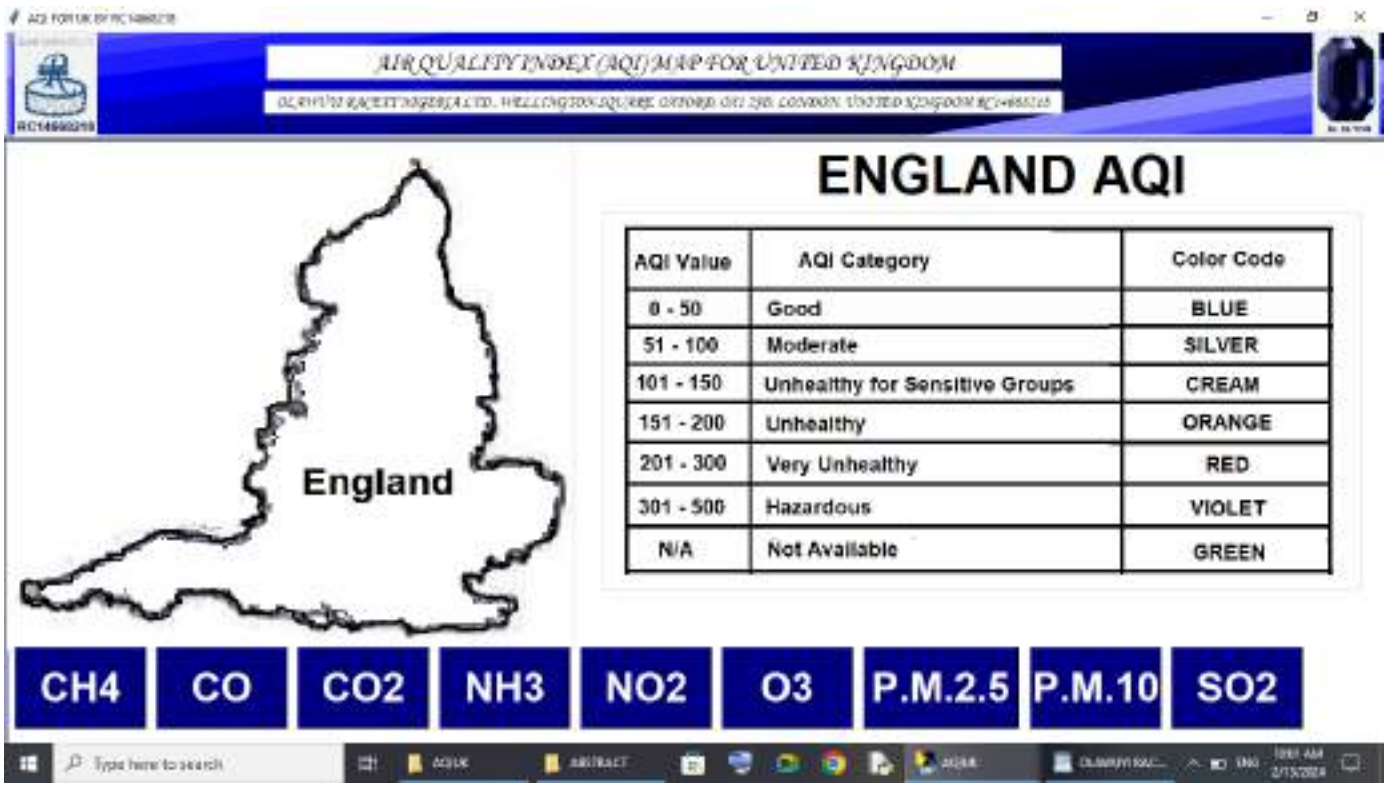

AQI Value	AQI Category	Color Code
0 - 50	Good	BLUE
51 - 100	Moderate	SILVER
101 - 150	Unhealthy for Sensitive Groups	CREAM
151 - 200	Unhealthy	ORANGE
201 - 300	Very Unhealthy	RED
301 - 500	Hazardous	VIOLET
N/A	Not Available	GREEN

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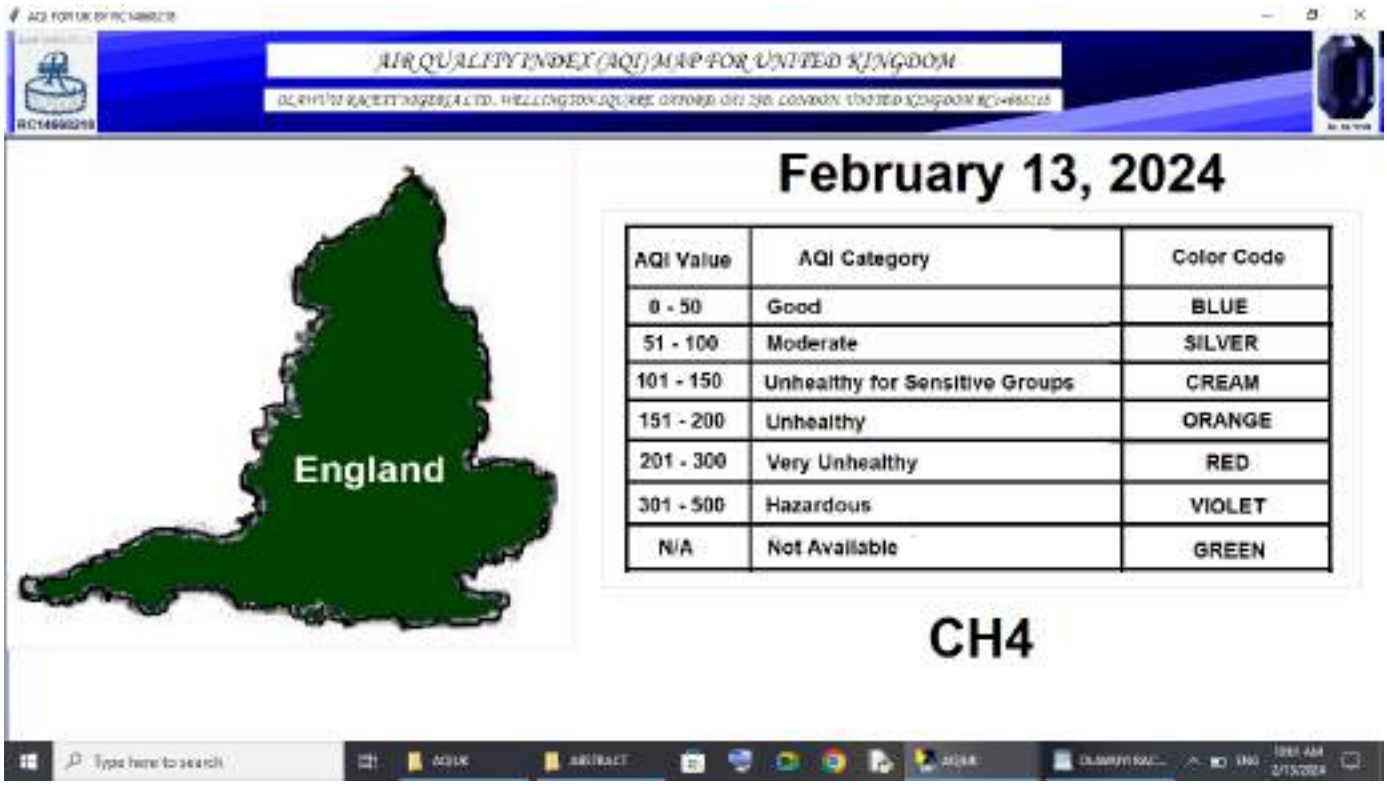

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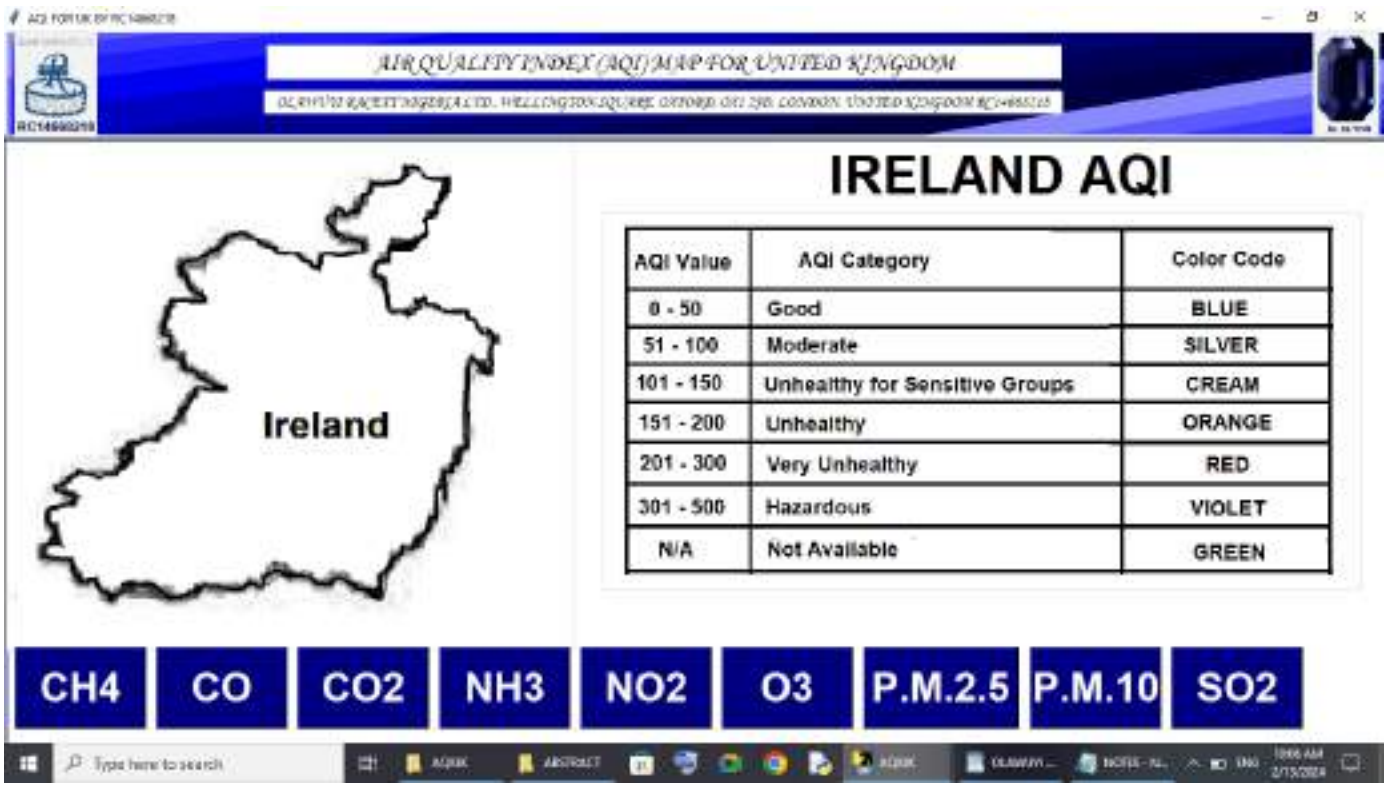

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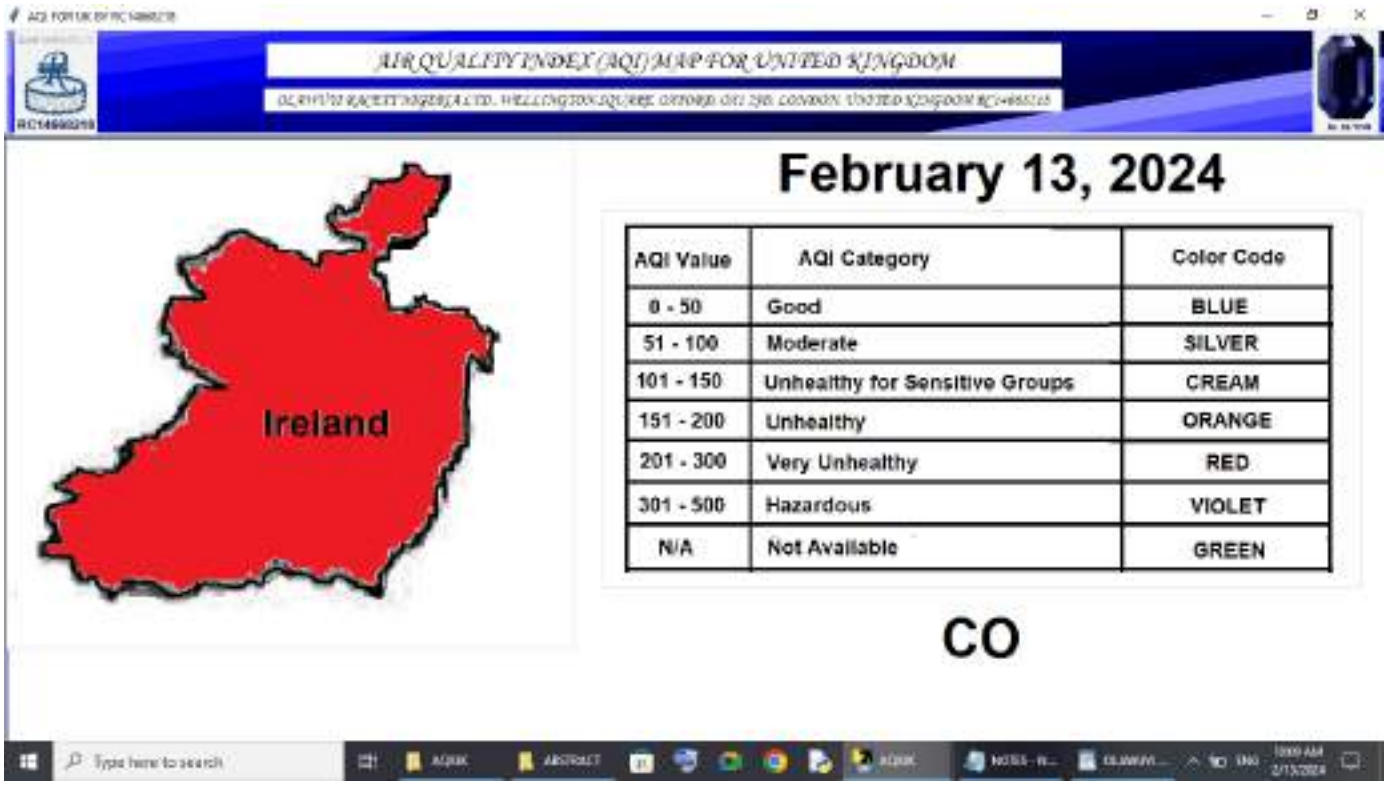

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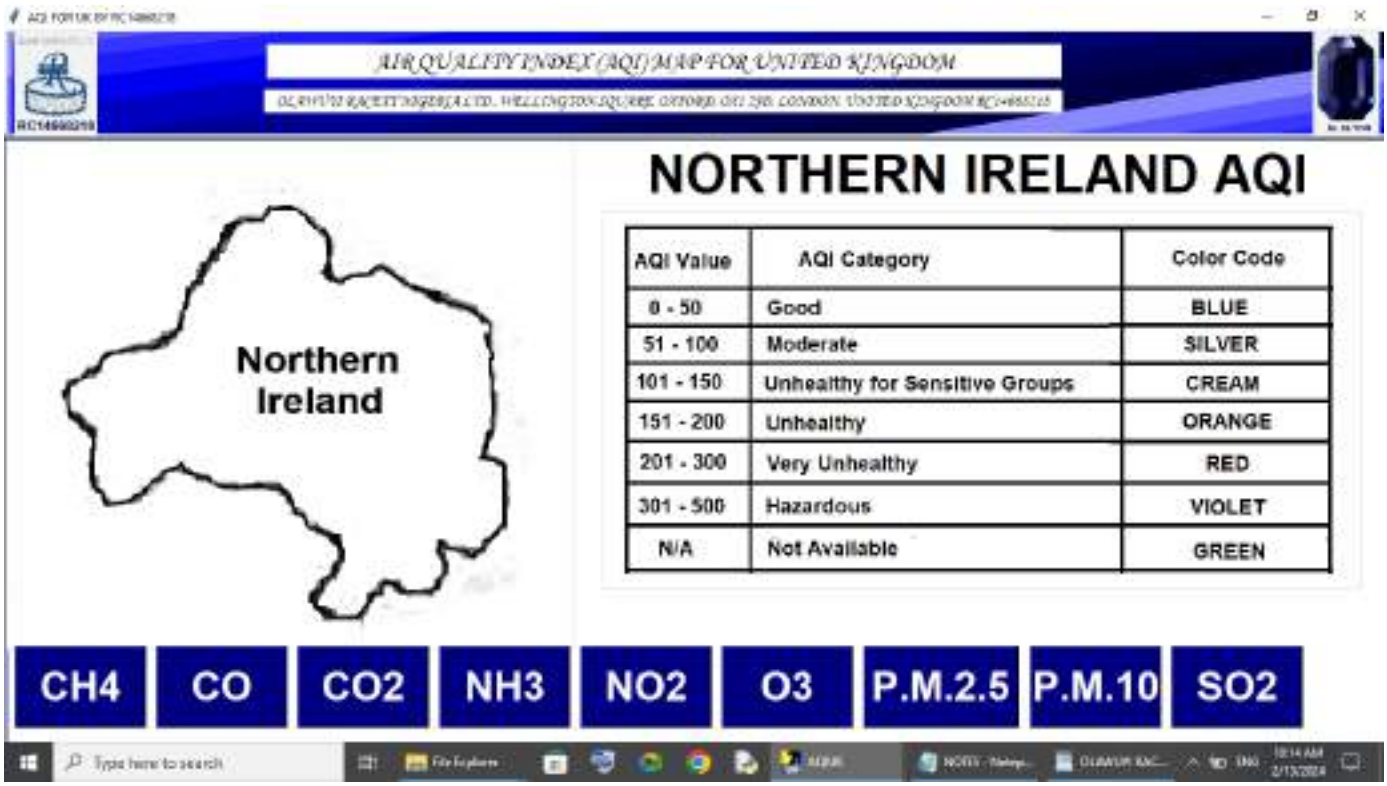

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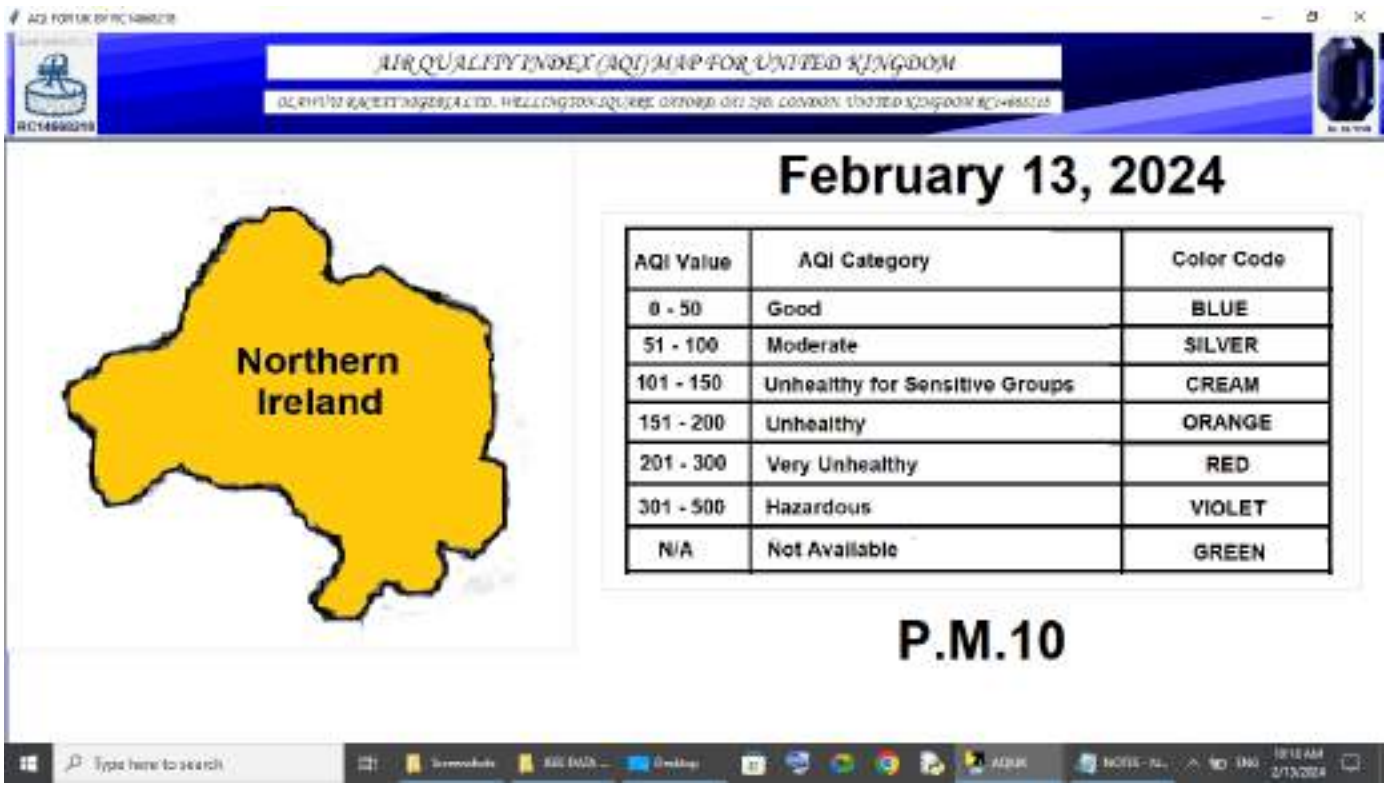

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AIR QUALITY INDEX (AQI) MAP FOR UNITED KINGDOM

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SCOTLAND AQI

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CH4 | CO | CO2 | NH3 | NO2 | O3 | P.M.2.5 | P.M.10 | SO2

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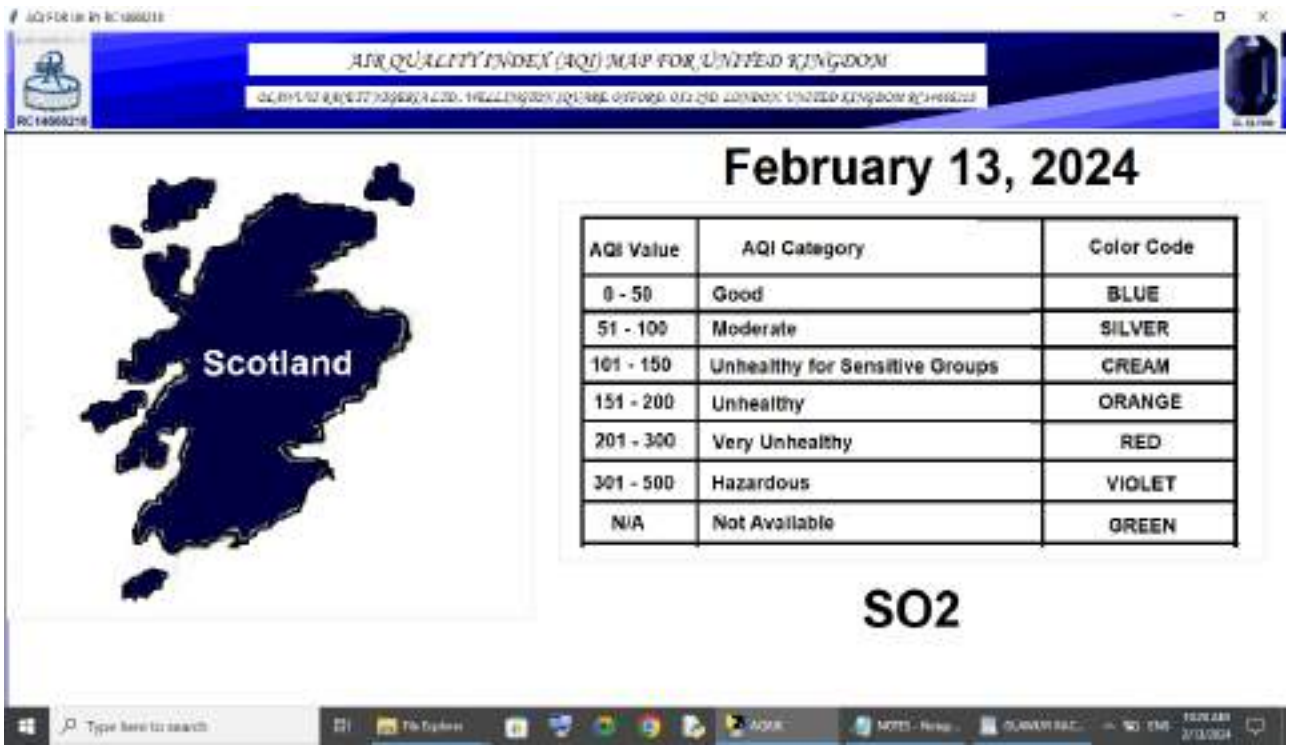

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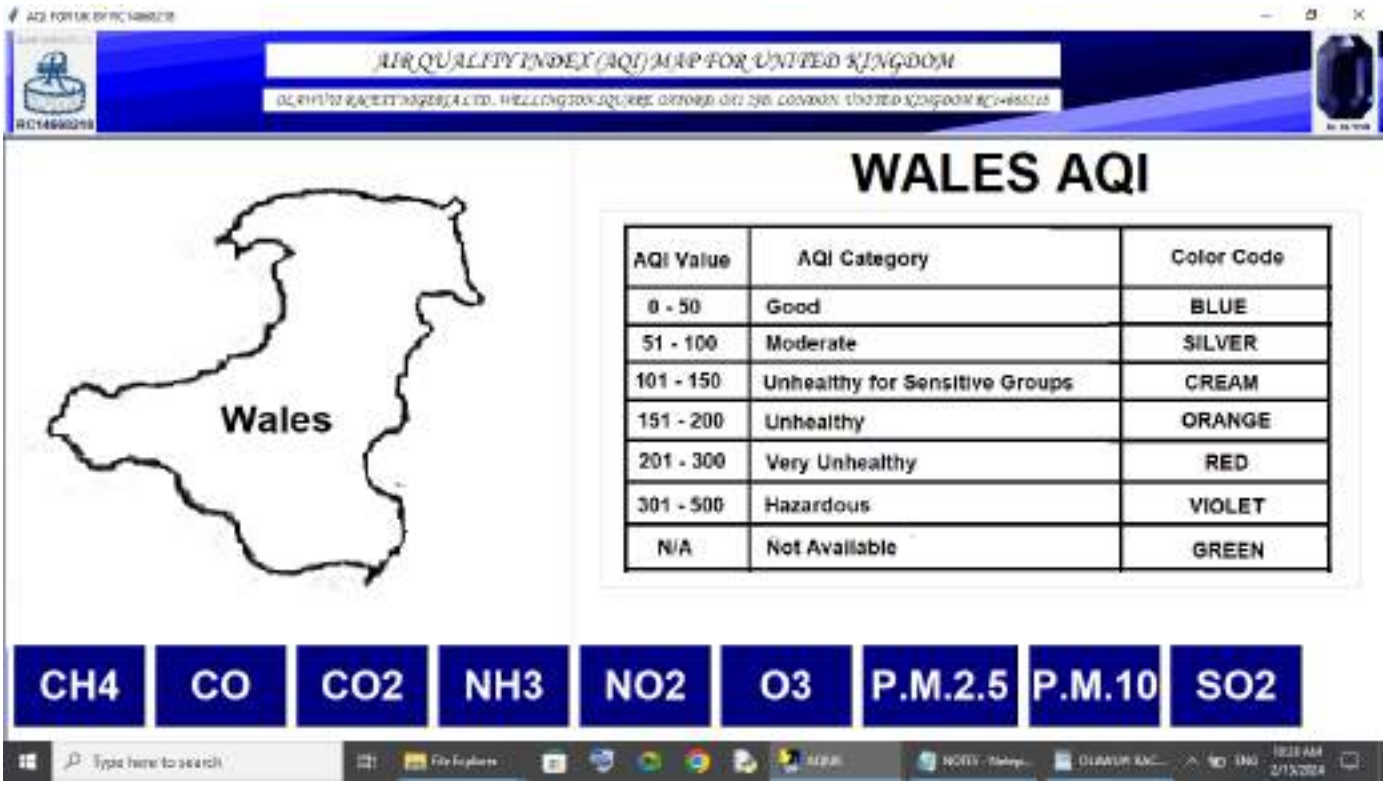

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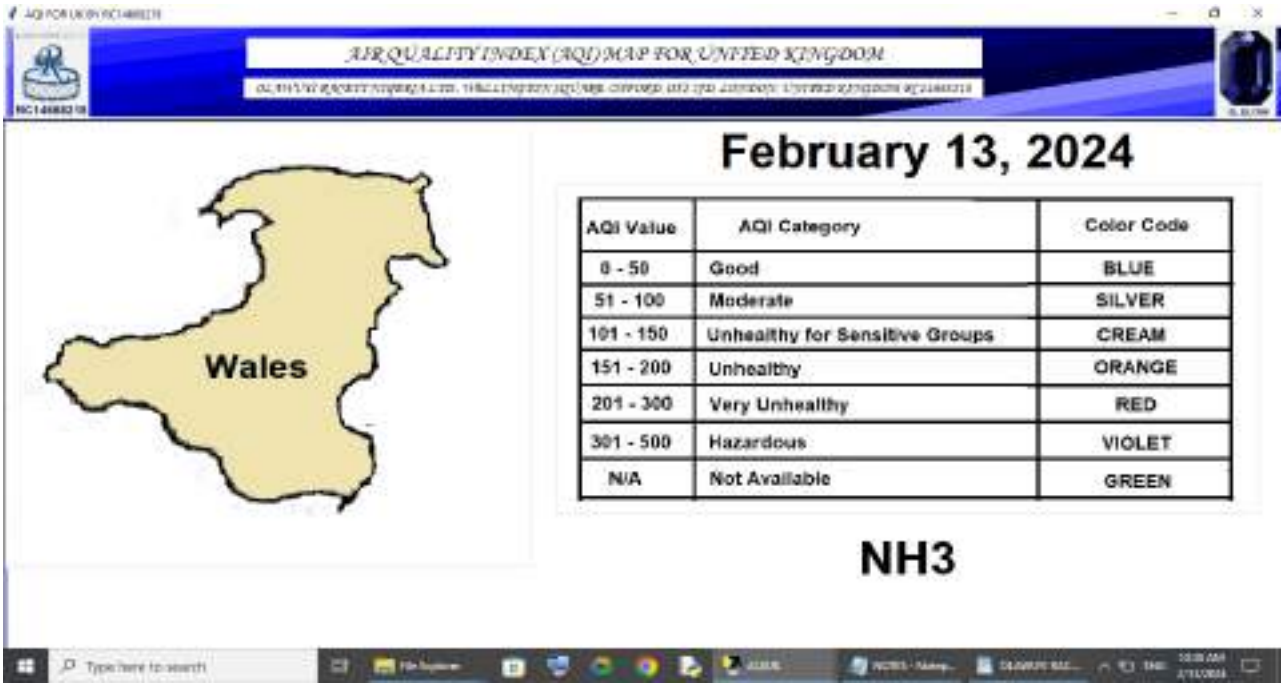

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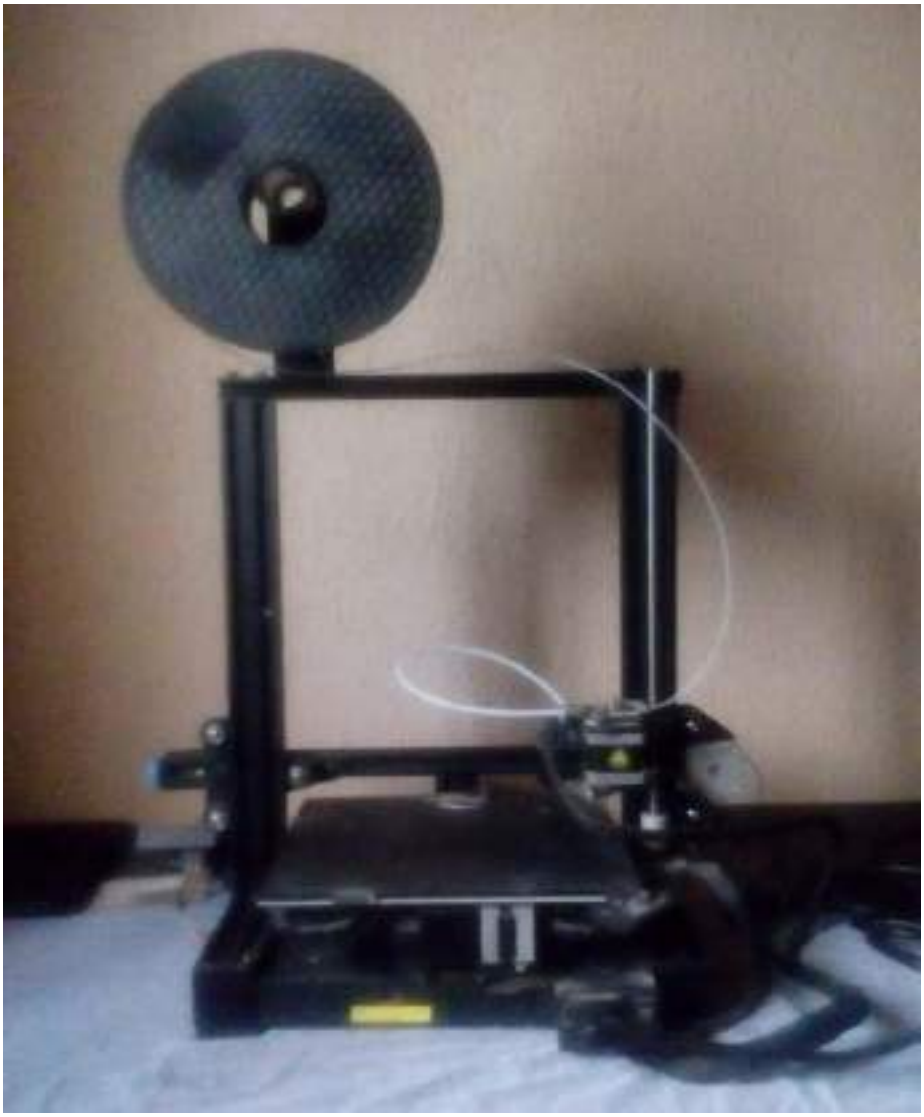
website. www.olawuyiracettnigerialtd.com/

MANUFACTURING INDUSTRY

OLAWUYI RACETT NIGERIA LTD,, UNITED KINGDOM RC146668218 manufactures custom 3-D casings for different industries using our company's 3D PRINTER.



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MEDICAL INDUSTRY

MEDLINK

MEDLINK is a portable, verbally interactive, programmable Remote Patient Monitoring (RPM) medical device that allows Physicians to select and obtain the Physiological Parameter(s) that he or she would like to remotely monitor for a specific individual or patient. The Physiological Parameters that can be measured by MEDLINK include, but are not limited to the following:

1. Electrocardiography (ECG)
2. Blood Pressure
3. Heart Rate
4. Blood Glucose
5. Pulse
6. Blood Oxygen Saturation (SPO_2),
7. Electromyography (EMG)
8. Body Temperature
9. Respiratory Data.

This data is transmitted to the Physician's email. MEDLINK has its own custom software that is used to display the patient's data and to perform automated health analysis on the patient's data that is received by the Physician. OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218 has manufactured the first set of MEDLINK DEVICES and the Clinical Trial for MEDLINK was conducted by Dr. Michael Olawuyi and Dr. Matthew Olawuyi. The five patients enrolled in the Clinical Trial reported that the MEDLINK device was extremely easy to use.

MEDLINK was recognized and awarded the TOP TWELVE FINALIST PRODUCT in the Medical Industry Globally by the Institute of Electrical and Electronics Engineers (IEEE) Standards Organization (SA) in July 2023.

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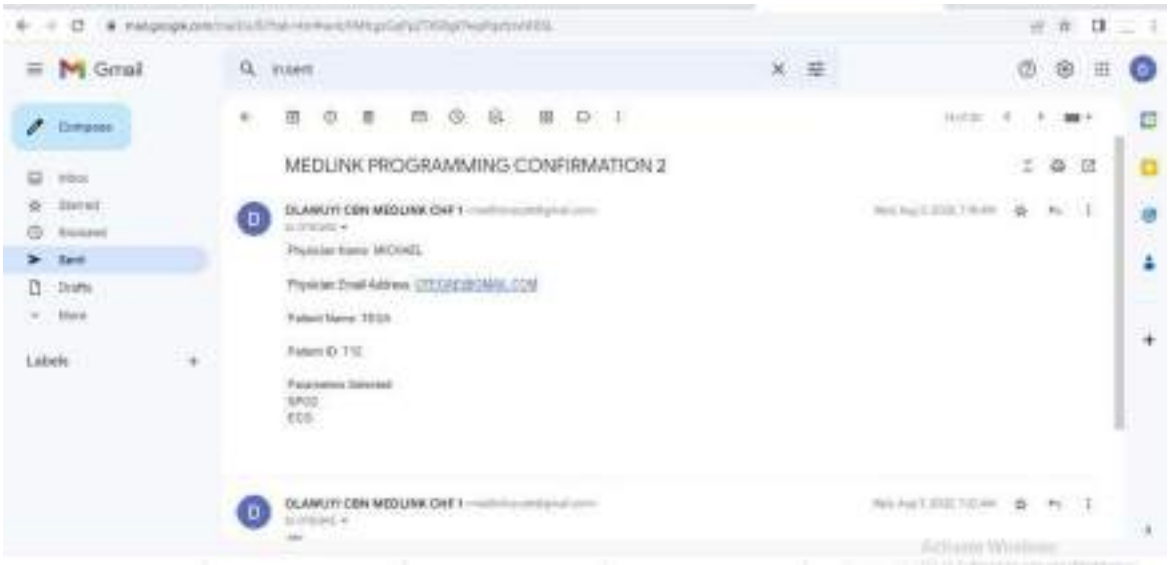

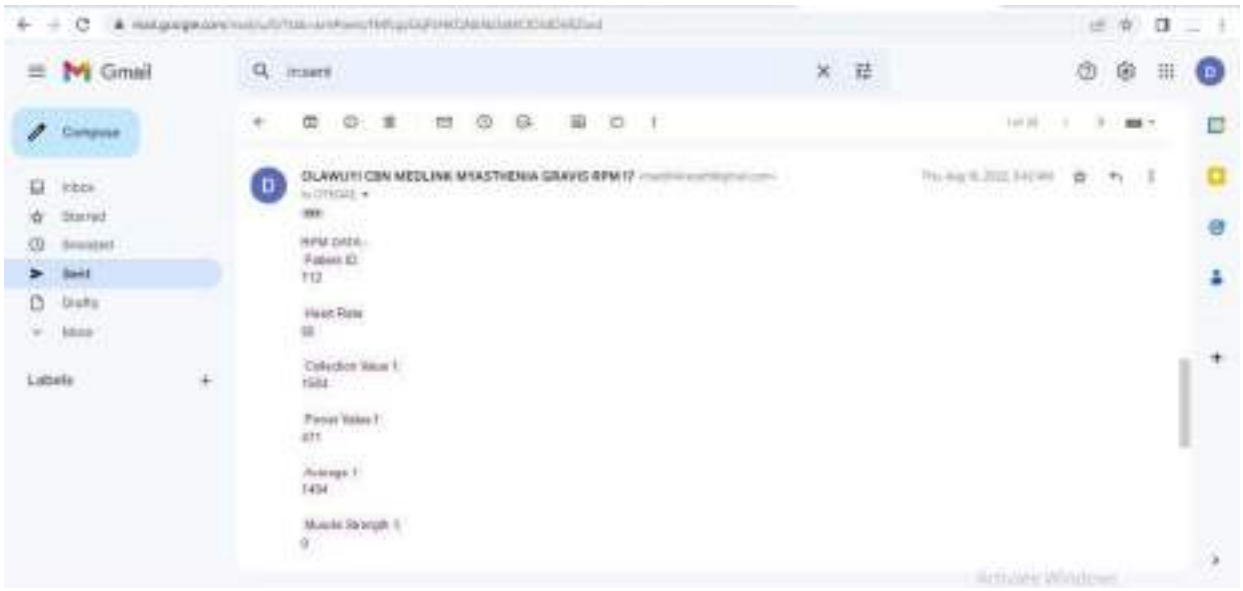

IN TERMS OF THE MEDICAL INDUSTRY, OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 HAS BEEN TRAINED BY THE FOOD AND DRUG ADMINISTRATION (FDA) IN THE UNITED STATES.

FDA U.S. FOOD & DRUG ADMINISTRATION

CERTIFICATE OF ATTENDANCE

CDER Small Business and Industry Assistance (CDER SBIA)

Olawuyi Racett Nigeria Ltd.

attended the

Regulatory Education for Industry (REdI)
Annual Conference – CDER Track

June 5-6, 2023

Brenda Stodart

Brenda Stodart, PharmD, MS, BCGP, RAC-US
Captain, United States Public Health Service
Director, CDER Small Business and Industry Assistance Program
Division of Drug Information | Office of Communications
Center for Drug Evaluation and Research
Food and Drug Administration

FDA U.S. FOOD & DRUG ADMINISTRATION

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attended the

Regulatory Education for Industry (REdI)
Annual Conference – CDRH Track

June 7-8, 2023

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Captain, United States Public Health Service
Director, CDER Small Business and Industry Assistance Program
Division of Drug Information | Office of Communications
Center for Drug Evaluation and Research
Food and Drug Administration

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Food and Drug Administration

FDA U.S. FOOD & DRUG ADMINISTRATION

CERTIFICATE OF ATTENDANCE

CDER Small Business and Industry Assistance (CDER SBIA)

Olawuyi Racett Nigeria Ltd.

attended the

Decentralized Clinical Trials (DCT)
Draft Guidance Webinar

June 20, 2023

Brenda Stodart

Brenda Stodart, PharmD, MS, BCGP, RAC-US
Captain, United States Public Health Service
Director, CDER Small Business and Industry Assistance Program
Division of Drug Information | Office of Communications
Center for Drug Evaluation and Research
Food and Drug Administration

MEDICAL SOFTWARE FOR ELECTRONIC RECORD KEEPING

OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218 has a medical software for Physicians to be able to electronically track and keep comprehensive medical records of the patients they treat. Physicians are able to access and search for their patients'\ electronic records using this software and update them as they treat their patients.

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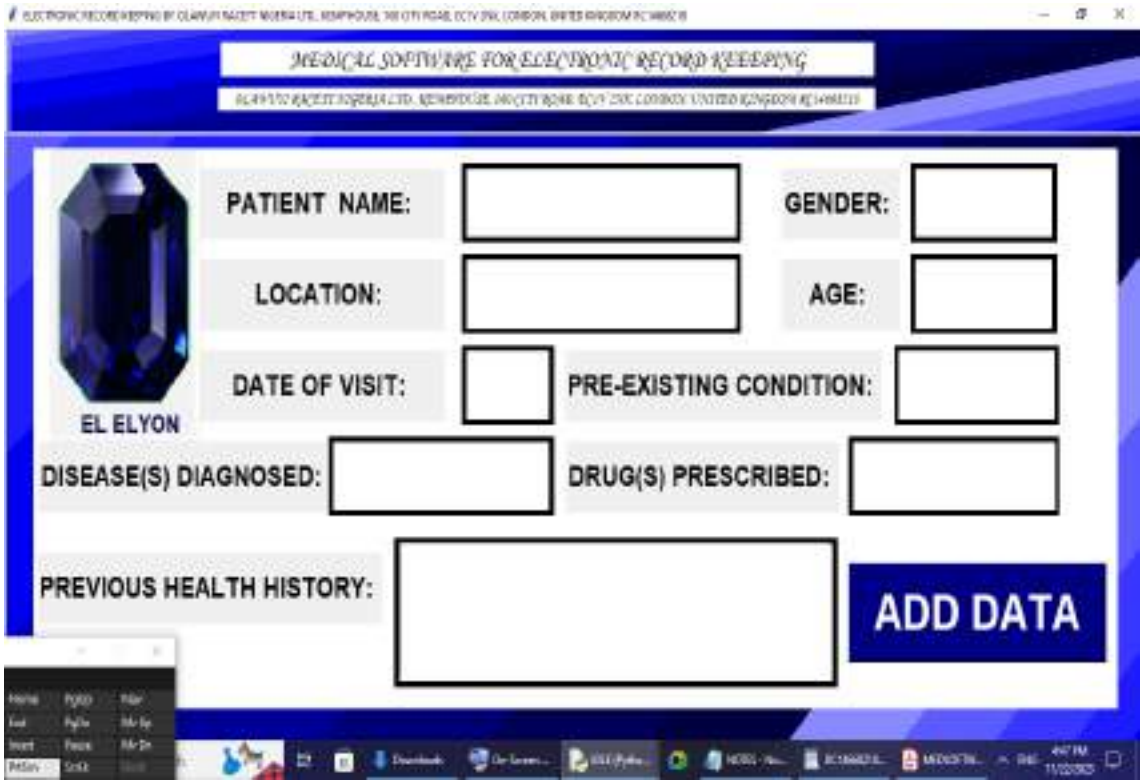

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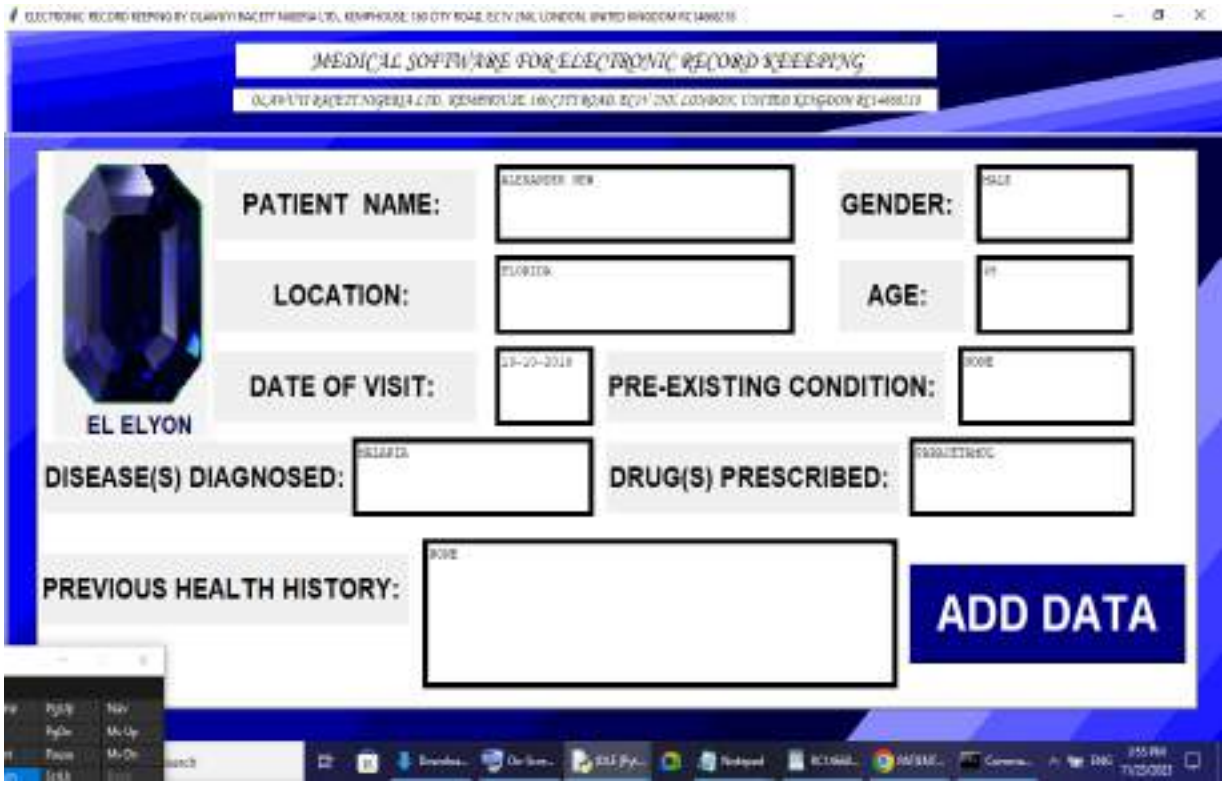

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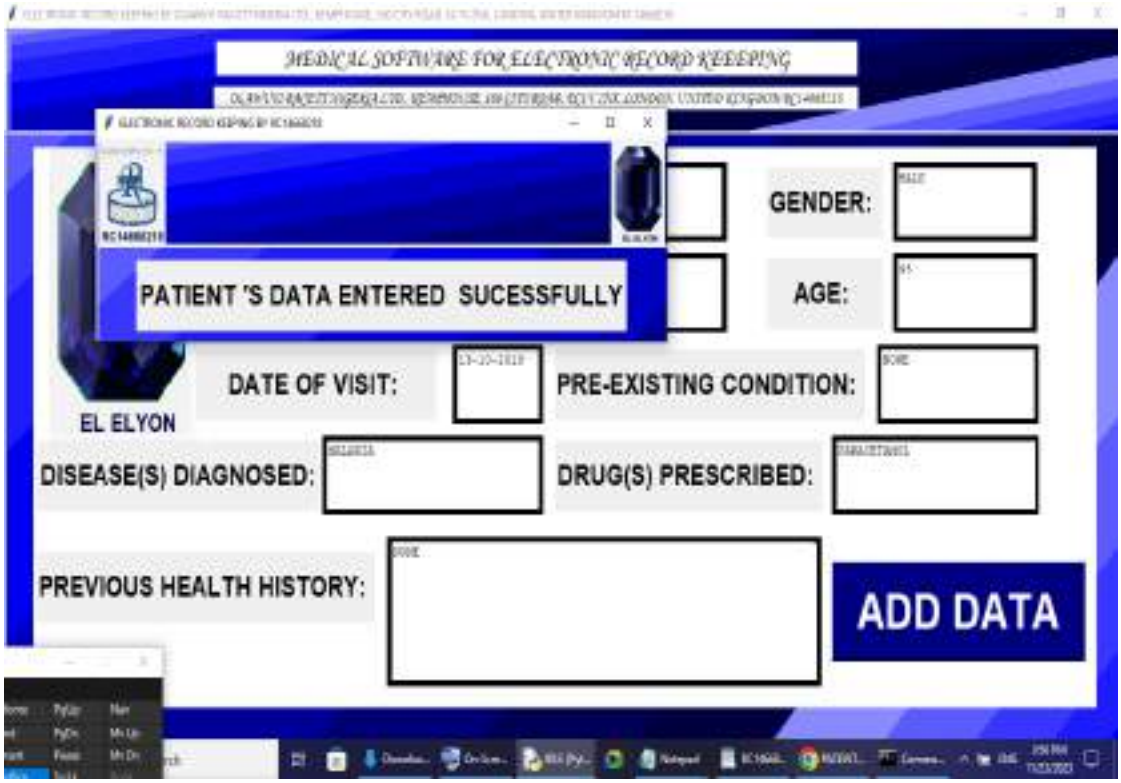

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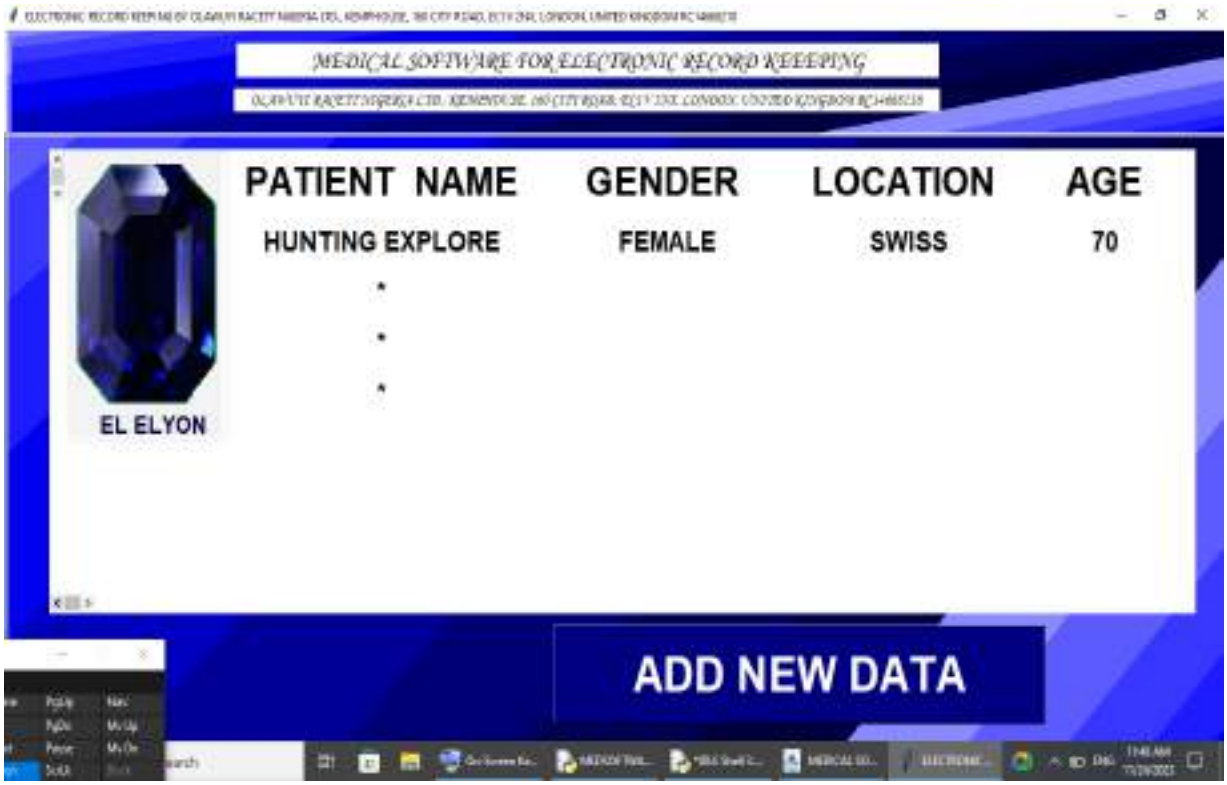

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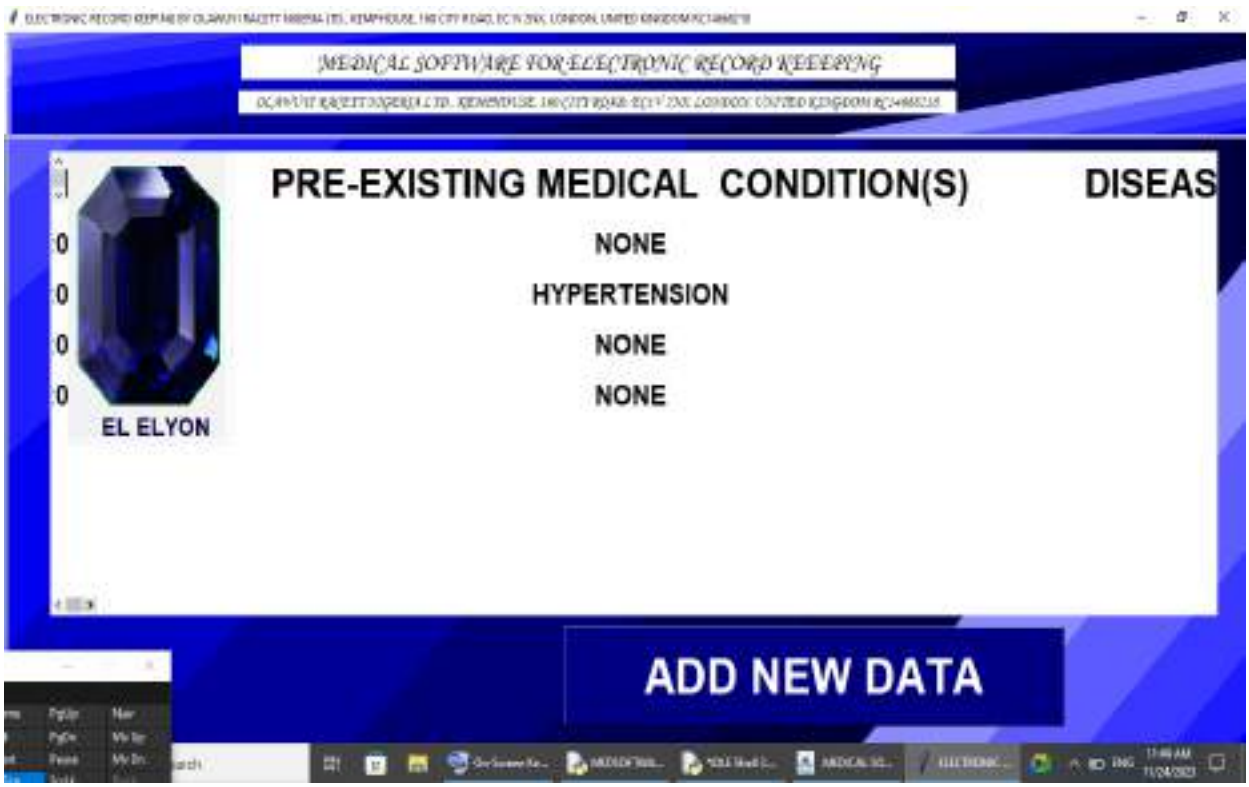

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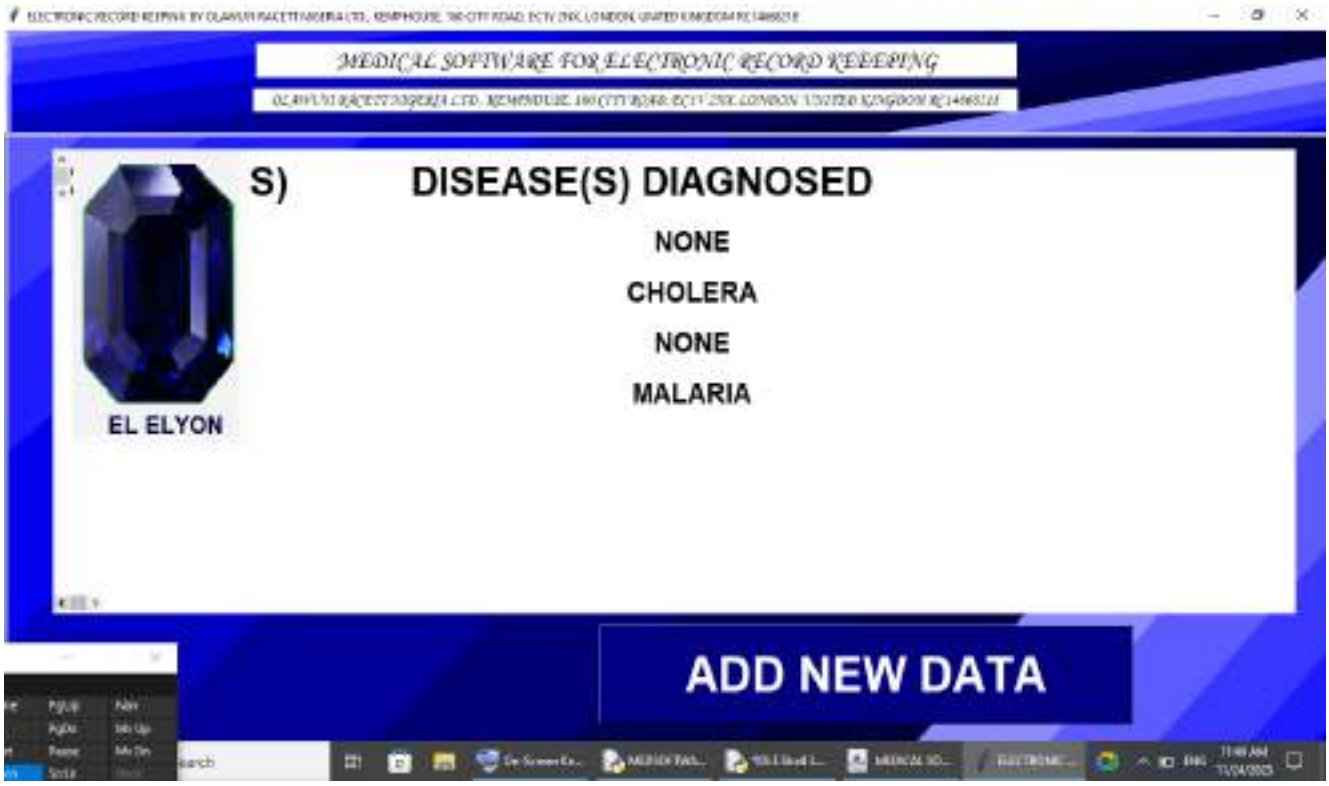

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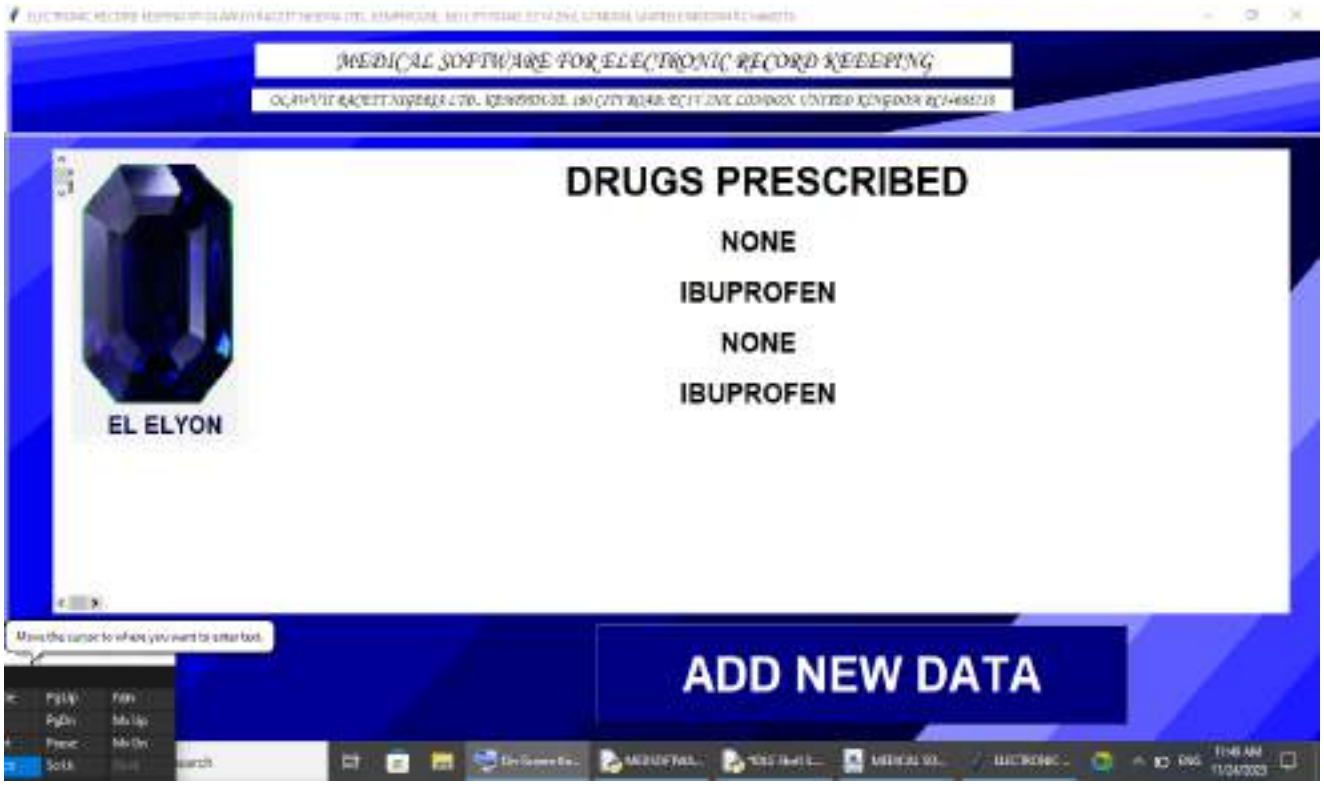

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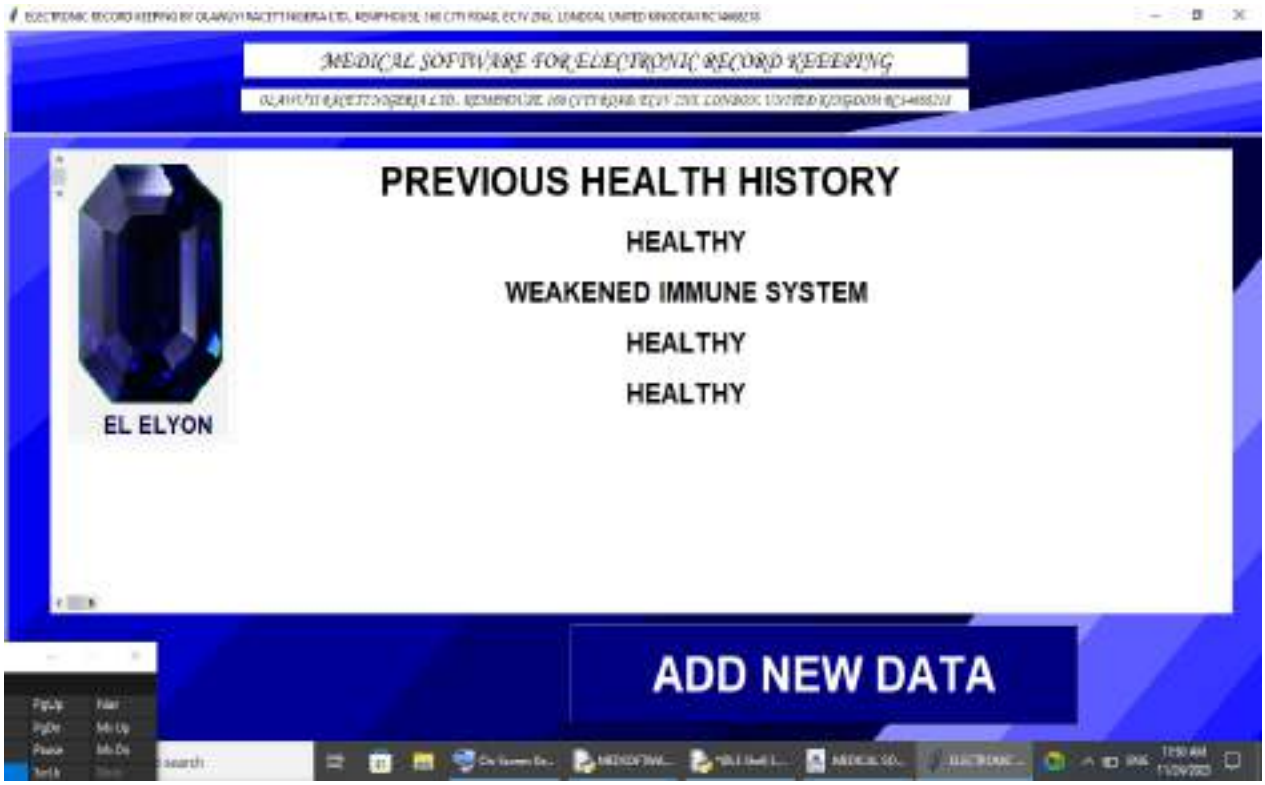


OIL AND GAS INDUSTRY

OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 IS AN INDEPENDENT OIL AND GAS COMPANY WITH THE SOCIETY OF PETROLEUM ENGINEERS (SPE) GLOBALLY.

Certificate of Completion

The Society of Petroleum Engineers (SPE)

certifies that

Otega Olawuyi

has completed 0.15 CEU/1.5 PDH, 1.5PDH PDH of the SPE Continuing Education Course

Aerial & Subsea Drones in O&G Operations: Service Providers Experiences and Emerging Application Scenarios

on

June 9, 2023

Kamel Ben-Naceur
2022 SPE President

Mark Rubin
SPE CEO/EVP

GROUND ROBOTIC OIL SPILL SURVEILLANCE (GROSS) SYSTEM

The Ground Robotic Oil Spill Surveillance (GROSS) system uses an autonomous ground mobile robot to carry out constant surveillance on an oil and gas pipeline. Navigation of this system is done by Global Positioning System (GPS) and magnetic orientation, and obstacle avoidance is made possible by an ultrasound sensor. Detection of the presence of crude oil spill is done with the aid of gas sensors attached to the framework of the robot. An integrated camera module allows for the acquisition of high resolution images of oil spill sites. The GPS location and images of oil spill sites are transferred wirelessly to a host PC in the control room of a base station using wireless communication modules.

A Single GROSS unit patrols 100 m of an Oil and Gas pipeline and checks every inch of the pipeline for oil leakage EVERY 8 MINUTES. GROSS detects Crude Oil Spills as small as A Single Litre (1L) within FOUR (4) MINUTES of their onset. GROSS contacts the relevant authorities and provides spill information (GPS and Spill Images) once a spill is detected, and then shuts down the pipeline valves to minimize environmental pollution. Multiple GROSS Units provide 24-hour spill surveillance network for oil and gas pipelines greater than 100 m.

website. www.olawuyiracettnigerialtd.com

AERIAL ROBOTIC OIL SPILL SURVEILLANCE (AROSS) SYSTEM

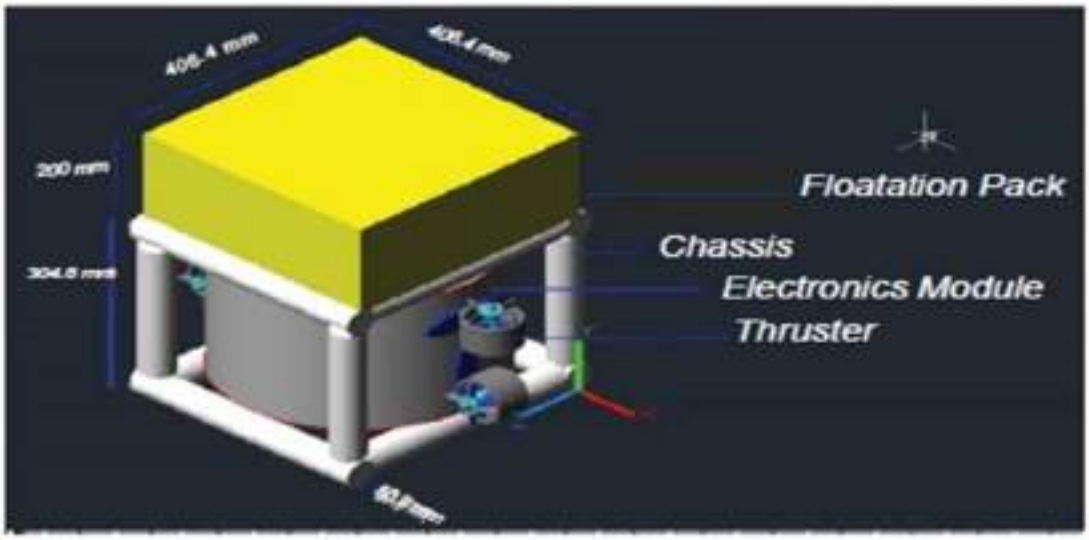
A single AROSS unit is a quadcopter equipped with an on-board gyrometer and altimeter for stabilization during flight. An ultrasound sensor is used for obstacle avoidance during crude oil pipeline surveillance. A GPS system and magnetometer are used for autonomous navigation along the pipeline. Wireless communication between the AROSS unit and the surveillance team at the base station is achieved with the use of wireless communication shields. Gas Sensors mounted on the unit detect the presence of oil spills as the unit moves beside the pipeline. An infrared camera module is used to take pictures of the oil spill sites once the spills have been detected by the unit. These images can be transferred wirelessly to a computer in the base station up to 45 km away.

A single AROSS unit provides 24-hour automatic surveillance of Land Crude Oil Pipelines 100 m in Length, and checks every inch of the pipeline for oil and gas leakage EVERY EIGHT (8) MINUTES. AROSS units can be used for Land Crude Oil Pipelines in any kind of terrain. AROSS units are able to detect oil spills as small as A SINGLE LITRE (1 L) within FOUR (4) MINUTES of onset, acquire the GPS location and images of the oil spill, transmits them to relevant authorities, and shuts down the pipeline valves to minimize environmental pollution. Multiple AROSS Units provide 24-hour surveillance for pipeline networks greater than 100 m.

website. www.olawuyiracettnigerialtd.com

UNDERWATER GROUND ROBOTIC OIL SPILL SURVEILLANCE (UROSS) SYSTEM

The UROSS system is an underwater autonomous robotic system designed to continuously patrol beside sections of subsea crude oil pipelines, ensuring that spills emanating from the crude oil pipelines are detected at their earliest onset. In addition to detecting these spills early, the exact location of the spill can be quickly identified and transmitted to the appropriate authorities by the UROSS system. It is designed to provide constant spill surveillance for 100 -200 m sections of crude oil subsea pipelines. Start and end locations of the pipeline sections are identified using RFID tags and RFID tag readers. Autonomous patrol of the pipeline is done using a gyrometer. Obstacle detection and avoidance is performed using ultrasonic sensors. Subsea spills are detected using methane sensors. Once a spill is detected, the UROSS system stops and takes pictures of the spill site using an underwater camera. It then rises to the ocean surface, obtains the GPS location and transmits the GPS location and Images to a host PC up to 45 km away using wireless communication modules. A Personal Locator Beacon (PLB) is also activated to send out distress signals via satellite.



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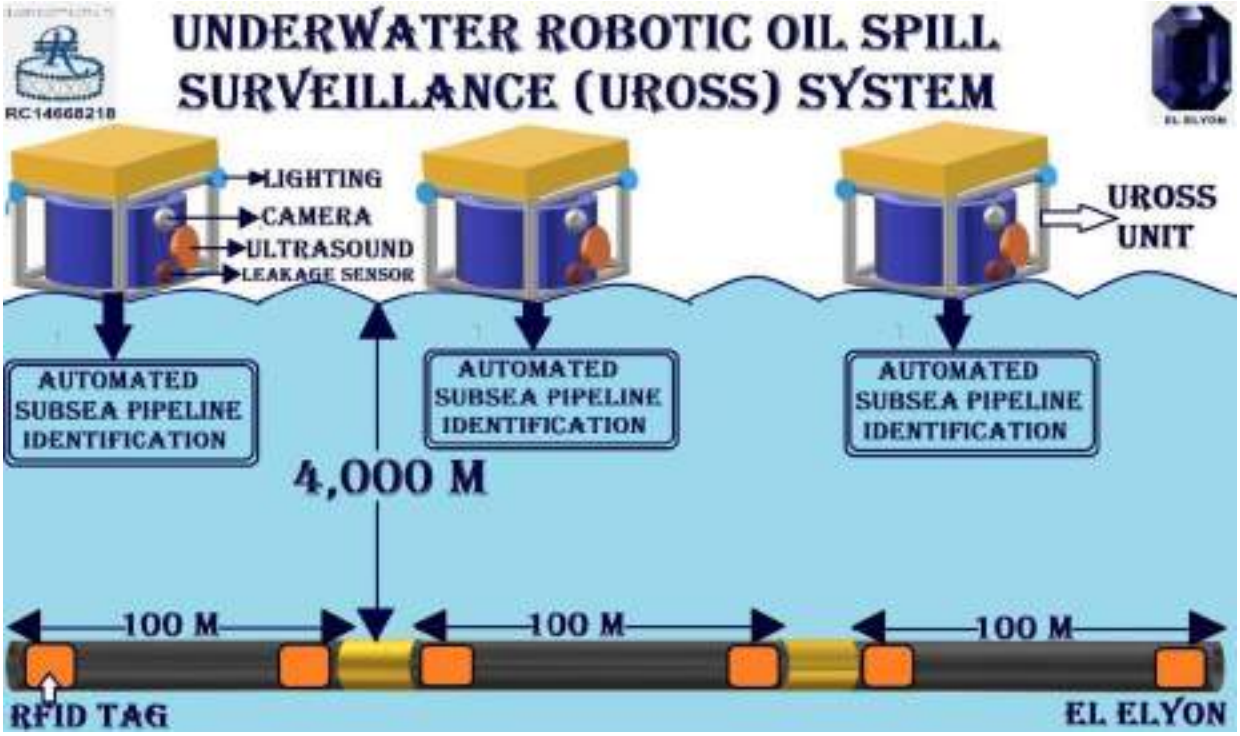

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UNDERWATER ROBOTIC OIL SPILL SURVEILLANCE (UROSS) SYSTEM

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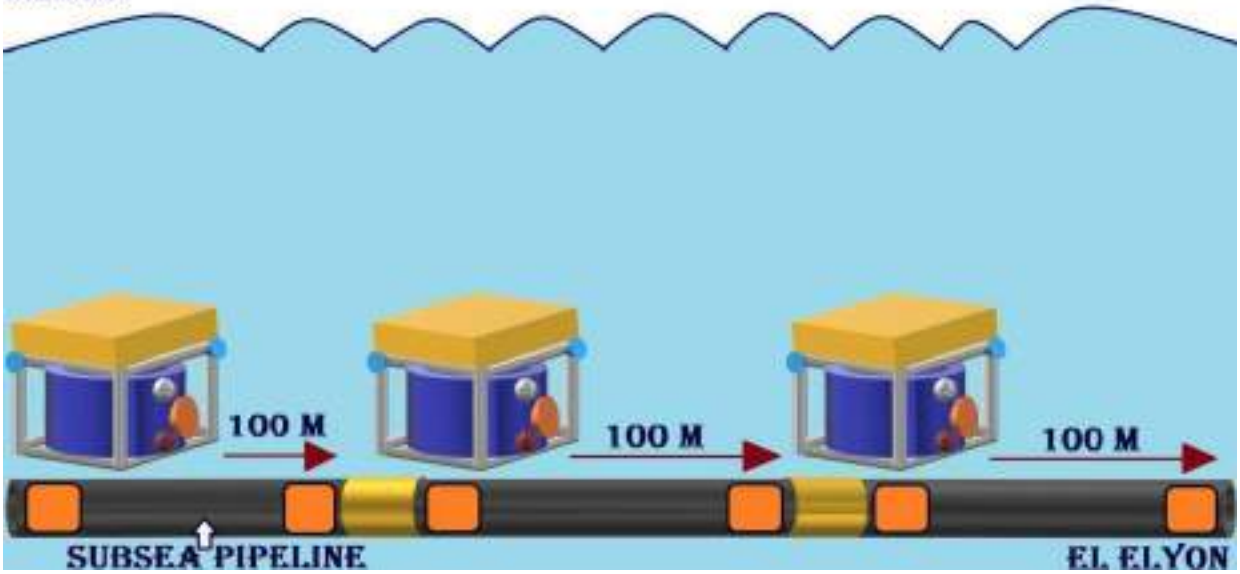

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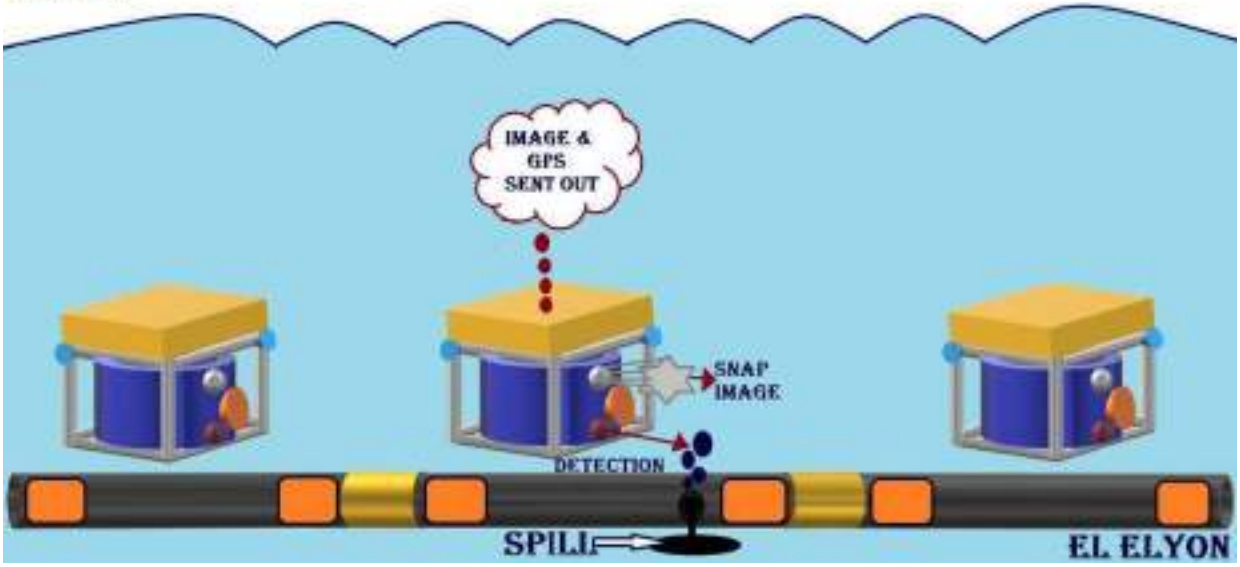

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OX1 2JD, LONDON, UNITED KINGDOM
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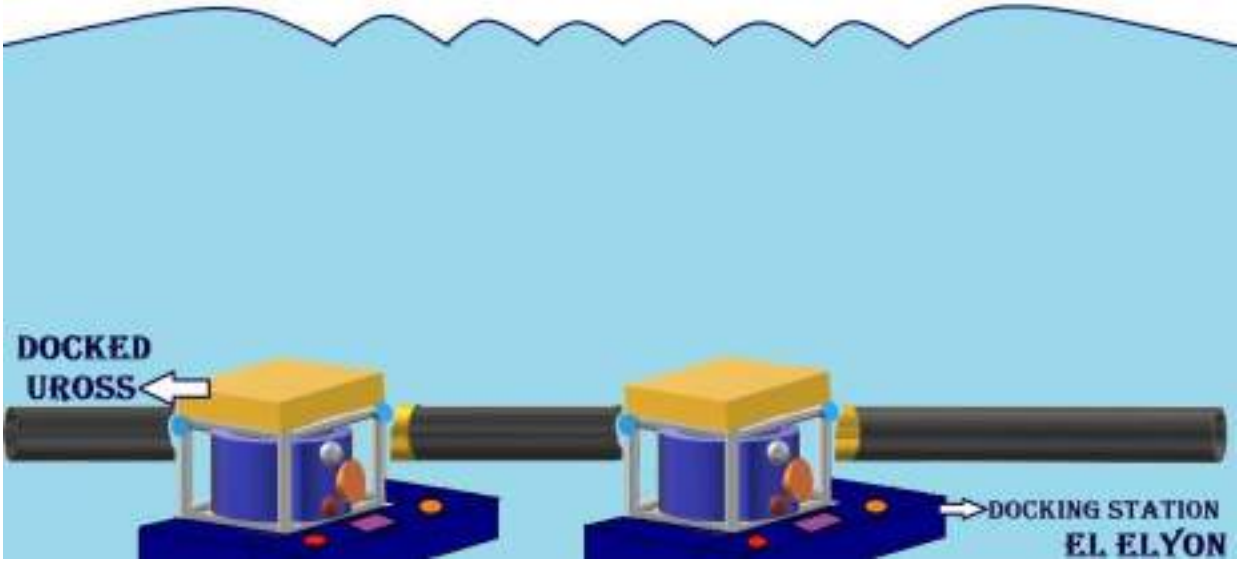
RC14668218
ENGINEER FRANCIS OLAWUYI
EL ELYON

UNDERWATER ROBOTIC OIL SPILL SURVEILLANCE (UROSS) SYSTEM

RC14668218



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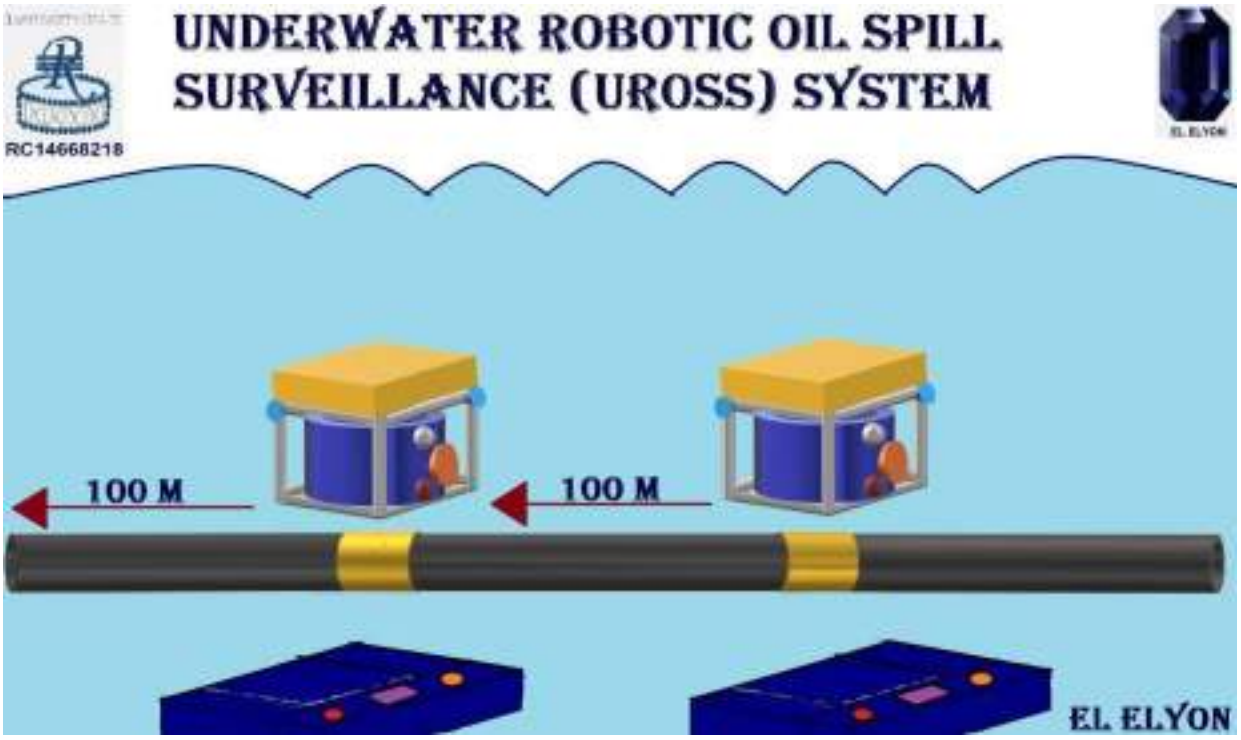

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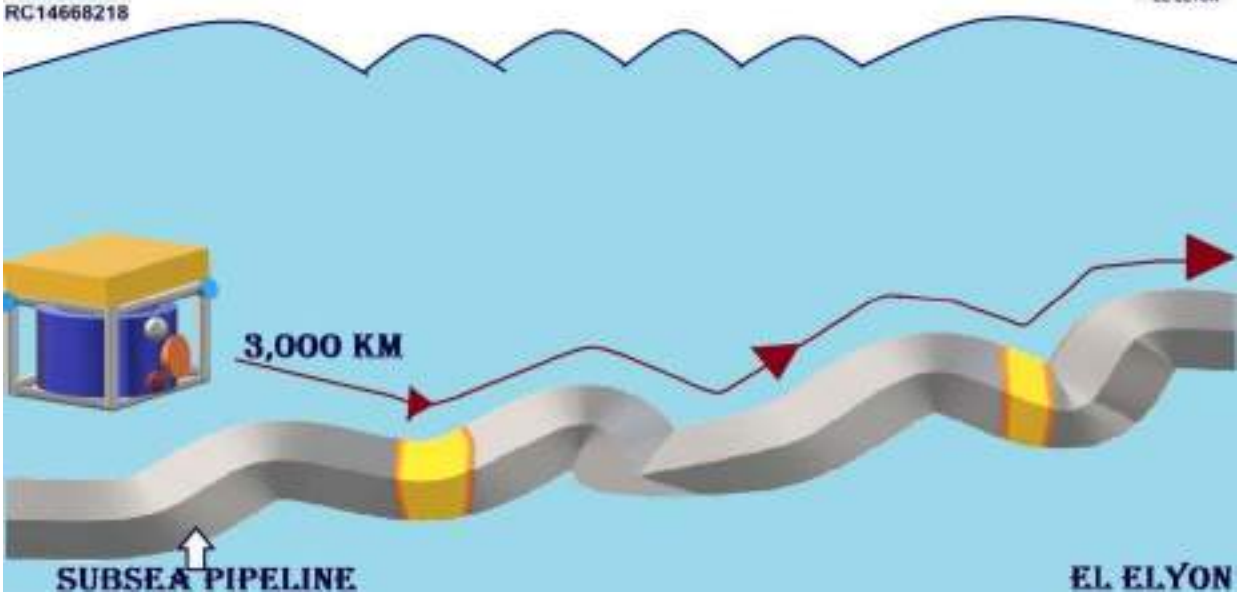

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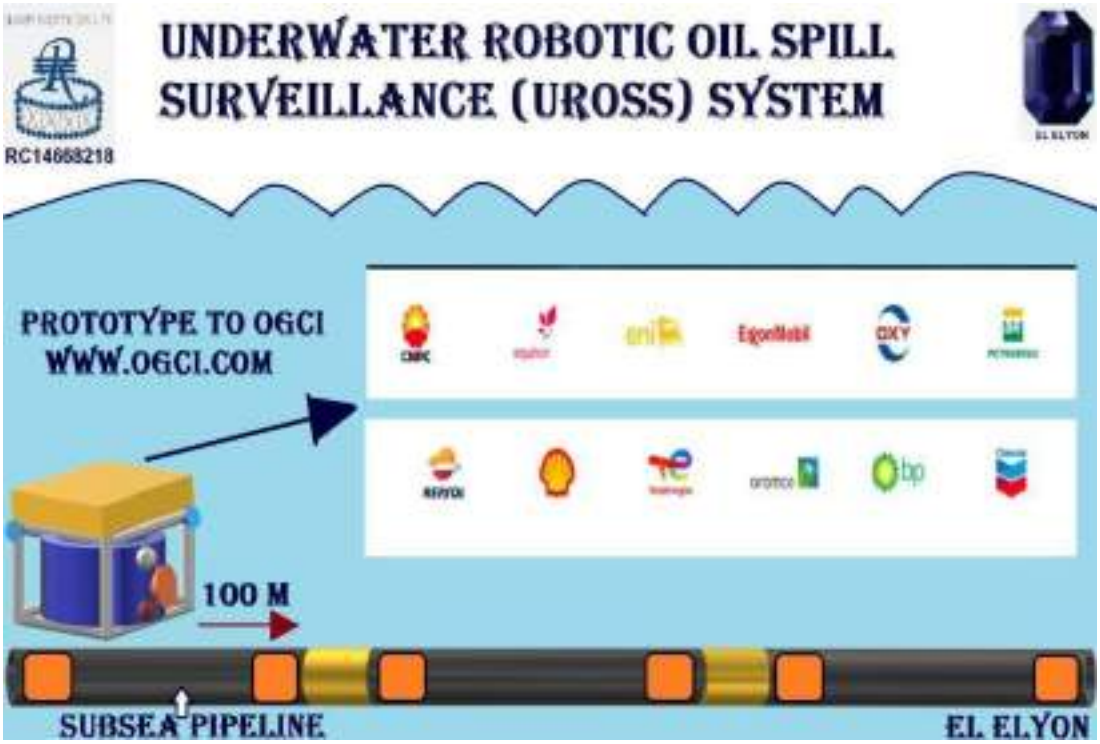

website. www.olawuyiracettnigerialtd.com

PRODUCT VOLUME ESTIMATOR, ADULTERATION DETECTOR, AND TRACKER (PePVEAT).

Petroleum Product Volume Estimator, Adulteration Detector, and Tracker (PePVEAT) is a portable, electronic device that performs automated volume measurement, adulteration detection, and tracking of petroleum products.

PePVEAT performs Automatic Detection and Measurement of the VOlume Of Petroleum Products (Crude Oil, Diesel, Kerosene, Petrol, etc.). It is a technological replacement for the Manual Tank Dip Method utilized by the Oil and Gas Industry to measure the volume of their Petroleum Products in Calibrated Tanks. PePVEAT can be used to measure the volume of Petroleum Products in Calibrated and Uncalibrated tanks of all shapes and sizes.

PePVEAT is a handy tool for Consumers and Regulators in the Oil and Gas Industry to check the quality of a Petroleum Product (Crude Oil, Diesel, Kerosene, Petrol, etc.) at any Point of Sale (POS) Terminal. PePVEAT uses Gaseous Vapor Emission (GVE), which works by analyzing the type and volume of gasses emitted by a Petroleum Product within TWO (2) MINUTES, to determine if the product is pure or adulterated. PePVEAT performs automated detection of adulteration in Petroleum Products (Crude Oil, Diesel, Kerosene, Petrol, etc).

PePVEAT performs automated tracking of Petroleum Products during transportation to prevent product theft. PePVEAT monitors the volume of the Petroleum Product and the GPS location of the transporting vehicle every minute to check for route deviation and product theft. If either occurs, PePVEAT sends the GPS location and volume of product stolen to the appropriate authorities.

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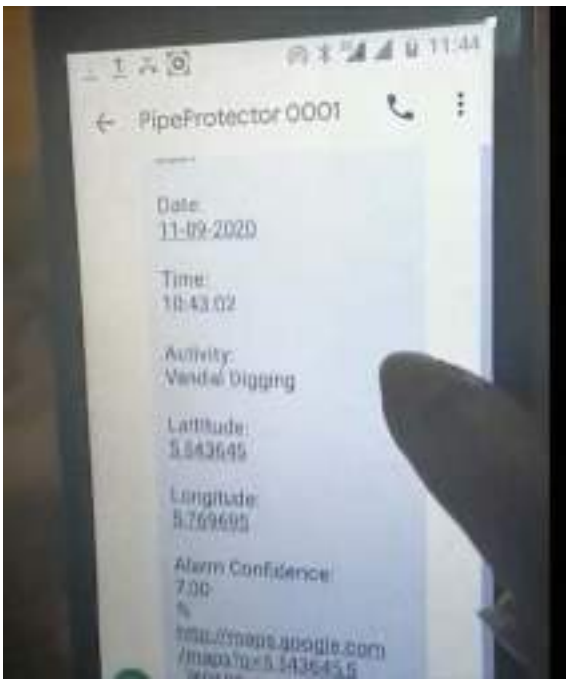
AUTOMATED OIL AND GAS PIPELINE VANDALIZATION DETECTION SYSTEM

Automated Oil and Gas Pipeline Vandalization Detection System detects any Vandalization attempt on Buried Pipelines within TWENTY (20) SECONDS of the Vandalization Attempt.

Vandalization is detected by means of Sensing Units (SUs) that are comprised of a cascade of EIGHT (8) GEOPHONES, which detect the vibrations in the earth unique to Vandals Digging the ground to gain access to buried pipelines. A single Sensing Unit provides vandalization coverage for 200 m of a buried Oil and Gas pipeline. After detection of a vandalization attempt, the SU provides GPS location of the vandalization attempt to authorities and dedicated control centers so the vandals are apprehended before the pipelines are breached.

Authorities utilize automated drones owned by OLAWUYI RACETT NIGERIA LTD,, UNITED KINGDOM RC14668218 to provide them with terrain information during vandal apprehension.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11-09-2020
Time:
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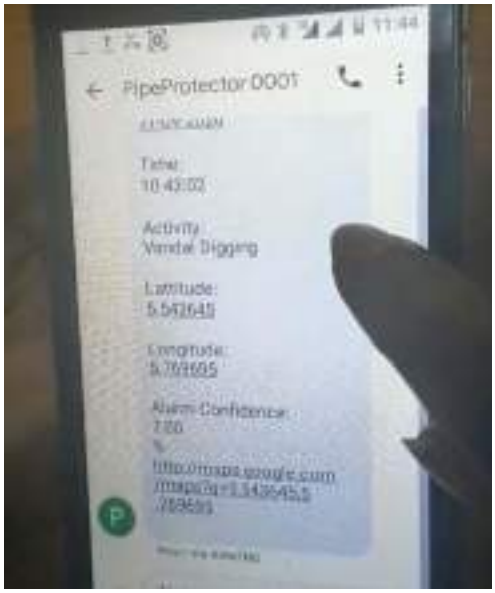
Activity:
Vandal Digging
Latitude:
5.543645
Longitude:
5.759695
Alarm Confidence:
7.00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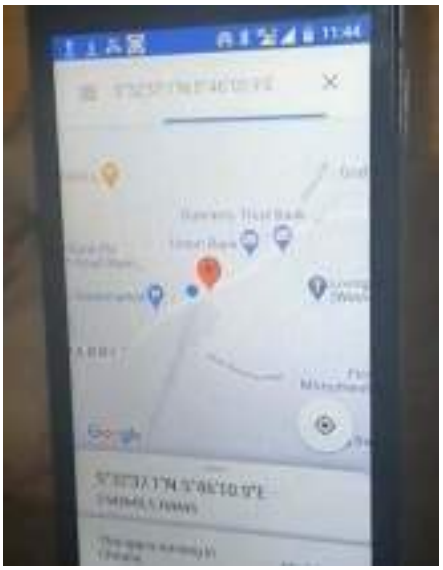

AUTOMATED REFINER

The Automated Refiner consists of a refining receptacle with 38-inch diameter heating turns (20 arranged in cylindrical format) and 30-inch diameter cooling turns (20 arranged in circular format) within its walls.

The Automated Refiner refines the crude in FOUR (4) MINUTES, and cooling of the crude from 2150C to 800C is provide by automatic pumping of water from boreholes into the cooling turns within TWO MINUTES, before transportation of crude out of the refinery to destination facilities.

The total refining time for the Automated Refiner is TEN (10) MINUTES, with a refining rate of 6 tonnes per hour and a total volume loss of 0.5%.

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ENGINEER FRANCIS OLAWUYI
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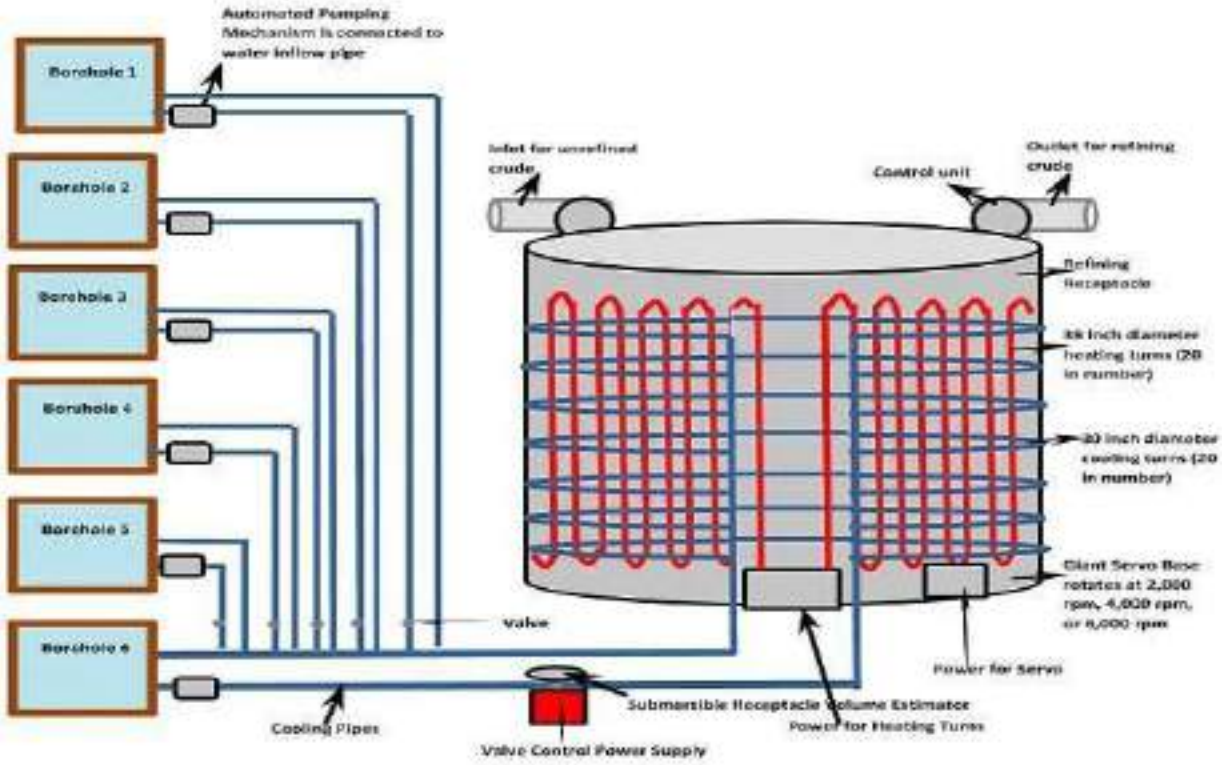
AUTOMATED REFINER



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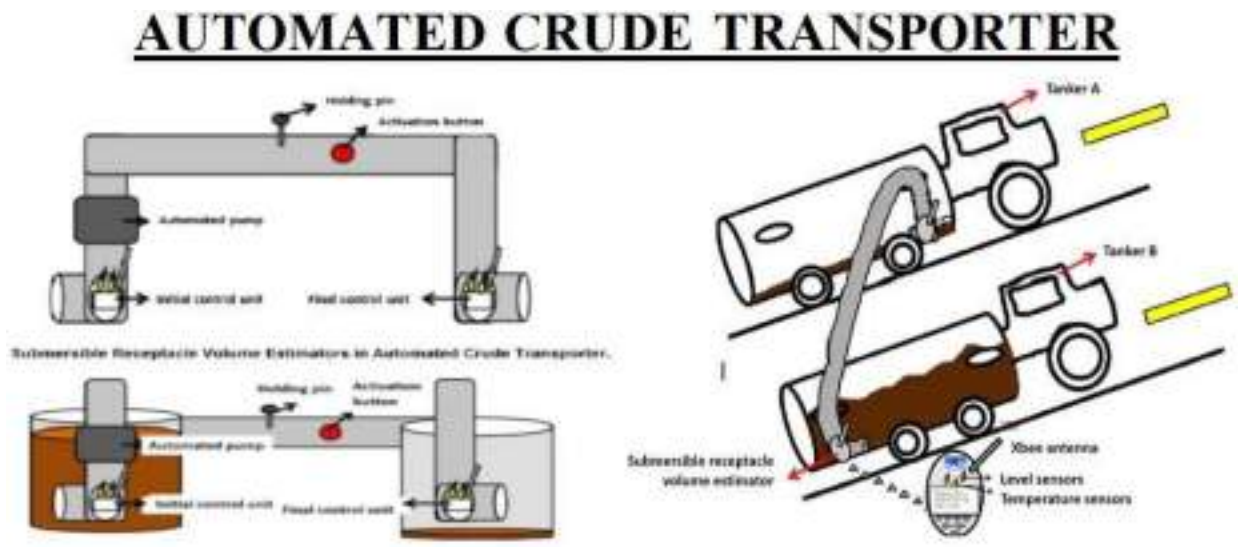
AUTOMATED CRUDE TRANSPORTER

The Automated Crude Transporter prevents crude oil spills during crude transfer from one point to another. It consists of PePVEATS, an adjustable crude pipeline, and a pumping Mechanism.

The Automated Crude Transporter detects Volumes of Crude Oil to be transported using PePVEATs. Automated Pumping Mechanism from transferring tank to receiving tank then commences

The Automated Crude Transporter detects when the transportation of crude is complete and switches off the pumping mechanism. It also detects the volume of crude after transportation is complete.

The Automated Crude Transporter can be obtained in Single-to-Single Configuration, Single-to-Multiple Configuration, and Multiple-to-Multiple Configuration. A 48-inch diameter Automated Crude Transporter can transport one ton of crude (raw, refined, or its constituents) in TWO (2) Minutes over a distance of 100 m.



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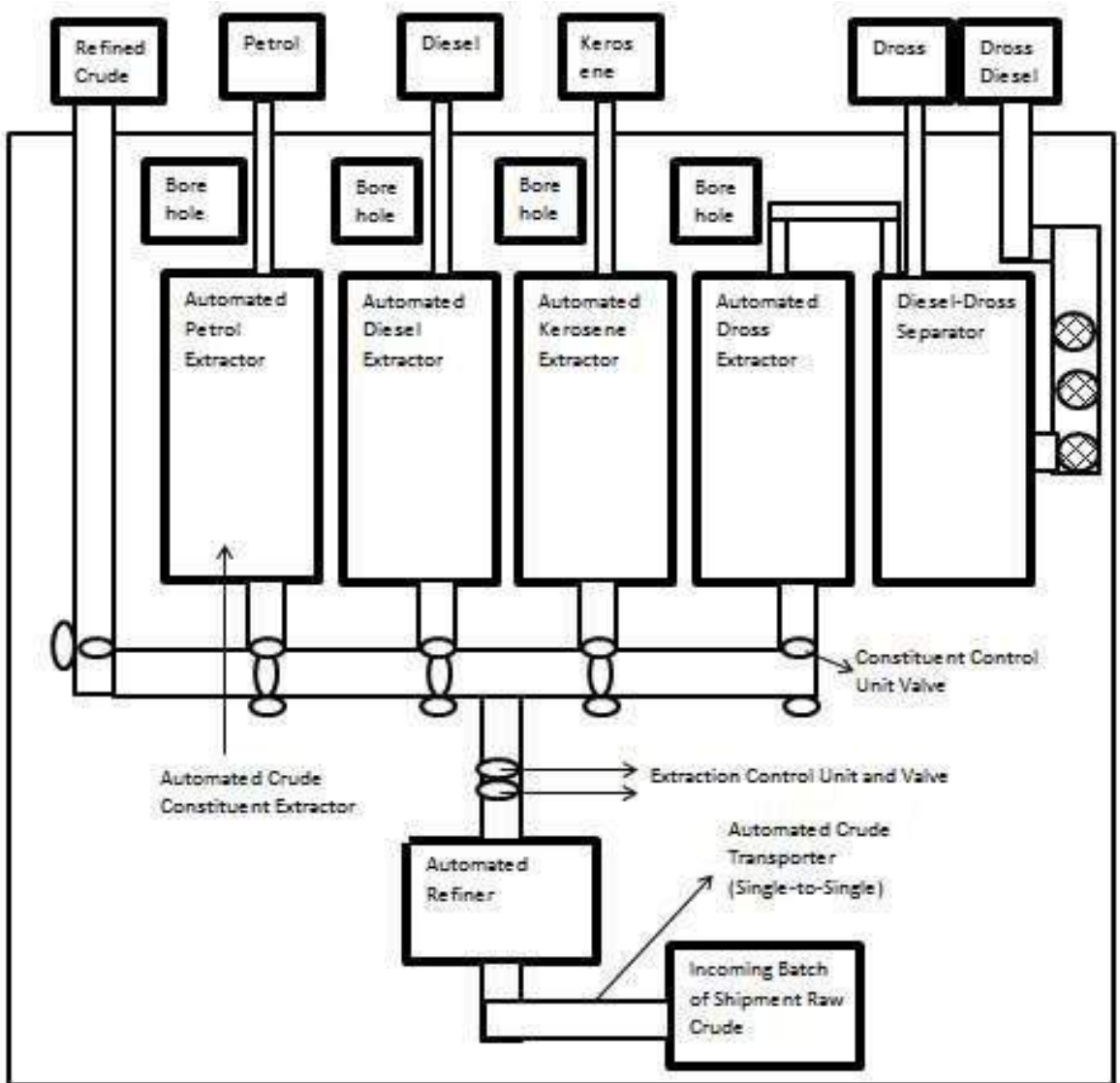
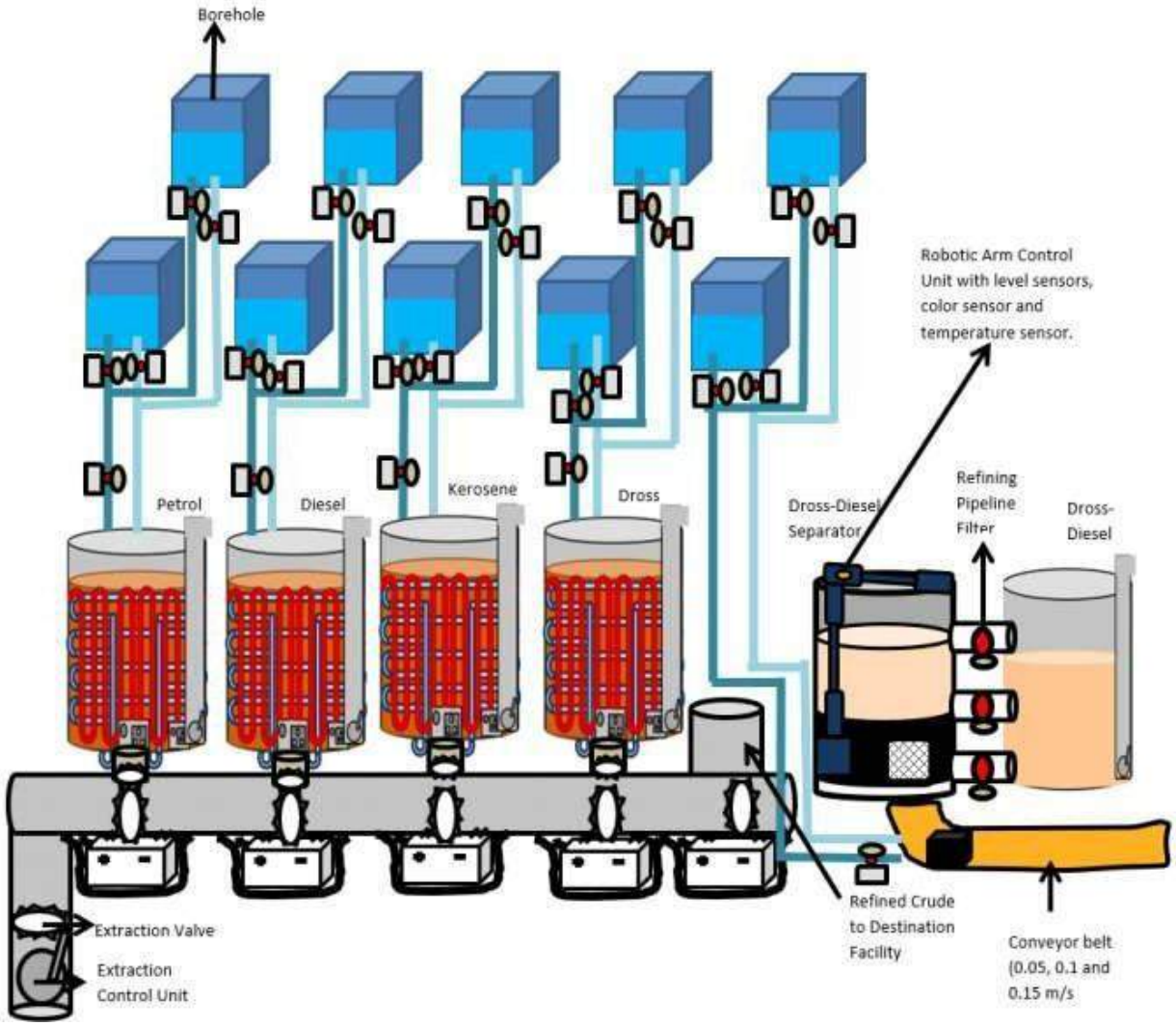
AUTOMATED CRUDE CONSTITUENT EXTRACTOR

The Automated Crude Constituent Extractor automatically breaks down refined crude into its constituents and transports them to export pipelines specifically for each constituent. The Automated Crude Constituent Extractor performs automated detection of the volume of the refined crude to undergo constituent extraction, and automated volume estimation of the constituents extracted after process completion.

The Automated Crude Constituent Extractor extracts constituents (Petrol, Diesel, Kerosene, and Dross) from 2 tonnes of refined crude in 34-36 minutes, and incurs no crude oil volume spill. It has an Extraction Efficiency of 76-98%.





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CRUDE OIL SPILL IMAGING DATABASE (COSID)

The Crude Oil Spill Imaging Database (COSID) is a database of documented Crude Oil Spills owned by OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218.






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ENGINEER FRANCIS OLAWUYI
EL ELYON






OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 is interested in partnering with Other Oil and Gas Companies to obtain images of documented crude oil spills to enhance Image Processing Techniques for detecting them. If you are interested in Contributing Images to Our Company's COSID, please email us at **esthero611-wisetag@ieee.org**.

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POWER INDUSTRY

POWER OPTIMIZATION SOFTWARE

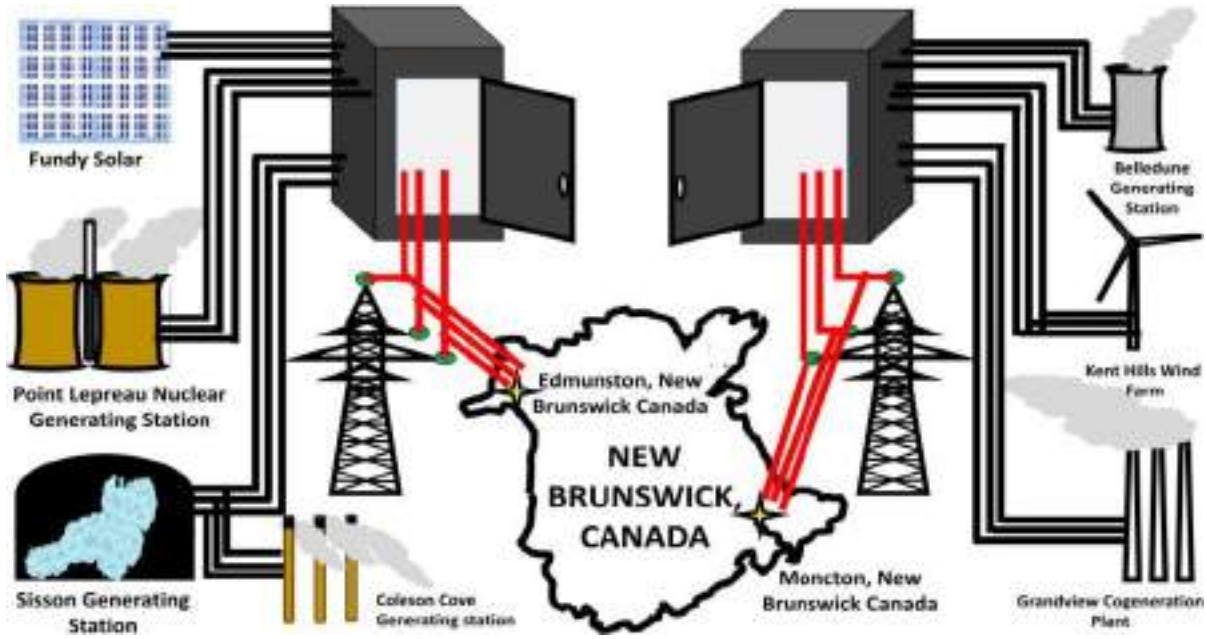
OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218 provides National Power Optimization Software (NPOS) for countries to help them Automate Electricity Generation, Transmission, and Distribution within their Countries, and to help their countries plan for theInstallation of New Renewable Energy Power Plants.

With the Power Optimization Software, you can perform the following for a specific geographic region:

- Planning and Installation of Power Generating Stations (Power Generating Stations include Solar Stations, Hydroelectric Stations, Gas Generating Stations, Diesel Generating Stations, Nuclear Generating Stations, Wind Generating Stations, Oil Generating Stations, Biomass Generating Stations, Coal Generating Stations, etc.).
- Optimization of Existing Power Generating Stations.
- Planning and Installation of Transmission Networks from Power Generating Stations to Distribution Centers.
- Optimization of Existing Transmission Networks from Power Generating Stations to Distribution Centers.
- Planning and Installation of Power Distribution Networks from Distribution Centers to Final Consumers.
- Optimization of Existing Power Distribution Networks from Distribution Centers to Final Consumers.
- Automated Power Distribution Algorithm for Power Distribution to Final Consumers based on previous daily consumption.
- Ability of Distribution Centers to automatically and daily provide The Total Power required to Power Generating Stations.
- Ability of Distribution Centers to automatically allocate daily power generation requirements for each Power Generating Station.

While there is a growing need and demand to move forward towards renewable energy sources, there is little automated planning done to allow a nation view the existing energy resources in their country, and make quality decisions as to where and how it would cost to

install a new renewable energy source or even a non-renewable energy source. Therefore, at the governmental level, an automated software to enable the governance view the available energy resources in their country, and plan for the expansion of their Green Energy Electricity Grid is needed. The National Power Optimization Software Provides that.



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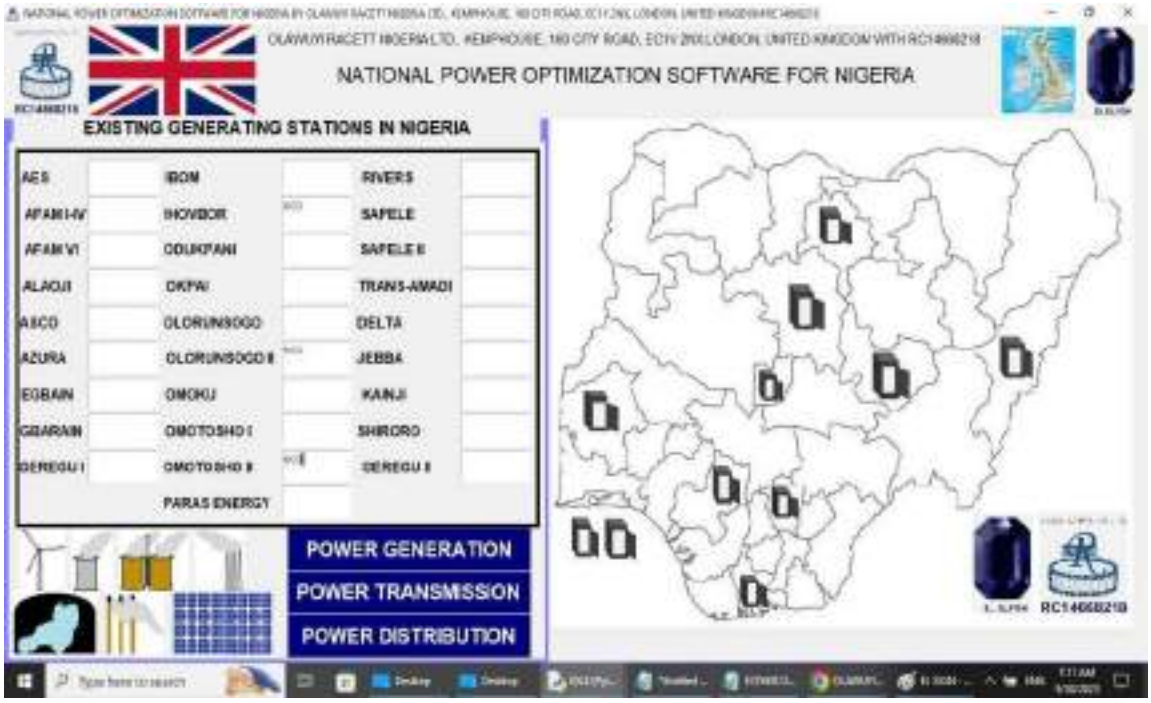

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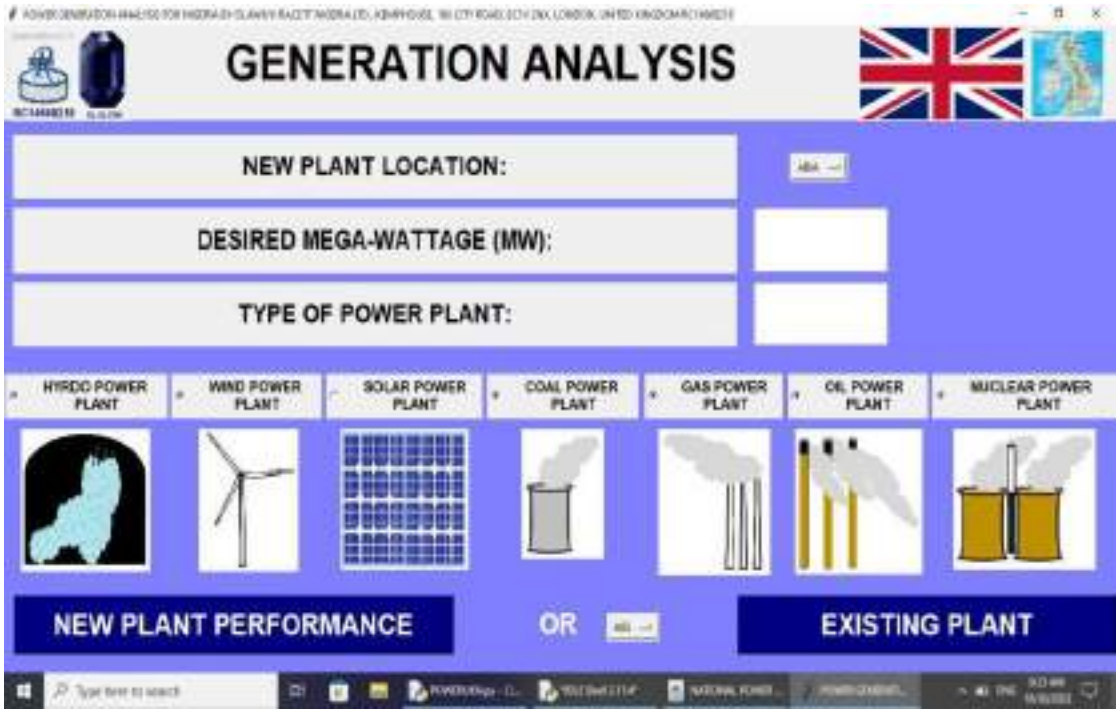

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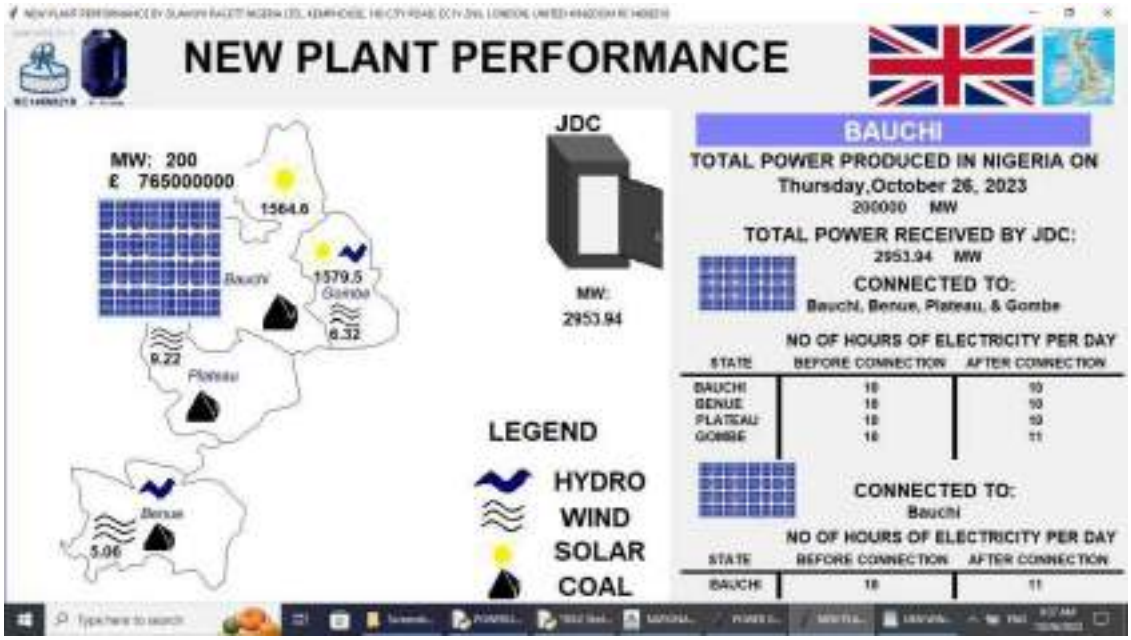

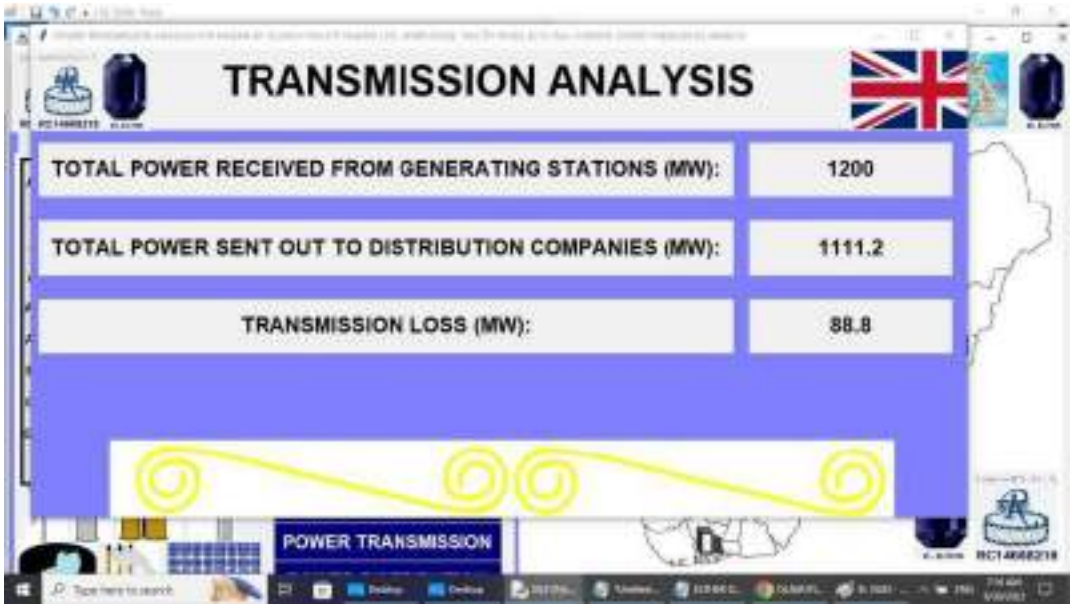

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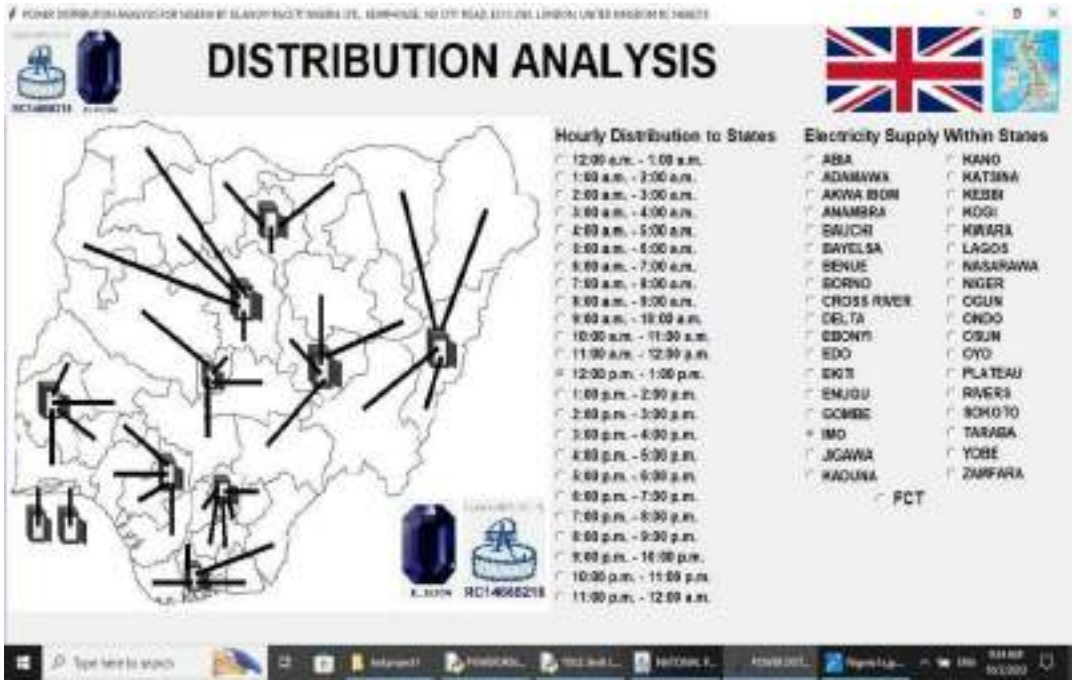

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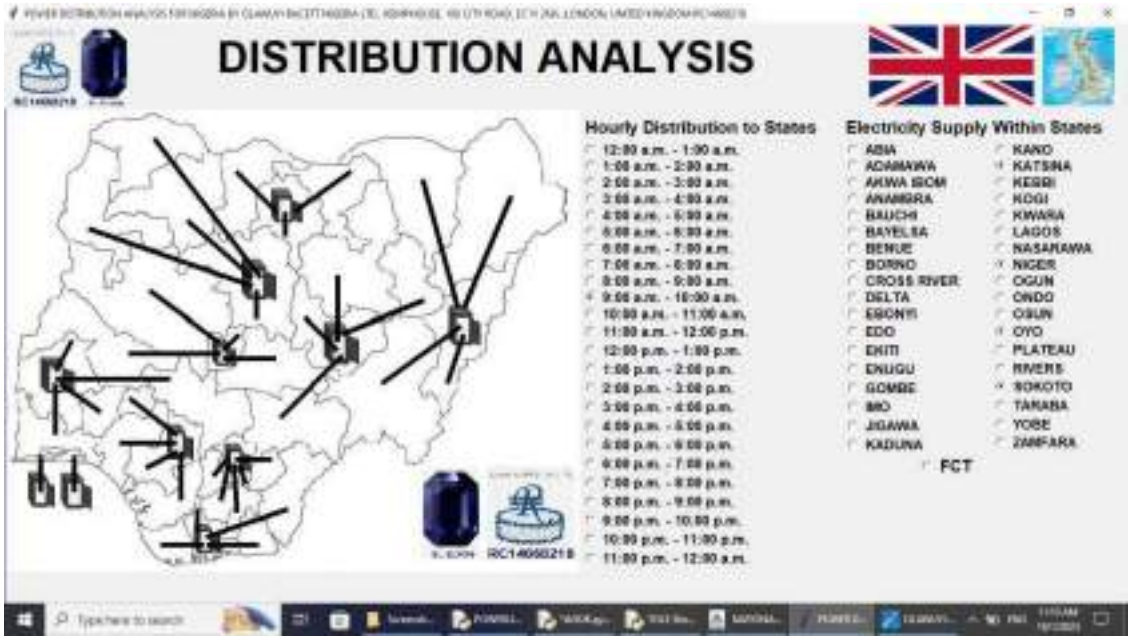

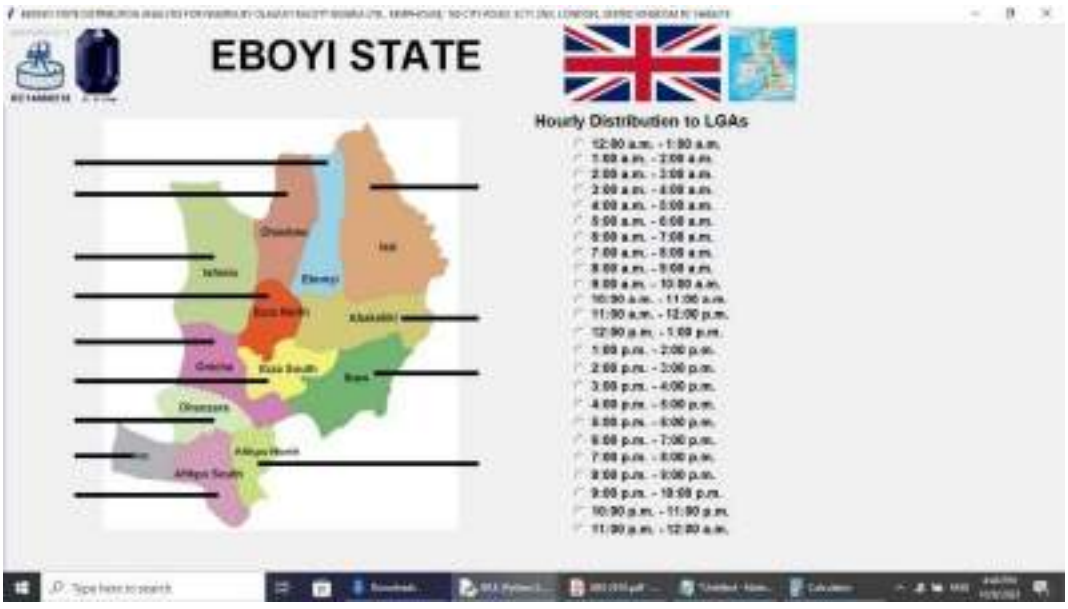

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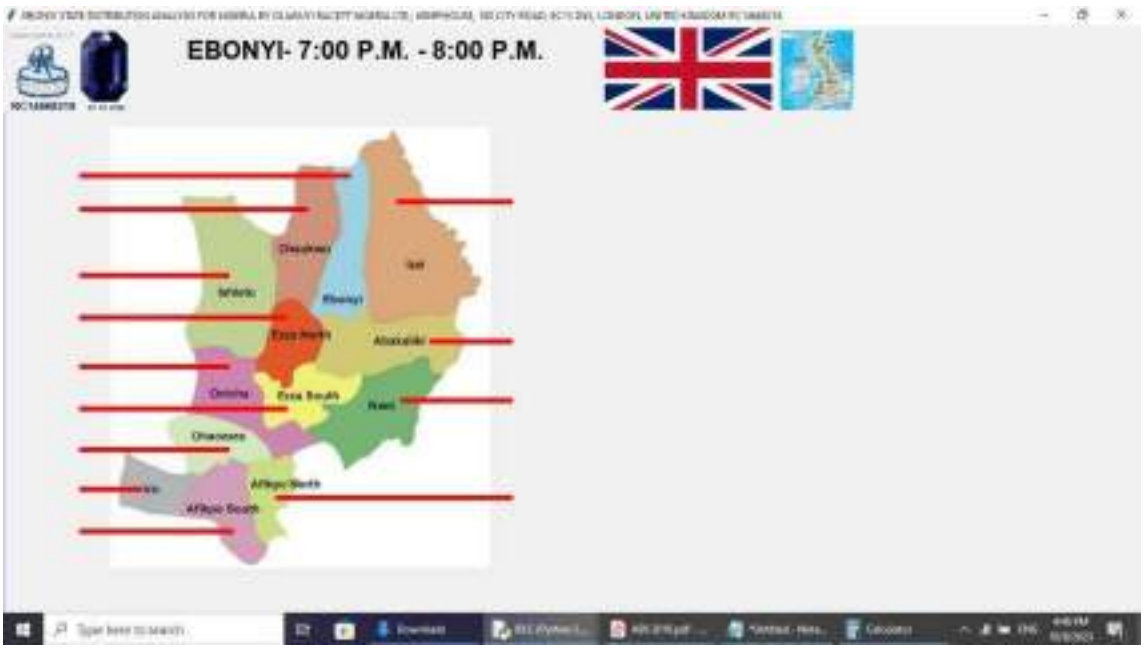
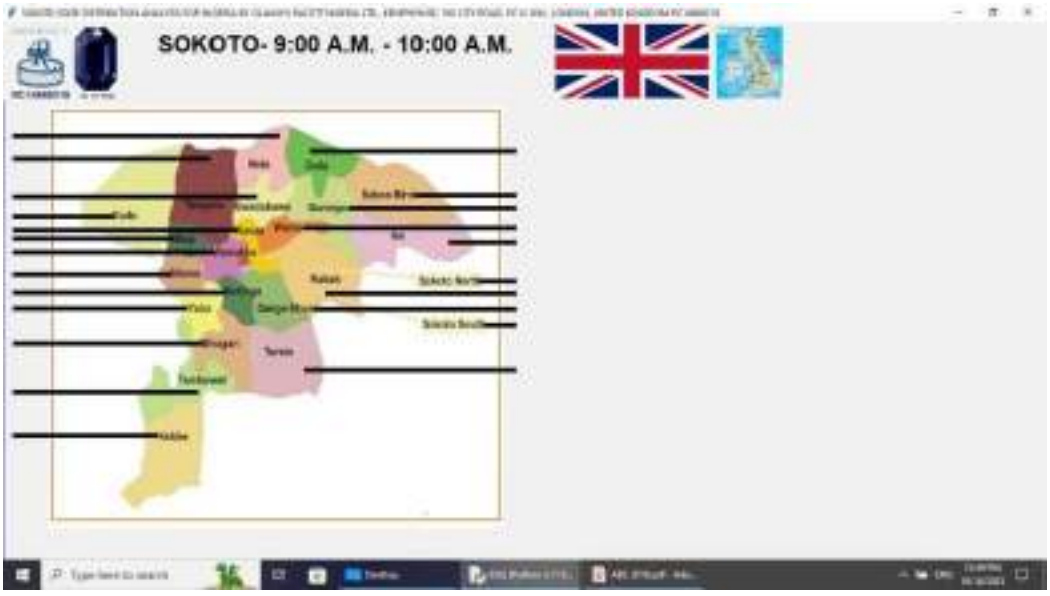
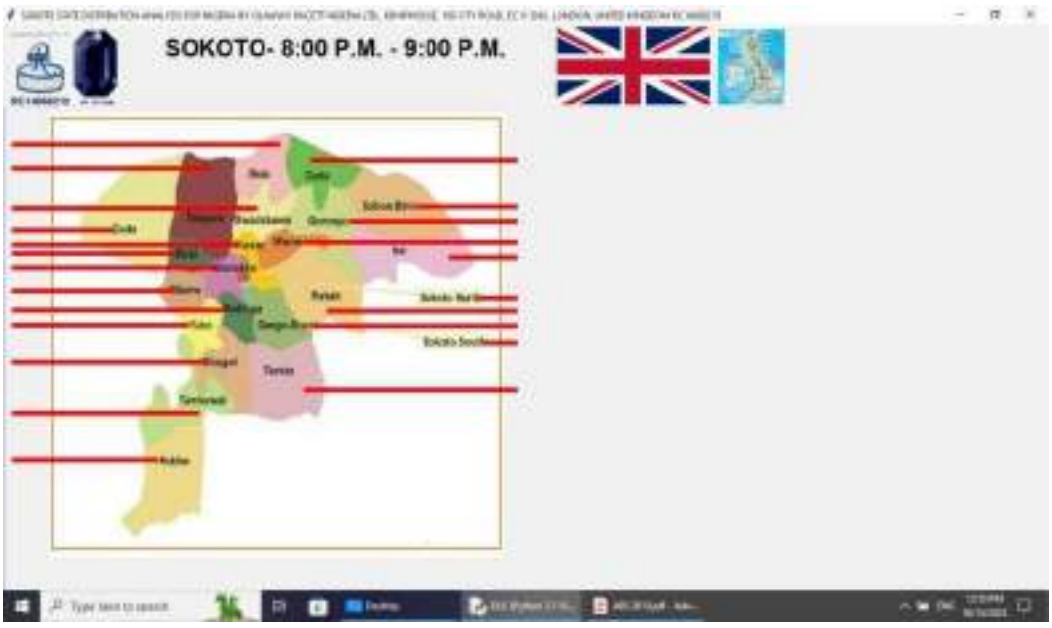



SOKOTO- 9:00 A.M. - 10:00 A.M.


SOKOTO- 8:00 P.M. - 9:00 P.M.

SPECIAL MISSIONS

Our company carries out special missions that address the needs and demands of the country in which OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218 operates. We call such missions EXCELLENT PORTION. One Such Mission is:

1. **FRUITS OF GOD :** Fruits of God is a way OLAWUYI RACETT NIGERIA LTD., UNITED KINGDOM RC14668218, provides funding for Christians who have a vision of God to execute in the United Kingdom, but are as of yet unable to secure the funding to do it.

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FRUITS OF GOD

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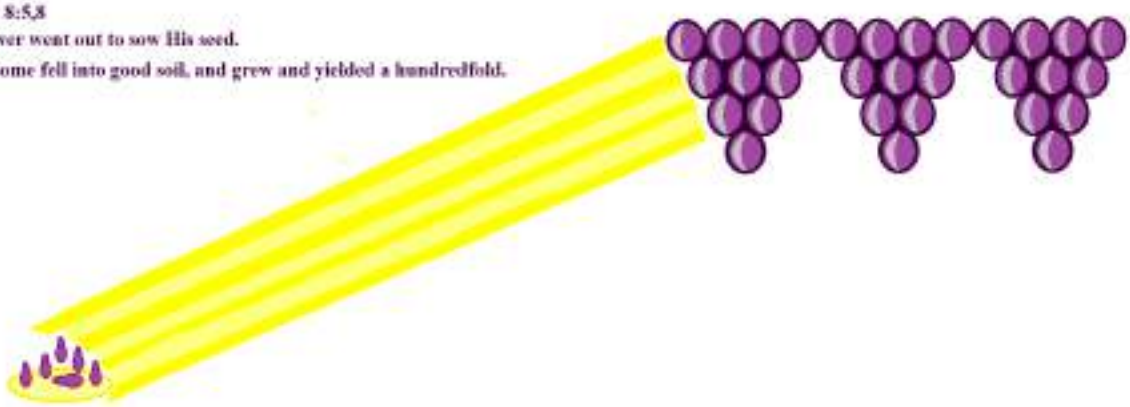
Luke 8:5,8
A Sower went out to sow His seed.
And some fell into good soil, and grew and yielded a hundredfold.



Matthew 6:6
But when you pray, go into your room and shut the door,
And pray to your Father who is in Secret.
And your Father who sees in Secret will reward you.

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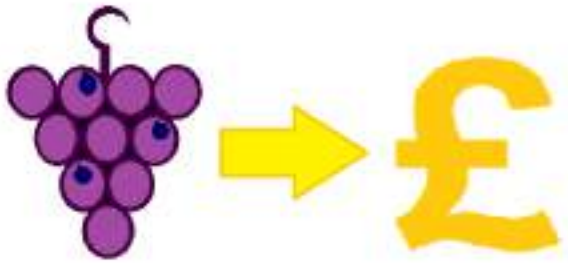
Fruits of God is a way to Righteously seek the funds Required to fulfill Secret Prayers made to God.



If you have Secret Prayer(s) to bear fruit for your God, Let us know.

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Send your Secret Prayer(s) to us by completing the card below and emailing it to tegae@gwmail.gwu.edu

SECRET PRAYER

EL ELYON

FINANCES

OLAWUYI RACETT NIGERIA LTD., WELLINGTON SQUARE, OXFORD, OX1 2JD, LONDON, UNITED KINGDOM RC14668218 RECEIVES PAYMENT ELECTRONICALLY FOR ALL SERVICES AND PRODUCTS THROUGH WISE (HTTPS://WISE.COM/LOGIN), EITHER THROUGH THE WISE TAG SHOWN BELOW HERE, OR BY LOGGING IN TO WISE AND TRANSFERRING PAYMENTS DIRECTLY TO OUR EMAIL ADDRESS THERE, WHICH IS: esthero611-wisetag@ieee.org.

@esthero611wisetag

WISE IS REGULATED BY THE BANK OF BELGIUM, AND SO IS SAFE FOR US TO CONDUCT BUSINESS WITH THEM THERE.

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WE ALSO DO BUSINESS WITH SELAR (https://selar.co/me/dashboard)