NATIONAL SKILLS QUALIFICATION

LEVEL 4

TITLE:
Satellite TV Antenna Installation & Maintenance

YEAR: 2024

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4: Satellite TV Antenna Installation & Maintenance

GENERAL INFORMATION

QUALIFICATION PURPOSE

Trainees will be prepared to work independently or in leadership roles within the satellite installation and maintenance sector, offering high-quality services to residential, commercial, and industrial clients.

QUALIFICATION OBJECTIVES

The learner should be able to: -

i. Install, Maintain, and Troubleshoot satellite TV antenna systems.
ii. Perform complex satellite installation tasks and ensure optimal reception and signal quality.
iii. Adapt to evolving satellite technologies and customer requirements.
iv. Carry out advanced signal testing techniques on motorized antenna systems

Mandatory Units

Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
Unit 001	ICT/SAT/001/L3	Health and Safety	2	20	*Mandatory*
Unit 002	ICT/SAT/002/L3	Communication in workplace	2	20	*Mandatory*
Unit 003	ICT/SAT/003/L3	Teamwork	2	20	*Mandatory*
Unit 004	ICT/SAT/004/L4	Satellite System Automation and Remote Management	3	30	*Mandatory*
Unit 005	ICT/SAT/005/L4	Advanced Satellite Communication Systems	3	30	*Mandatory*
Unit 006	ICT/SAT/006/L4	Satellite System Design and Integration	3	30	*Mandatory*
Unit 007	ICT/SAT/007/L4	Satellite Communication Security and Risk Management	3	30	*Mandatory*
		TOTAL	**21**	**210**	

NOTE: *Explain how the learner can achieve the total credit hours from mandatory and optional units*

NATIONAL SKILLS QUALIFICATION

LEVEL 4 Satellite TV Antenna Installation and Maintenance

Unit 001: OCCUPATIONAL HEALTH AND SAFETY

Unit Reference Number: ICT/SAT/001/L3

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose:

This unit aims to equip Trainees with the essential knowledge and practical skills required to ensure workplace health and safety while conducting satellite TV antenna installation and maintenance tasks.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 001: OCCUPATIONAL HEALTH AND SAFETY

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Understand and apply safety procedures when working at heights.	1.1	Demonstrate correct use of personal protective equipment (PPE) such as safety harnesses, helmets, and non-slip footwear.									
	1.2	Conduct risk assessments to identify hazards related to working at heights, including unstable surfaces and weather conditions.									
	1.3	Set-up ladders, scaffolding, or lift equipment before starting any installation work.									
	1.4	Describe Surface Risk.									
	1.5	Implement Fall Prevention Systems (fall arrest systems, i.e harnesses, safety ropes, and guardrails)									
LO 2: Ensure electrical safety in satellite TV antenna installations.	2.1	Identify electrical hazards during antenna installation.									
	2.2	Demonstrate ways to connect electrical components following safety guidelines.									
	2.3	Use electrical testing tools to check the integrity of wiring, cables, and connections before and after installation.									
	2.4	Demonstrate Grounding and Surge Protection									
LO 3: Comply with legal health and safety regulations and industry standards.	3.1	Apply relevant health and safety laws, including Occupational Health and Safety (OHS) regulations and industry-specific standards.									
	3.2	Compile/Complete safety documentation, including risk assessments, incident reports, and safety checklists.									
	3.3	Contribute in safety drills and regular safety audits to ensure continuous compliance with legal and company standards.									
LO 4: Implement emergency	4.1	Demonstrate Emergency preparedness ie (use emergency exits, and follow site-specific emergency response plans)									
	4.2	Administer basic first aid									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
procedures and first aid.	4.3	Identify emergency contact information and access medical services or first responders promptly when needed.									
	4.4	Demonstrate skills to use fire extinguishers and recognizing flammable materials on-site.									
Learner's Signature			Date:								
Assessor's Signature			Date:								
IQA's Signature			Date:								
EQA's Signature			Date:								

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 002: COMMUNICATION IN WORKPLACE

Unit Reference Number: ICT/SAT/002/L3

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose:

To develop effective communication skills essential for trainees' interactions within the satellite TV antenna installation industry.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 002: COMMUNICATION IN WORKPLACE

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Communicate Clearly and Professionally in the Workplace	1.1	Use concise language in verbal and written communication, ensuring messages are understood by the intended audience.									
	1.2	Apply professional tone and etiquette in emails, reports, and meetings.									
	1.3	Adjust communication style based on the audience, whether colleagues, clients, or stakeholders.									
LO 2: Use Technology to Facilitate Effective Communication	2.1	Demonstrate the use of digital communication tools such as emails, messaging apps, and project management platforms.									
	2.2	Participate in virtual meetings, through video conferencing software and adhering to proper online meeting etiquette.									
	2.3	Utilize collaborative tools to share information and updates efficiently.									
LO 3: Resolve Communication Barriers and Foster Open Dialogue	3.1	Identify potential communication barriers, such as language differences, cultural misunderstandings, or unclear instructions.									
	3.2	Encourage open dialogue by actively listening to feedback, asking clarifying questions, and inviting input from all parties.									
	3.3	Apply conflict resolution strategies to address miscommunication.									

Learner's Signature	Date:
Assessor's Signature	Date:
IQA's Signature	Date:
EQA's Signature	Date:

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 003: TEAMWORK

Unit Reference Number: ICT/SAT/003/L3

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose:

The focus is on fostering a culture of collaboration, mutual respect, and accountability to enhance productivity and innovation.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 003: TEAMWORK

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Principles of teamwork	1.1	Identify Team Roles Identification (Leader, facilitator, specialist, support roles)									
	1.2	Demonstrate different Team Dynamics.									
	1.3	Collaboration vs. Competition									
	1.4	Task prioritization									
	1.5	Discuss problem solving and initiative									
LO 2: Foster a positive and inclusive team environment	2.1	Emotional Intelligence									
	2.2	Identify potential sources of conflict									
	2.3	Leading by Example									
	2.4	Delegation and Empowerment									
	2.5	Cultural competence									
	2.6	Flexibility in Roles									
	2.7	Remote and Digital Collaboration									
LO 3: Evaluate team performance	3.1	Identify Team evaluation processes									
	3.2	Implement goal achievement									
	3.3	Demonstrate Collaboration and communication tools (Microsoft teams / slack, zoom/google meet)									
	3.4	Identify good performance using SurveyMonkey/Google Forms									

Learner's Signature	Date:
Assessor's Signature	Date:
IQA's Signature	Date:
EQA's Signature	Date:

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 004: SATELLITE SYSTEM AUTOMATION AND REMOTE MANAGEMENT

Unit Reference Number: ICT/SAT/004/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose:

This unit is essential for trainees seeking to enhance system reliability, improve service delivery, and reduce operational costs by leveraging modern automation technologies and remote management techniques.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 004: SATELLITE SYSTEM AUTOMATION AND REMOTE MANAGEMENT

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1: Introduction to Satellite Automation Systems	1.1	Define satellite automation									
	1.2	Discuss Satellite automation roles in modern communication systems									
	1.3	Explain the components required for automating satellite systems, such as programmable controllers and motorized mounts.									
	1.4	Compare manual vs. automated satellite system setups, highlighting the benefits of automation in large-scale operations.									
	1.5	Discuss case studies where satellite automation has improved signal reception and system maintenance.									
LO 2: Implementing Remote Monitoring Systems	2.1	Explain how to set up remote monitoring for satellite systems using tools like **SNMP (Simple Network Management Protocol)** and web-based platforms.									
	2.2	Describe how to configure alerts for signal degradation, weather-related issues, or hardware malfunctions.									
	2.3	Demonstrate how to perform system health checks remotely and monitor performance metrics like **signal-to-noise ratio** and **uplink power**.									
	2.4	Explain how remote troubleshooting and diagnostics reduce on-site visits and enhance system reliability.									
LO 3: Programming Satellite Tracking Systems	3.1	Discuss how to configure tracking systems to automatically adjust dish positioning based on satellite movements									
	3.2	Program satellite motor controllers (DiSEqC) for multi-satellite reception using advanced scheduling techniques.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.3	Demonstrate how to maintain accurate tracking during **low-earth orbit (LEO)** satellite passes.									
	3.4	Troubleshoot common tracking errors caused by system delays or mechanical faults									
LO 4: Automation Software Integration	4.1	Introduce software platforms used for satellite automation (e.g., **Nova for Windows**, **SatPC32**).									
	4.2	Demonstrate how to configure satellite communication automation software for different types of satellites.									
	4.3	Show how to create automated satellite connection schedules to handle multiple users and bandwidth allocation.									
	4.4	Discuss security protocols needed when integrating automation software into satellite systems.									
LO 5: Advanced Automation in Commercial and Military Applications	5.1	Compare commercial and military satellite automation systems, noting key differences in security and reliability requirements.									
	5.2	Demonstrate how **failover systems** work in military satellite automation for continuous communication.									
	5.3	Discuss the importance of encryption and signal security in remote satellite management for military applications.									
	5.4	Provide examples of automated satellite systems used for real-time data transmission in remote monitoring applications (e.g., weather, disaster management).									
Learner's Signature			Date:								
Assessor's Signature			Date:								
IQA's Signature			Date:								

EQA's Signature	Date:

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 005: ADVANCED SATELLITE COMMUNICATION SYSTEMS

Unit Reference Number: ICT/SAT/005/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose:

This unit is critical for trainees aiming to work in specialized roles within the satellite communication industry, providing high-quality, reliable communication solutions across diverse sectors.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 005: ADVANCED SATELLITE COMMUNICATION SYSTEMS

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1: **High-Frequency Satellite Communication (Ka-band and Above)**	1.1	Describe the characteristics of **Ka-band** and **Q/V-band** frequencies and their uses in modern satellite communication systems.									
	1.2	Explain how atmospheric conditions, such as rain and humidity, affect high-frequency signal transmission and strategies to mitigate these effects.									
	1.3	Compare the bandwidth capacity and data rates of **C-band**, **Ku-band**, and **Ka-band** systems.									
	1.4	Demonstrate how to configure and align dishes for high-frequency satellites using advanced equipment.									
LO 2: **Satellite Communication for IoT (Internet of Things)**	2.1	Define the role of satellite systems in IoT networks, especially in **remote and rural applications**.									
	2.2	Demonstrate how to integrate IoT devices (e.g., sensors, actuators) with satellite networks for real-time monitoring.									
	2.3	Discuss the benefits and challenges of using **low-power wide-area networks (LPWAN)** in satellite IoT applications.									
	2.4	Show how to maintain communication reliability for IoT systems in varying weather conditions and remote environments.									
LO 3: **Satellite Data Compression and Bandwidth Optimization**	3.1	Explain different **data compression techniques** used in satellite communication (e.g., **Huffman coding**, **LZW compression**).									
	3.2	Discuss bandwidth optimization strategies for high-traffic satellite systems, such as **adaptive modulation** and **bandwidth throttling**.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.3	Compare the efficiency of various data transmission protocols (e.g., **TCP/IP** vs. **UDP**) in satellite communication.									
	3.4	Demonstrate how to apply bandwidth management techniques in commercial satellite networks to improve data throughput.									
LO 4: **Quantum Satellite Communication**	4.1	Introduce the concept of **quantum communication** and its potential in satellite communication.									
	4.2	Explain how **quantum key distribution (QKD)** ensures secure communication between ground stations and satellites.									
	4.3	Demonstrate the principles of **entanglement** and **quantum cryptography** used in satellite systems.									
	4.4	Discuss future applications of quantum satellites in areas like **secure government communication** and **global financial systems**.									
LO 5: **Advanced Satellite Link Budget Analysis**	5.1	Explain how to calculate the **link budget** for advanced satellite communication systems, including factors such as **free space loss**, **antenna gain**, and **system no**									
	5.2	Analyse the impact of environmental factors on link budget performance and strategies to optimize communication links.									
	5.3	Demonstrate how to perform link budget calculations for high-capacity communication satellites.									
	5.4	Present case studies of link budget optimization in commercial satellite communication systems.									
Learner's Signature			Date:								
Assessor's Signature			Date:								

IQA's Signature	Date:
EQA's Signature	Date:

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 006: SATELLITE SYSTEM DESIGN AND INTEGRATION

Unit Reference Number: ICT/SAT/006/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: *The unit emphasizes the integration of components to create fully operational systems tailored to specific client needs, such as broadcasting, communication, or data services.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 006: SATELLITE SYSTEM DESIGN AND INTEGRATION

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1: **Designing Custom Satellite Systems for Enterprises**	1.1	Discuss the requirements and specifications for designing custom satellite communication systems for large enterprises.									
	1.2	Demonstrate how to conduct a **site survey** to assess the environmental and structural challenges of satellite installation.									
	1.3	Show how to select the appropriate **modulation schemes** and **bandwidth** to meet enterprise-level data requirements.									
	1.4	Present a project where learners design a satellite system for a **telecommunication** or **broadcasting company**, ensuring scalability and future expansion.									
LO 2: **Integrating Satellite Systems with Ground Networks**	2.1	Explain the integration of satellite networks with terrestrial communication systems, including **fiber-optic** and **microwave links**.									
	2.2	Discuss challenges of satellite-terrestrial integration, such as **latency** and **signal handoff** between networks.									
	2.3	Demonstrate how to create a hybrid communication system combining satellite and terrestrial infrastructure for redundancy.									
	2.4	Perform simulations of satellite-ground network integration, focusing on **load balancing** and **signal routing**.									
LO 3: **Disaster Recovery and Redundancy Planning**	3.1	Discuss the role of satellite communication in disaster recovery planning for critical industries' infrastructures (e.g., healthcare, banking).									
	3.2	Design a **redundant satellite network** for a business, ensuring communication									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		reliability in the event of natural disasters or equipment failure.									
	3.3	Compare satellite-based disaster recovery solutions with traditional communication recovery methods.									
	3.4	Demonstrate how to implement **failover protocols** to switch to satellite communication when terrestrial systems are down.									
LO 4: **Designing Satellite Systems for Rural and Remote Areas**	4.1	Explain the specific challenges of designing satellite systems for remote areas with limited infrastructure.									
	4.2	Demonstrate how to create low-cost satellite installations for rural schools, healthcare facilities, or government offices.									
	4.3	Discuss sustainable energy options (e.g., **solar power**) for powering satellite communication systems in off-grid locations.									
	4.4	Perform a site survey and create a system plan for a rural satellite installation, including power, bandwidth, and maintenance considerations.									
LO 5: **Space Debris and Satellite System Longevity**	5.1	Explain the increasing issue of **space debris** and its impact on satellite system design and deployment.									
	5.2	Discuss the **best practices** for extending the operational life of satellites and avoiding collisions with space debris.									
	5.3	Demonstrate how to incorporate **propulsion systems** into satellites for **orbital adjustments** to avoid debris.									
	5.4	Present a report on **sustainable satellite design**, focusing on materials and systems that reduce the risk of generating space debris.									
Learner's Signature			Date:								

Assessor's Signature	Date:
IQA's Signature	Date:
EQA's Signature	Date:

NATIONAL SKILLS QUALIFICATION

LEVEL 4: Satellite TV Antenna Installation & Maintenance

Unit 007: SATELLITE COMMUNICATION SECURITY AND RISK MANAGEMENT

Unit Reference Number: ICT/SAT/007/L4

NSQ Level: 4

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose:

This unit is vital for trainees responsible for protecting satellite networks and ensuring reliable communication, vulnerabilities like unauthorized access, signal interference, and cyber threats, focusing on encryption, secure transmission, and access controls.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 007: SATELLITE COMMUNICATION SECURITY AND RISK MANAGEMENT

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO 1: **Satellite Encryption and Data Security**	1.1	Explain encryption techniques used in satellite communication, such as **AES (Advanced Encryption Standard)** and **RSA** for secure data transmission.									
	1.2	Demonstrate how to implement end-to-end encryption for satellite communication systems, ensuring data confidentiality and integrity.									
	1.3	Discuss the impact of quantum computing on current encryption methods and how satellite systems must adapt for **post-quantum encryption**.									
	1.4	Perform encryption setup and verification tasks on commercial satellite receivers and ground stations, ensuring compliance with international security standards.									
LO 2: **Satellite Network Vulnerabilities and Threat Mitigation**	2.1	Identify common vulnerabilities in satellite communication systems, including **man-in-the-middle attacks**, **jamming**, and **signal spoofing**.									
	2.2	Demonstrate techniques to secure satellite communication links, such as **frequency hopping** and **spread spectrum technology**, to reduce vulnerability to jamming.									
	2.3	Discuss the importance of **access control** and **authentication** mechanisms in protecting satellite communication networks from unauthorized access.									
	2.4	Perform a vulnerability assessment and risk analysis of a satellite communication system, identifying potential weak points and proposing mitigation strategies.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 3: **Cybersecurity for Ground Stations and Satellite Operations Centers**	3.1	Discuss the importance of securing ground stations and **Network Operations Centers (NOCs)** against cyber threats such as malware, DDoS attacks, and insider threats.									
	3.2	Demonstrate how to implement **firewalls**, **intrusion detection systems (IDS)**, and **intrusion prevention systems (IPS)** for satellite ground stations.									
	3.3	Explain the importance of **multi-factor authentication (MFA)** and **role-based access control (RBAC)** in protecting sensitive satellite control systems.									
	3.4	Perform a cybersecurity audit of a simulated ground station setup, identifying and addressing potential security gaps.									
LO 4: **Satellite System Failures and Disaster Recovery Plans**	4.1	Discuss the most common causes of satellite system failures, such as **signal degradation**, **equipment malfunctions**, or **power outages**.									
	4.2	Design a comprehensive disaster recovery plan for satellite communication systems, ensuring rapid recovery in case of natural disasters or cyberattacks.									
	4.3	Demonstrate the use of **redundancy techniques** such as **backup satellites**, **dual-ground stations**, and **failover systems** to ensure continuous communication.									
	4.4	Conduct a disaster recovery simulation, ensuring learners can quickly restore satellite communication after a system failure or breach.									
LO 5: **International**	5.1	Explain key international satellite security regulations, such as **ITU (International Telecommunication**									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
Satellite Security Regulations and Compliance		**Union)** guidelines and **military-grade security protocols**.									
	5.2	Discuss the compliance requirements for satellite systems operating in sensitive industries, such as **military**, **aerospace**, and **government communication**.									
	5.3	Demonstrate how to implement security standards that comply with **GDPR (General Data Protection Regulation)** and **other global privacy laws** in satellite data transmission.									
	5.4	Perform an audit of a satellite system's compliance with international security regulations, identifying areas that require improvement to meet industry standards.									
Learner's Signature			Date:								
Assessor's Signature			Date:								
IQA's Signature			Date:								
EQA's Signature			Date:								

CRITIQUE TEAM LIST

SN	Name	ADDRESS	EMAIL AND PHONE
1	Ikechukwu Jacob Umesi	Mo Solicitors 4 Trinity Close Olodi Apapa, Lagos	iykejacob@gmail.com 08055900895
2	Frank Iheonu	Inits Limited 283 Herbert Macaulay Way, Yaba	iheonufrank@gmail.com 07036999294
3	Chibueze Princewill Okereke	Zenith Bank Group (Zenpay) 5 Roluga Street, Soluyi, Gbagada, Lagos	okerekeprincewill@hotmail.com 07025768487
4	Emmanuel C. Amadi	Federal University of Technology, Owerri	emmanuel.amadi@futo.edu.ng 08062142392
5	Engr. Lawal Abdullahi	Zenith Kad Ict Hub Kaduna	ocplawal@gmail.com 08035169089
6	Muhammad Musa	NBTE	muhammadwaziri@msn.com 08033671027
7	Muhammad, Bilyaminu Musa	NBTE	mahogany@gmail.com 09036071291
8	Muhammad Bello Aliyu	CPN	mbacaspet@gmail.com 08039176984
9	Benjamin, Prince Chukwudindu	CPN	pco.benjamin@gmail.com 08132850544
10	Amoo, Taofeek	CPN	taofeekamoo@gmail.com 08053370334
11	Olatunji Abibat	CPN	adehabb@gmail.com 08054263602
12	Linda Ngbeken	CPN	excel4all2000@yahoo.com 08128219274

VALIDATION TEAM LIST

SN	NAME	ADDRESS	EMAIL AND PHONE
1	Phd. Muhammad Zubairu	NigComSat Abuja	mdzubairu@gmail.com 08035749800
2	Haruna Aliyu Sambo	NigComSat, Abuja	samboruna@gmail.com 08079363900
3	Mustapha Habu	Engausa Global Tech Hub	mustapha@engausa.com 07038224643
4	Engr. Faisal Lawal	Intelbox Solutions, Mabushi Abuja	0806521477
	Dr. Musa Hatim Koko	NBTE	Hatimlion@gmail.com

			08039606948
5	Muhammad Musa	NBTE	muhammadwaziri@msn.com 08033671027
6	Damilola Omokanye	CPN	Maccomoke11@gmail.com 08161503312