

# **SATELLITE COMMUNICATIONS FOR THE ARMED FORCES OF NIGERIA**

**By**

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# INTRODUCTION

- ❑ The World War II was a global military conflict between 1939 and 1945 which involved most of the world's nations. The space was used as battle field to end it.
- ❑ The World War II era was a time of change. There were many technological advancements during this time. These advances can be categorized into three: weapon advances, vehicle advances and strategic advances.
- ❑ Due to the technological advancement, weapons of world war I were improved upon from bolt action rifle to semi automatic rifle and machine guns. Also, small explosives like grenades were made more deadly and reliable.
- ❑ This category of technology was one of the most important influences of the war and it can be broken down into ground vehicles, ships, and aircraft.

# INTRODUCTION (CONTD)

- ❑ The Jeep was invented in World War Two and it was used as basic transportation for troops. After the war, the Jeep became more popular and are being used as a Sport Utility Vehicle (SUV) by the public.
- ❑ The radar was a breakthrough in navigation and enemy detection. Ships were equipped with better weapons.
- ❑ The first powered flight took place in 1903, just forty years before World War Two. After the war, airplane designers developed aircrafts that are stronger, lighter, and more efficient.
- ❑ As a result of strategic advances, officers were better trained than ever before. They had to keep up with technology, in anticipation to be better than the enemy. Once again, the radar made a huge impact in warfare.

# INTRODUCTION (CONTD)

- ❑ Satellites are widely used to provide support for military activities such as verifying compliance with arms control treaties, emergency medical interventions and to provide direct support for military operations. During the 2004 Iraq war, 68% of amunitions were satellite guided (up from 10% in the 1991 Iraq War).
- ❑ The type of payload a satellite carries enables one to distinguish it as either military or civilian in characteristics. Military needs are diverse and require a mixture of satellite communications services to support wartime operations.
- ❑ Satellite communications has been a vital part of the United States military throughout the space age, beginning in 1946, when the Army achieved radar contact with the moon.
- ❑ In 1954, the Navy began communications experiments using the moon as a reflector, and by 1959, it had established an operational communication link between Hawaii and Washington, D.C.

# AIM

- ❑ To Examine the Strategic Importance of Communication Satellite to the Nigerian Armed Forces.

# SCOPE

- ❑ Development of Communication Satellite in the Military.
- ❑ Applications in theatre of operations.
- ❑ Nigeria (NASRDA)'s incursion into Communication Satellite.
- ❑ The Military's incursion into Satellite Communications.
- ❑ Challenges to the Military
- ❑ Way Forward for the Military
- ❑ Conclusions.

# DEVELOPMENT OF COMMUNICATION SATELLITE IN THE MILITARY

Satellite communication has been a vital part of the United States military throughout the space age, beginning in 1946, when the Army achieved radar contact with the moon.

- ▶ In the 1960s, the Department of Defense (DOD) began developing satellite communication systems that would address the special requirements of military operations.
- ▶ The goal of these systems has been to provide communications between, and to supply information to, military units in situations where terrestrial means of communication are impossible, unreliable, or unavailable.
- ▶ The first U.S. military communication satellites were of an experimental nature and used low-altitude orbits.
- ▶ **Project West Ford** was a test carried out in 1961 and 1963 to create an artificial ionosphere above the Earth.

# APPLICATIONS IN THEATRE OF OPERATIONS

- ❑ First Gulf War, 1991
- ❑ The Afghanistan War, still ongoing
- ❑ Undisclosed usage by the advanced armies of the world...

# NIGERIA'S (NASRDA) INCURSION INTO COMMUNICATION SATELLITE

- ❑ NigcomSat 1 – Transponders for security organizations
- ❑ NigcomSat 1 R – Transponders for Military applications
- ❑ Nano & Pico Satellite Technology for Military Usage

# THE MILITARY'S INCURSION INTO SATELLITE COMMUNICATIONS

- ❑ Manpower Development
- ❑ VSAT connectivity – Nigerian Army Wide Area Network Infrastructure (NAWANI)
- ❑ Galaxy backbone
- ❑ Fibre Optics Technology as back ups

# CHALLENGES TO THE MILITARY

- ❑ Integration of Satellite Platforms
- ❑ Different service Providers
- ❑ Dearth of Hands-On Manpower Training
- ❑ Policy implementation issues- lack of continuity

# WAY FORWARD FOR THE MILITARY

- ❑ Human Capacity building
- ❑ Infrastructure or Dual use
- ❑ Establishment of the Defence Space Command

# CONCLUSION