

# **55<sup>th</sup> Annual Surveyors Congress,**

**Gateway Hotel, Port Moresby, 2023**

## **Theme of Surveyors Congress**

- **“THE IMPACT OF MODERN TECHNOLOGY IN THE SURVEYING INDUSTRY”**

# **PRESENTATION**

- **Brief history of Surveying.**
- **Various systems of measurements.**
- **Comparison between Conventional survey techniques with Modern Survey Technology.**
- **Consequent Impact on Papua New Guinea Surveyors Board registration.**
- **View.**
- **Way Forward.**

## **BRIEF HISTORY IN SURVEYING**

- **Surveying is one of the oldest professions in the human history. Its practices could be backdated to the ancient and biblical time at around 1400BC by Egyptians, Babylonians, Greece and Rome.**
- **2023AC is estimated to about more than 3,000 years.**
- **The Egyptians used human nature as measuring units to measure lengths such as, arms and palms. "cubits, span and palm"**

# **VARIOUS SYSTEM OF MEASUREMENT**

- **The British imperial system of weights and measurements were officially used from 1824 until the metric system was adopted in 1965.**
- **Australia and New Zealand were colonized by British therefore their surveyors were the ones who carried out surveys in PNG, adopted the 'Imperial system of measurement.**
- **Papua New Guinea adopted the metric system in 1974 therefore many survey plans are still in imperial system. These survey plans will be superseded by metric system over a time.**

# **COMPARISON ; CONVENTIONAL SURVEY TECHNIQUE AND ;MODERN SURVEYING TECHNOLOGY – PAPUA NEW GUINEA**

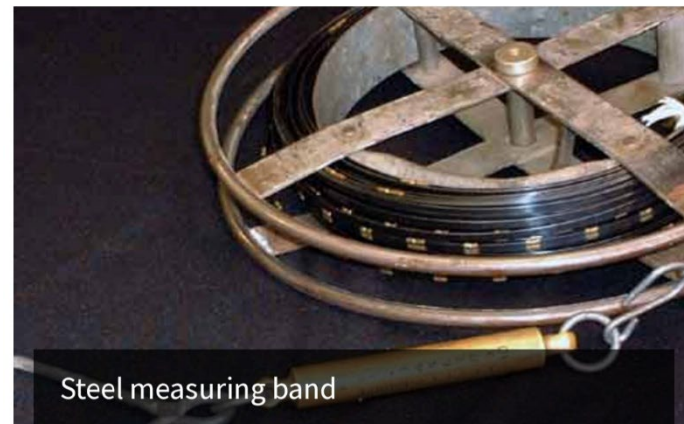
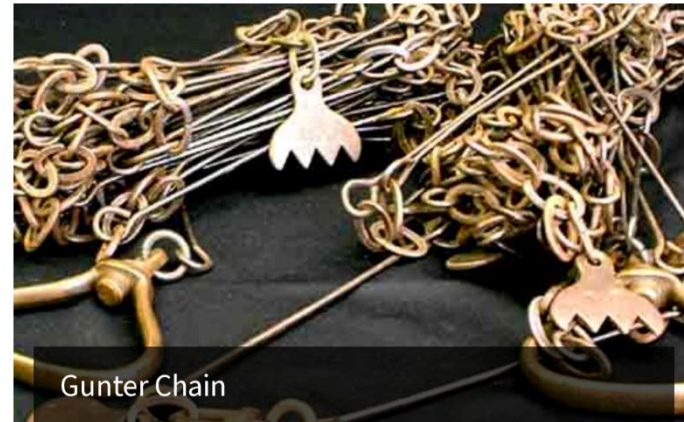
## **CONVENTIONAL SURVEY TECHNIQUE**

- **During Colonial administration survey for PNG was done by foreign surveyors.**
- **Their immense contribution towards the purchase of native land from the traditional land owners for social and economic growth of our country can be realized today.**

# The conventional survey equipment “Theodolite”



# 100m steel band with 3m reader



## **CONVENTIONAL SURVEY TECHNEQUE con't.**

- **Only a registered surveyor or an authorized person could do field measurement.**
- **Substantial amount of time and more manpower was need to do field work.**
- **The field data was recorded and reduced manually.**
- **Survey plans drawn manually by cartographers using field notes.**



# MODERN SURVEYING TECHNOLOGY

## MODERN SURVEY EQUIPMENT – “ TOTAL STATION”



## **MODERN TECHNOLOGY IN SURVEYING con't**

- **Made life easier for surveyors, field measurements are recorded electronically.**
- **Field observation are reduced electronically.**
- **Person without surveying background can do field observation.**
- **Survey plans can be drawn by uploading data straight into the computer using automated drafting software.**
- **Less time needed for both field and office work.**

## Modern Technology in Surveying. con't

- **The manual drafting of survey plans with the rotring stencils and the pens were well standardized whilst automated drafting is a challenge in QC.**

## **IMPACT: PAPUA NEW GUINEA SURVEYORS BOARD.**

- **According to the Registrar of Papua New Guinea Surveyors Board records there are 45 registered surveyors in PNG. These are surveyors who graduated from University of Technology before 2000 or the introduction of Total Station.**
- **11 surveyors who got registered after 2000 are from those who graduated before introduction of Total Station. It is also noted that for the last two decades only one survey cadet got registered from those who graduated after the introduction of Total Station.**
- **The modern technology in surveying has greatly affected the registration of surveyors especially in the area survey board projects.**

## VIEW;

- **Other survey discipline in engineering such as mining, building, and road and bridge construction has a paradigm shift since the industries that requires survey data has changed drastically in the way they conduct business.**
- **Conversely, the cadastral surveying process and procedure in registering a survey plan for land title system hasn't changed. Though surveying is carried out using modern technology and survey plan produced using automated drafting software the produce analogue survey plan.**

## **WAY FORWARD**

- **Seriously, all registered surveyors must put a concerted effort in getting survey cadets registered.**
- **Appeal is also made to survey cadets to use these modern technology in surveying to do your PNGSB project.**
- **Plea is made to all survey cadets to find some to read and understand the Survey Direction 1990, Survey Act 1969 and Survey Coordination Act and Regulation.**
- **The technology is continuously revolving and it will never stop. It is only fitting that we amend the certain clause in survey direction to cater for the use of modern surveying equipment, hardware and software rather than amending all our Laws and Regulation.**

**ANY QUESTIONS AND COMMENDS**