

**PUBLIC-PRIVATE PARTNERSHIP (PPP)
DRIVING NATIONAL GEOSPATIAL
PLATFORM FOR SUSTAINABLE
DEVELOPMENT GOALS:**

JUPEM INITIATIVES



To achieve these Global Sustainable Development Goals, geospatial data are crucial.

HIGH INCOME NATION
SUSTAINABLE GROWTH
SOCIALLY INCLUSIVE

Overview of the GTP, NKRA and NKPIs

GTP



Reducing
Crime
NKRA

NKPIs



Fighting
Corruption
NKRA

NKPIs



Improving
Student
Outcomes
NKRA

NKPIs



Raising Living
Standards of
Low-Income
Households
NKRA

NKPIs



Improving
Rural Basic
Infrastructure
NKRA

NKPIs



Improving
Urban Public
Transport
NKRA

NKPIs



Addressing the
Rising Cost
of Living
NKRA
*(Introduced in
July 2011)*

NKPIs

ИКЫ*

ИКЫ*

ИКЫ*

ИКЫ*

ИКЫ*

ИКЫ*

ИКЫ*

12 NKEAs

Business services



Wholesale and retail



Palm oil



Oil, gas and energy



Electrical and electronics

Agriculture



Tourism



Private healthcare



Greater Kuala Lumpur



Education



Information and communication technology



Financial services

SIX (6) STRATEGIC THRUSTS IN MOVING TOWARDS VISION 2020

- ENHANCING INCLUSIVENESS TOWARDS AN EQUITABLE SOCIETY
- IMPROVING WELL-BEING FOR ALL
- ACCELERATING HUMAN CAPITAL DEVELOPMENT FOR AN ADVANCED NATION
- PURSUING GREEN GROWTH FOR SUSTAINABILITY AND RESILIENCE
- STRENGTHENING INFRASTRUCTURE TO SUPPORT ECONOMIC EXPANSION
- RE-ENGINEERING ECONOMIC GROWTH FOR GREATER PROSPERITY



PPP INVOLVES TRANSFER TO THE PRIVATE SECTOR THE RESPONSIBILITY TO FUND AND MANAGE A CAPITAL INVESTMENT PACKAGE AND SERVICES INCLUDING THE CONSTRUCTION, MANAGEMENT, MAINTENANCE, IMPROVEMENT AND REPLACEMENT OF PUBLIC SECTOR ASSETS

1

FOR PPP PROJECTS, THE PRIVATE SECTOR INVOLVED WILL BE BOUND BY A CONTRACT AND IS REQUIRED TO PROVIDE LONG-TERM SERVICES, WHICH ARE PUBLIC INFRASTRUCTURE BASED

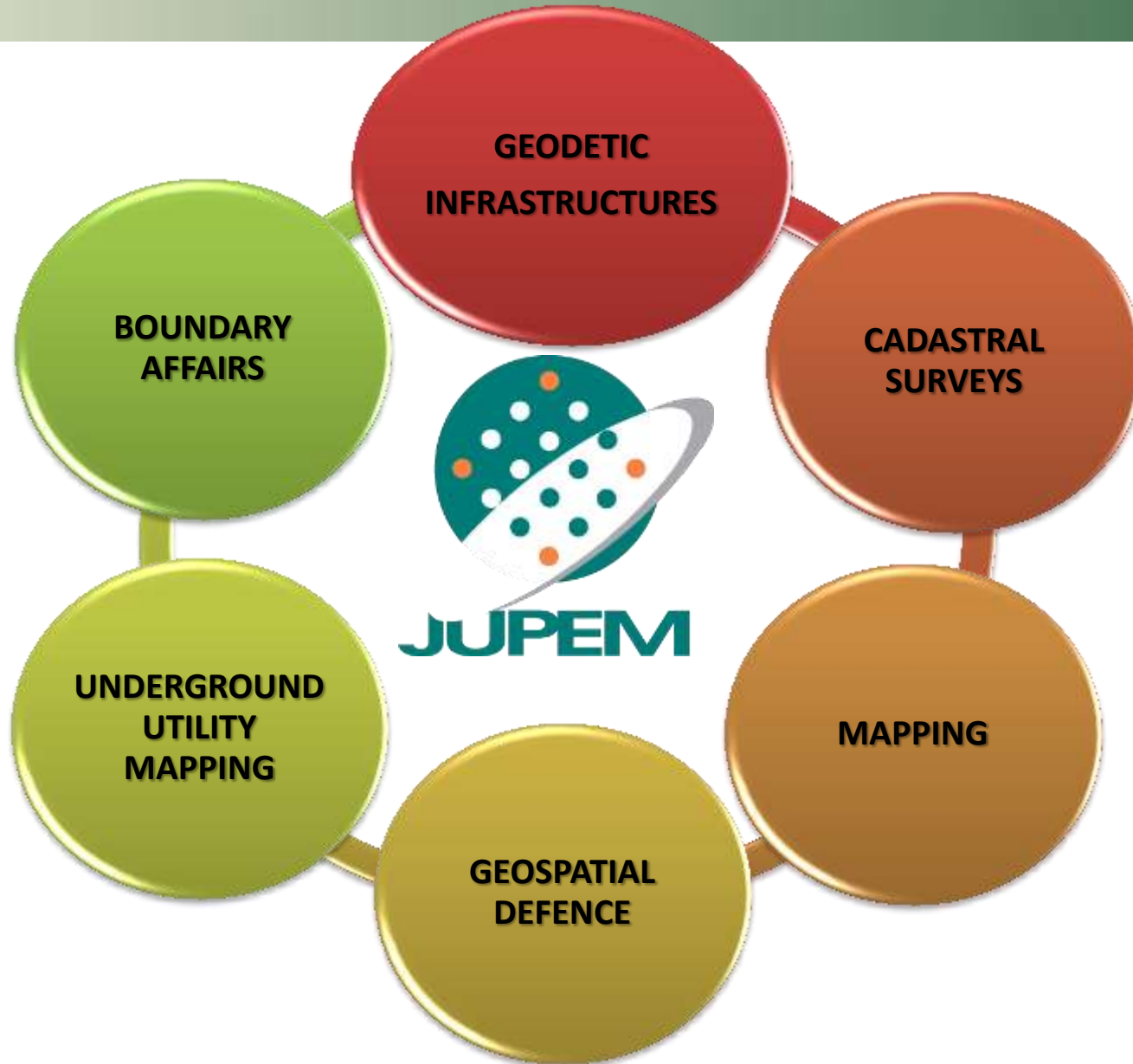
2

THE PRIVATE SECTOR WILL HAVE TO GENERATE ITS OWN FUNDS TO FINANCE THE WHOLE OR PART OF THE ASSETS AND HAVE TO PROVIDE SERVICES BASED ON AN AGREED LEVEL OF PERFORMANCE

3

THE GOVERNMENT, OR IN SOME CASES THE PUBLIC, WILL MAKE PAYMENTS TO THE PRIVATE SECTOR FOR THE SERVICES

THE ROLE OF JUPEM



1

LICENSED LAND SURVEYORS

2

GEOSPATIAL INDUSTRY PLAYERS

3

SURVEY EQUIPMENT SUPPLIERS

4

GIS VENDORS

POSITIONING



THE MALAYSIA REAL-TIME KINEMATIC GNSS NETWORK (MyRTKnet) AS IN 2016

- NUMBER OF RTK STATIONS IN PENINSULAR MALAYSIA : **65 Stations**
- NUMBER OF RTK STATIONS IN SARAWAK : **15 Stations**
- NUMBER OF RTK STATIONS IN SABAH : **16 Stations**

TOTAL STATIONS

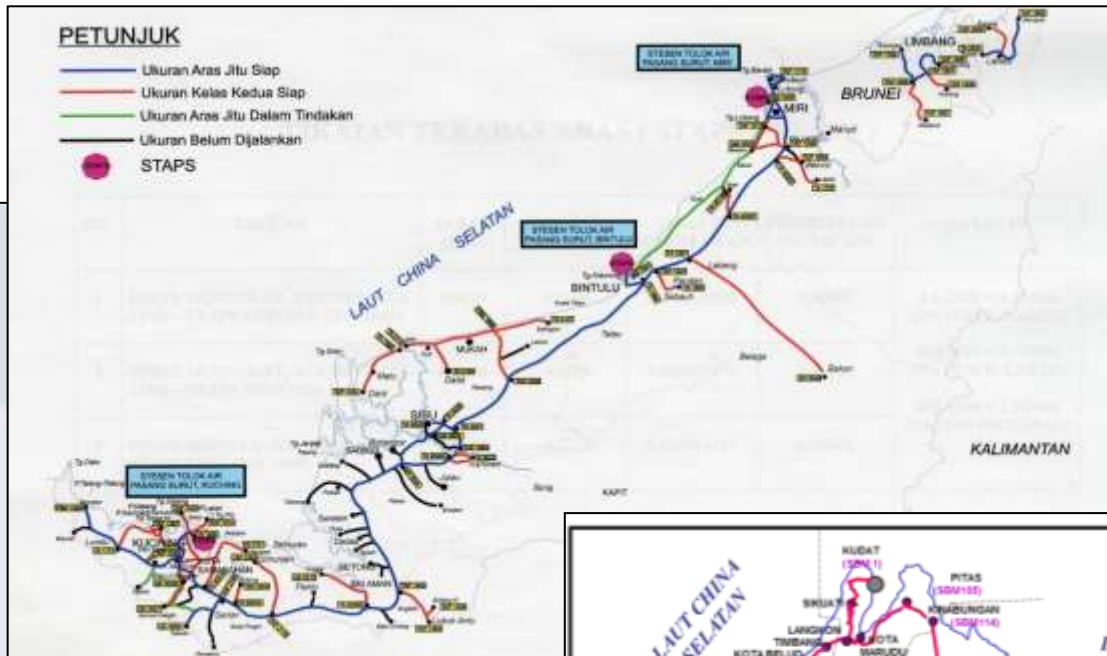
96

Stations

VERTICAL CONTROL



Peninsular Malaysia



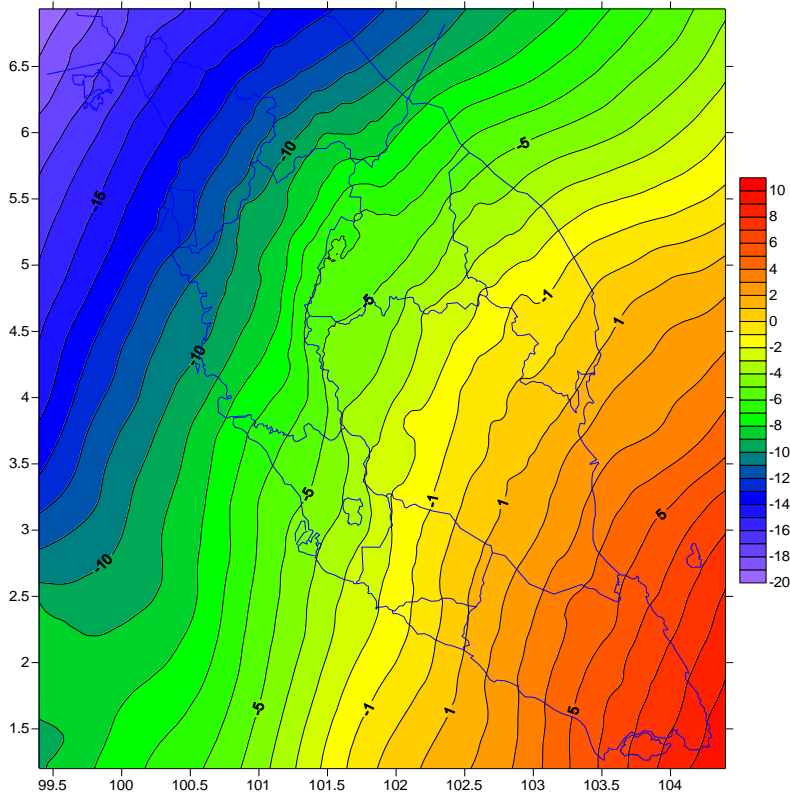
Sarawak

Sabah

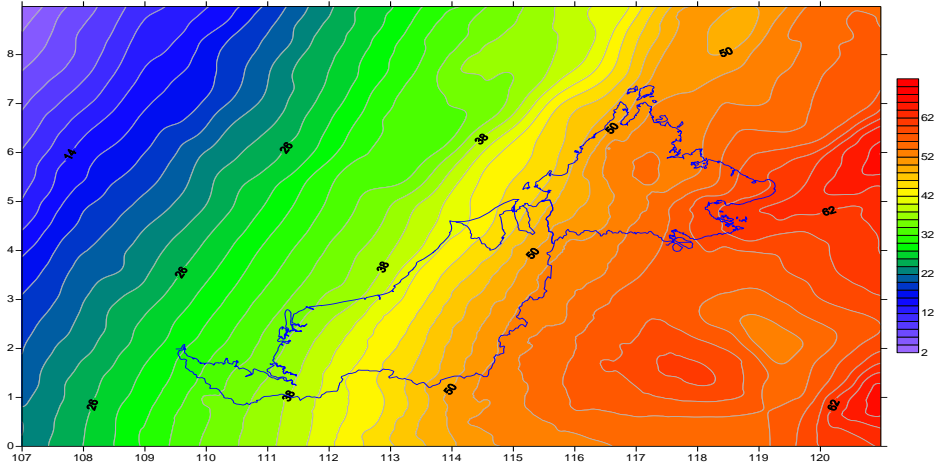


PETUNJUK:-
 — Siap ukuran aras jitu
 — Siap ukuran aras kedua
 ● Stesen Air Pasang Surut

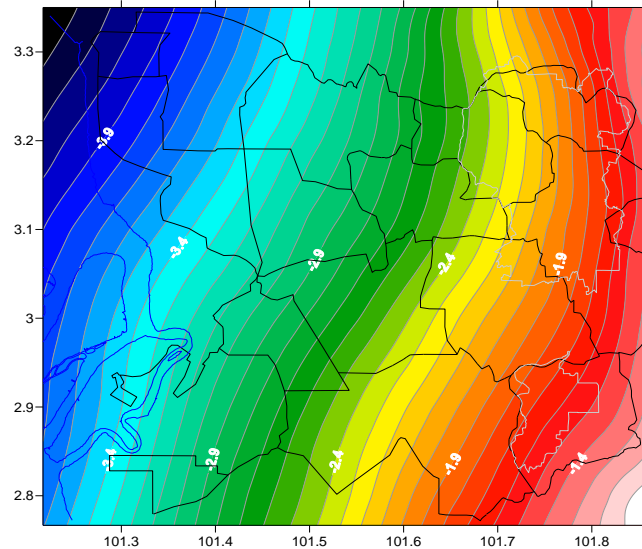
GEOID MODEL FOR MALAYSIA



MyGEOID - WMGEOID04 (+-5cm)



MyGEOID - EMGEOID05 (+-10cm)



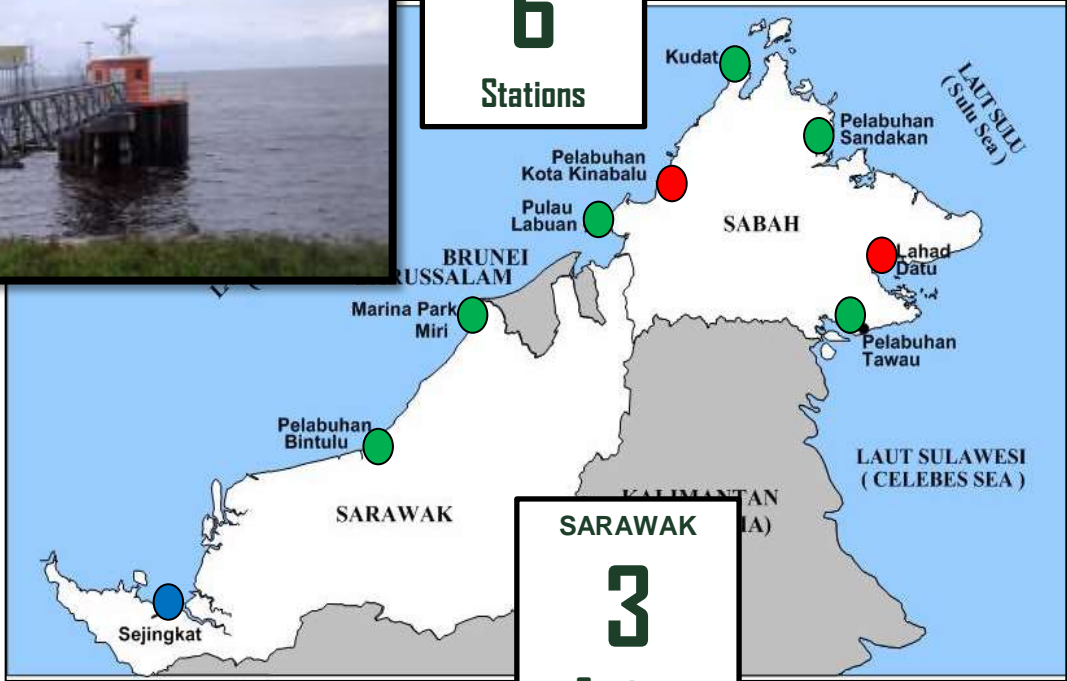
Klang Valley
MyGEOID (+-1cm)

TIDE GAUGES



Miri, Sarawak

SABAH
6
Stations



Note :

- STAPS equipped with Telemetry System (13 Stations)
- STAPS equipped with manual system and in the process to be upgraded with telemetry system by year 2017 (6 Stations)
- STAPS discontinued operations and will be reconstructed in 2018 (2 Stations)

1

SURVEY OF CADASTRAL LOTS FOR TITLES BY LICENSED LAND SURVEYORS

2

SURVEY DATA SUBMITTED TO JUPEM DIGITALLY

3

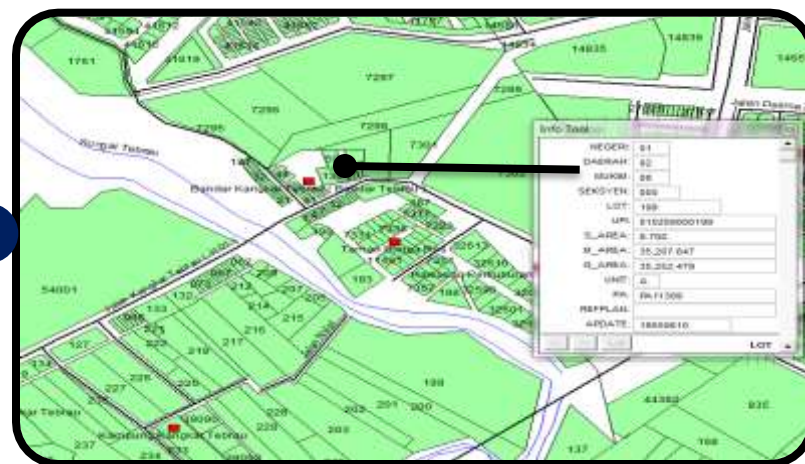
CREATION OF NATIONAL DIGITAL CADASTRAL DATABASE (NDCDB)

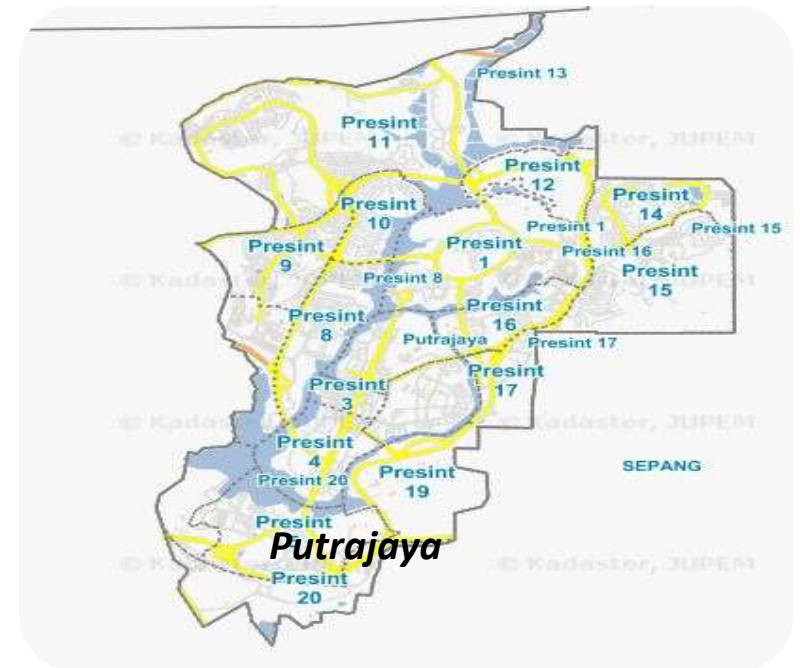
4

NDCDB USED AS FUNDAMENTAL DATASET FOR GEOSPATIAL ANALYSIS



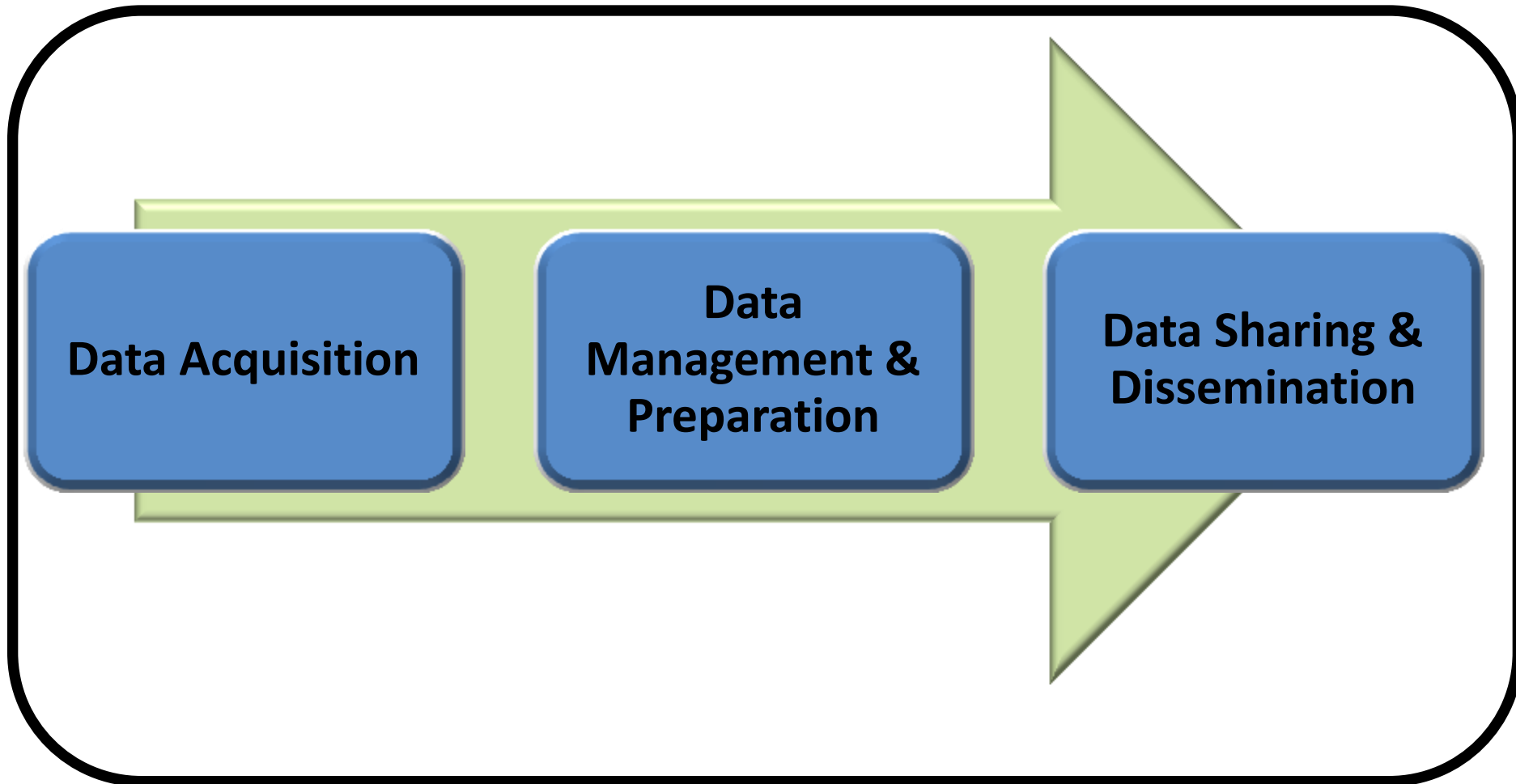
GIS ANALYSIS





Coverage area = ± 300 sq km

WORKFLOW PROCESS



Data Acquisition:

- **Multi-view Oblique Aerial Imagery**
- **LiDAR and Orthophoto**
- *Mobile Laser Scanning*
- *360 Degree Panoramic Street View Imagery*
- *Terrestrial Laser Scanning*
- *Feature extraction*



Oblique Image

Orthophoto



DSM



DTM



Contour



Data Acquisition:

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2D Maps

Kuala Lumpur

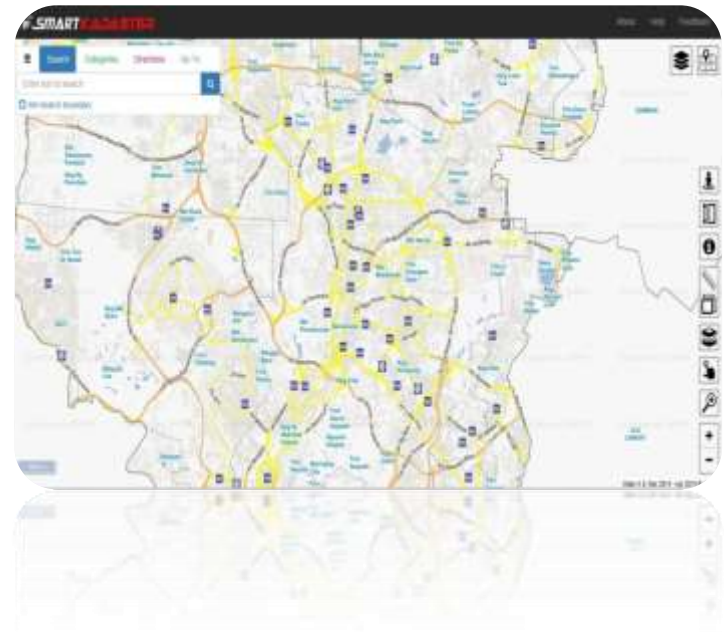
Putrajaya

3D Maps

Kuala Lumpur

Putrajaya

2D Maps



2D Maps – Apps Tools



Map Catalogue



Identify



Print



Line Measure (include bearings)

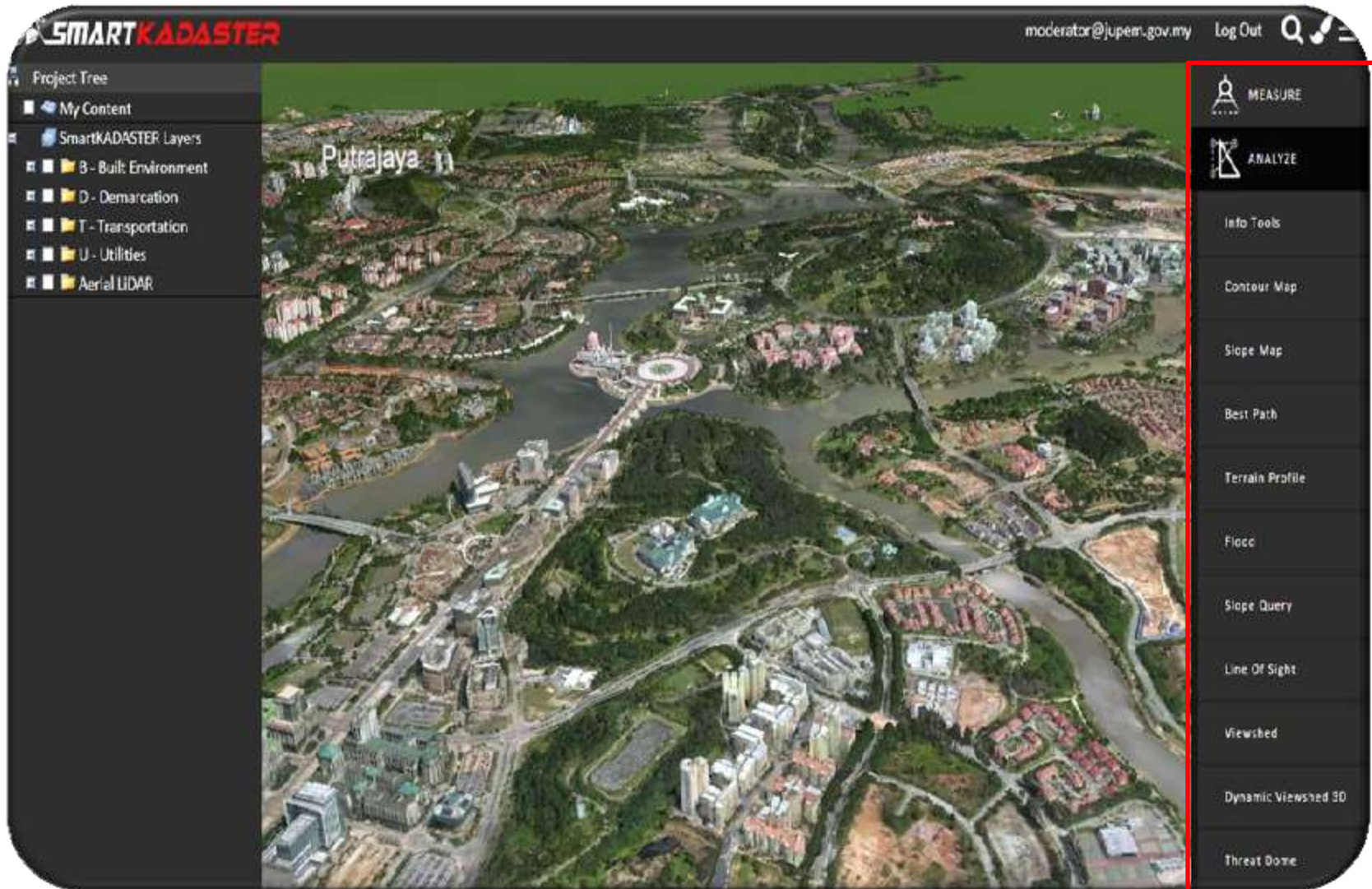


Radius Measure



Area Measure (include bearings)

3D Maps



Analysis



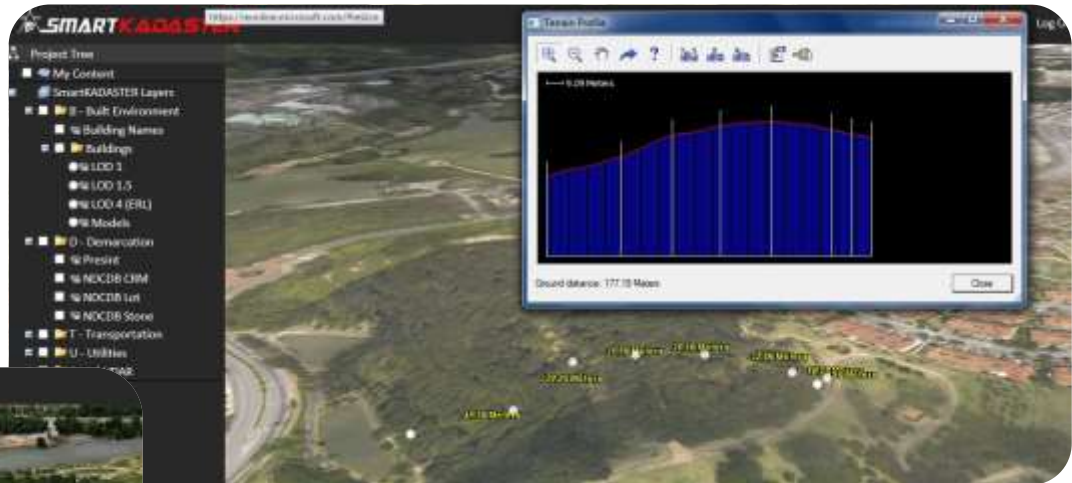
3D Maps- Apps Tools

Overlay with Street Network

Overlay with Cadastre Lot (NDCDB boundary, stones, line & CRM GNSS stone)



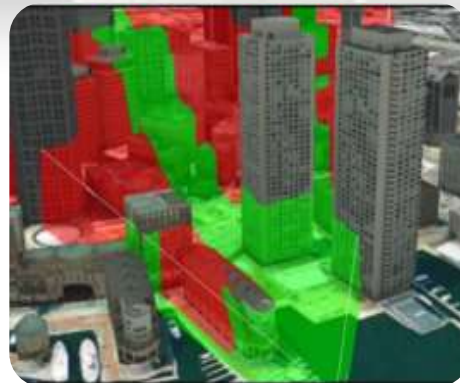
3D Maps- Apps Tools



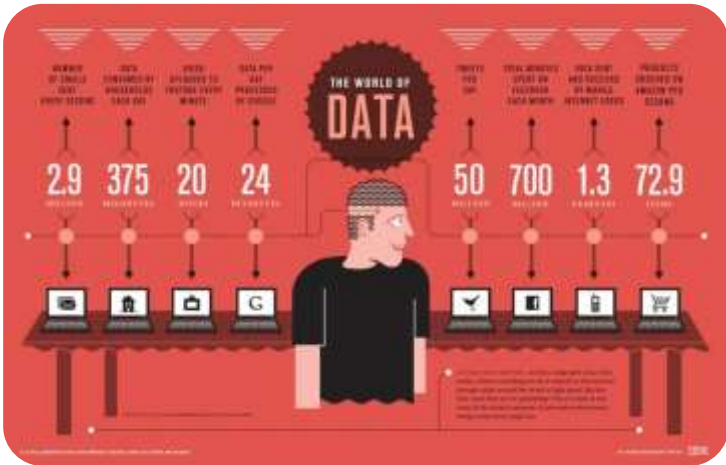
Terrain Profile



3D Viewshed







Digital Data



BIM



3D Trends



MAPPING PRODUCTS

Topography Map 1:10 000



**Non-Restricted map
MY701A
for Peninsular
Malaysia
and MY711A for
Sabah/Sarawak**

Topography Map 1:50 000



**Map series MY502A for
Peninsular Malaysia
and MY512A for
Sabah/Sarawak**

Thematic Map



**Thematic Map series
MY90005R and MY91005R
(multiple scale)**

1: 25 000 scale



DIGITAL DATA

1: 5 000 scale

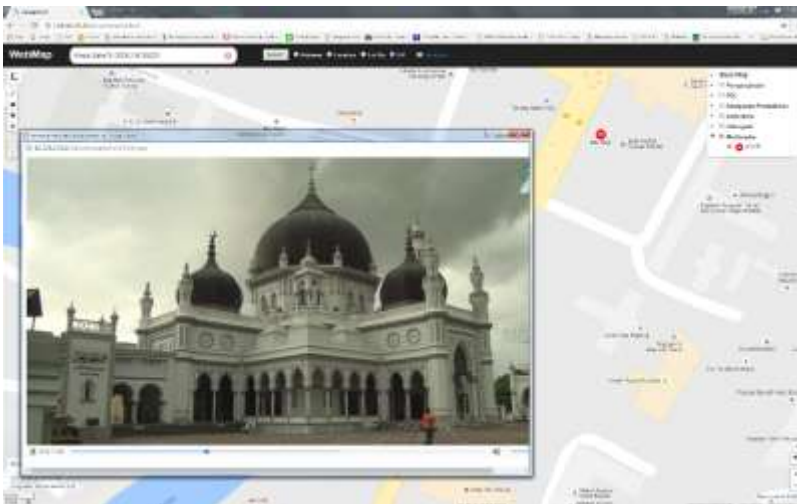
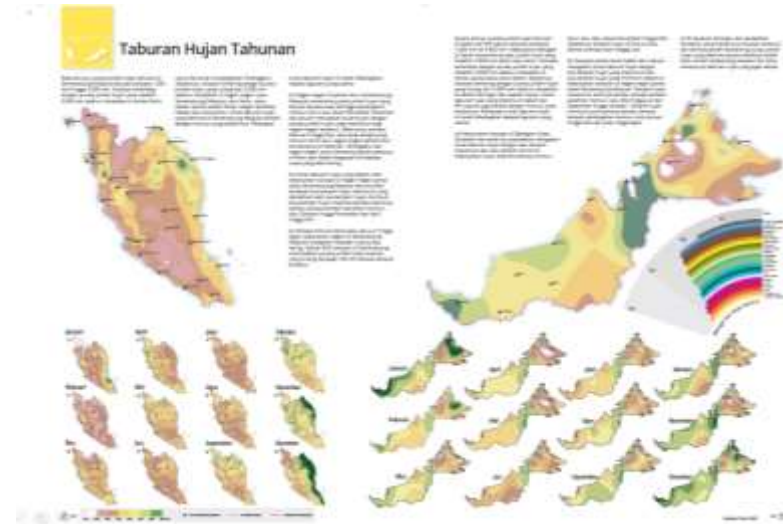
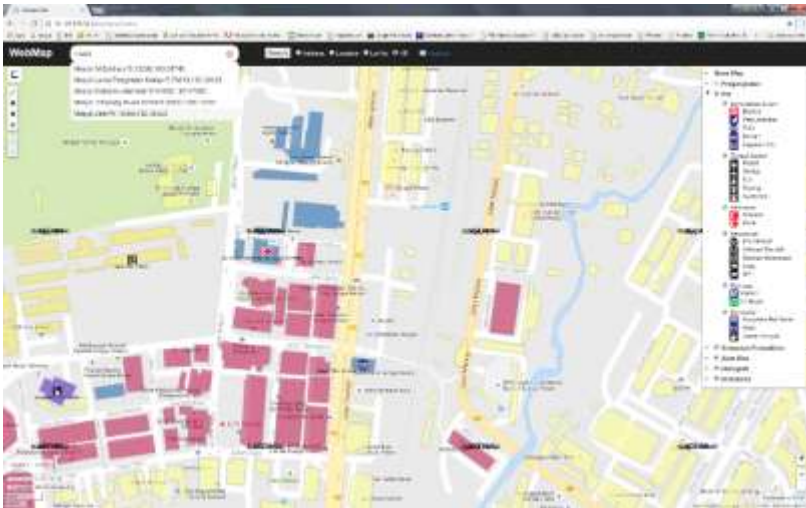


CATEGORIES

- Aeronautical
- Built Environment
- Demarcation
- Geology
- Hydrography
- Hypsography
- Soil
- Transportation
- Utility
- Vegetation
- Special Use
- General

Topographic Layers

Webmap and eAtlas



- 1 ORTHOPHOTO SUPPLIED BY JUPEM
- 2 MONO DIGITISING
- 3 FIELD VERIFICATION
- 4 DIGITAL TOPOGRAPHIC DATA
- 5 CREATION OF NATIONAL TOPOGRAPHIC DATABASE
1:5 000



S
A
R



WHOLE OF PENINSULAR MALAYSIA



ORTHOPHOTO

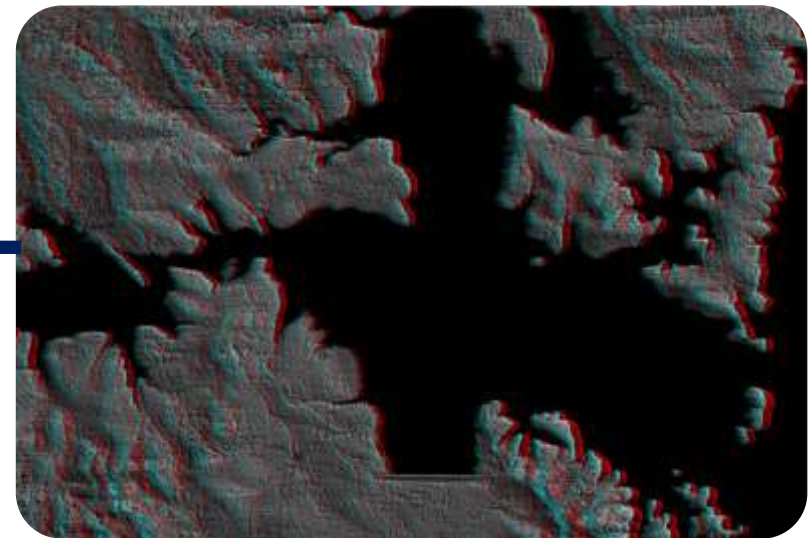


**TWO (2) METERS ACCURACY DIGITAL
TERRAIN MODEL**

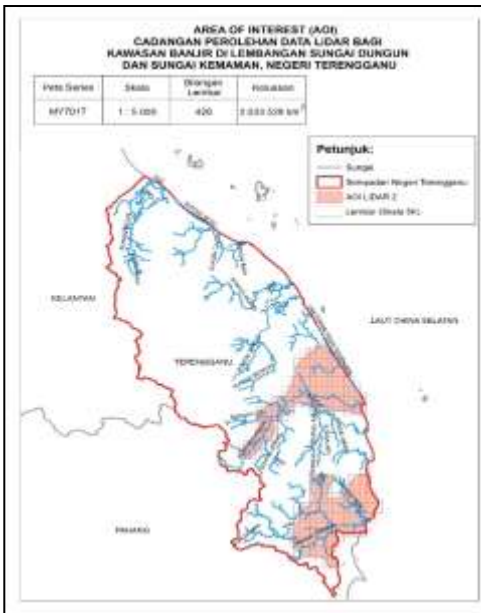
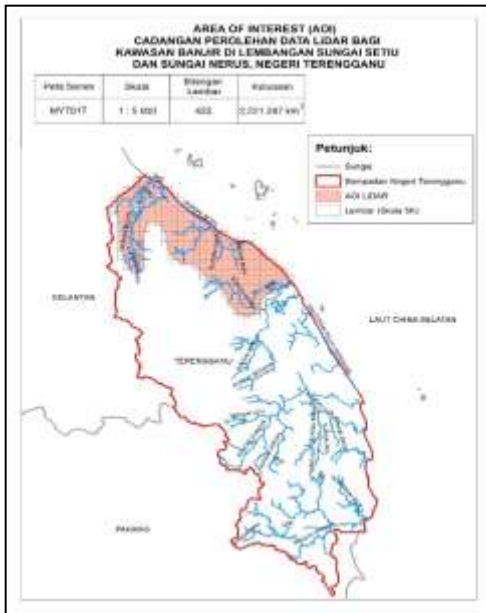
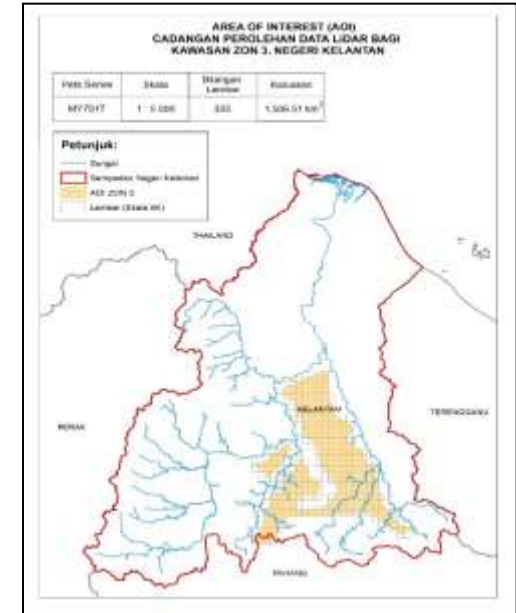
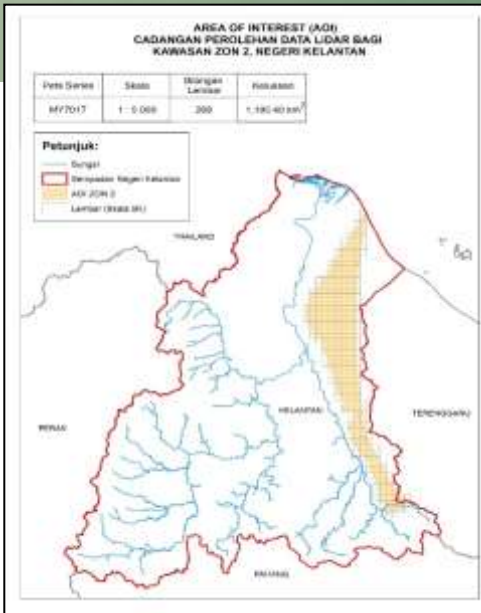
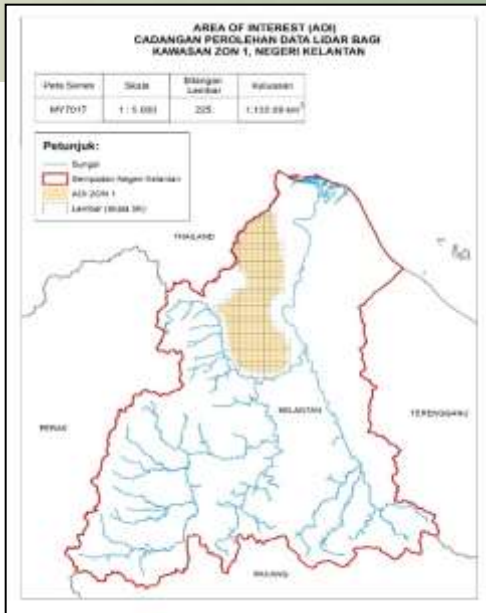


**TO BE USED FOR MAPPING, FLOOD MODELLING,
SLOPE ANALYSIS AND ETC**

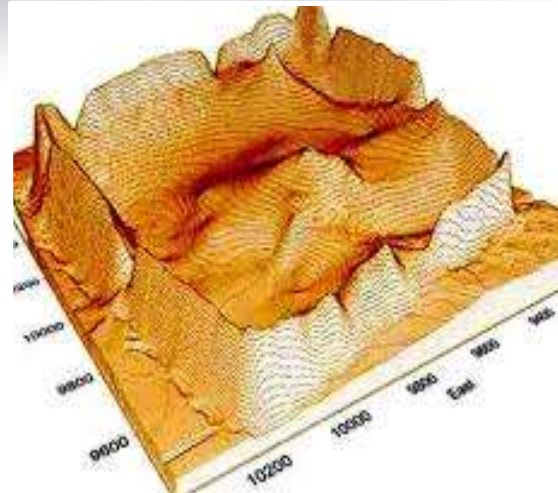
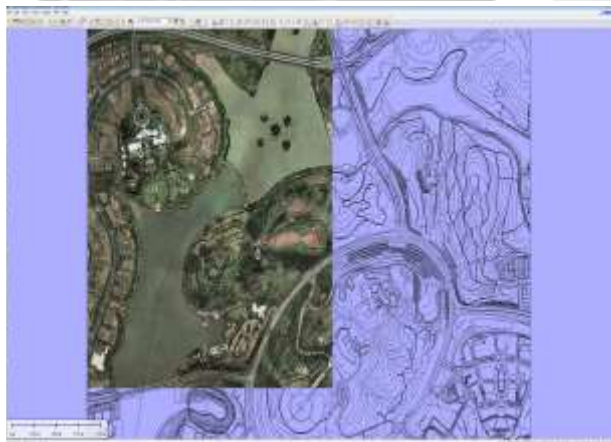
AREA OF INTEREST (AOI)
SYNTHETIC APERTURE RADAR DATA
3-DIMENSION DATA FOR MAINLAND AND ISLAND OF PENINSULAR MALAYSIA)
(Approximately Area by Index : 143,675 km² for MAP MY701 Series)



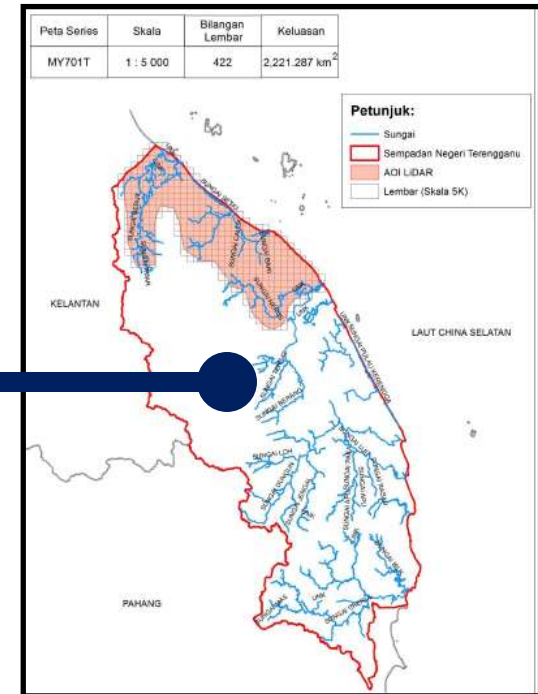
**VIEW 3D SAR DATA FOR KENYIR LAKE,
TERENGGANU**



**ALONG THE MAIN RIVERS
IN THE STATE OF
KELANTAN AND TERENGGANU**



PRODUCT



- ORTHOPHOTO
- DIGITAL SURFACE MODEL (DSM)
- 0.25 METER ACCURACY OF DIGITAL TERRAIN MODEL (DTM)
- FLOOD MODELLING

1

NEWLY LAID UNDERGROUND UTILITY INSTALLATION TO BE SURVEYED AS-BUILT BY LICENSED LAND SURVEYORS

PLAN AND DIGITAL DATA SUBMITTED TO JUPEM

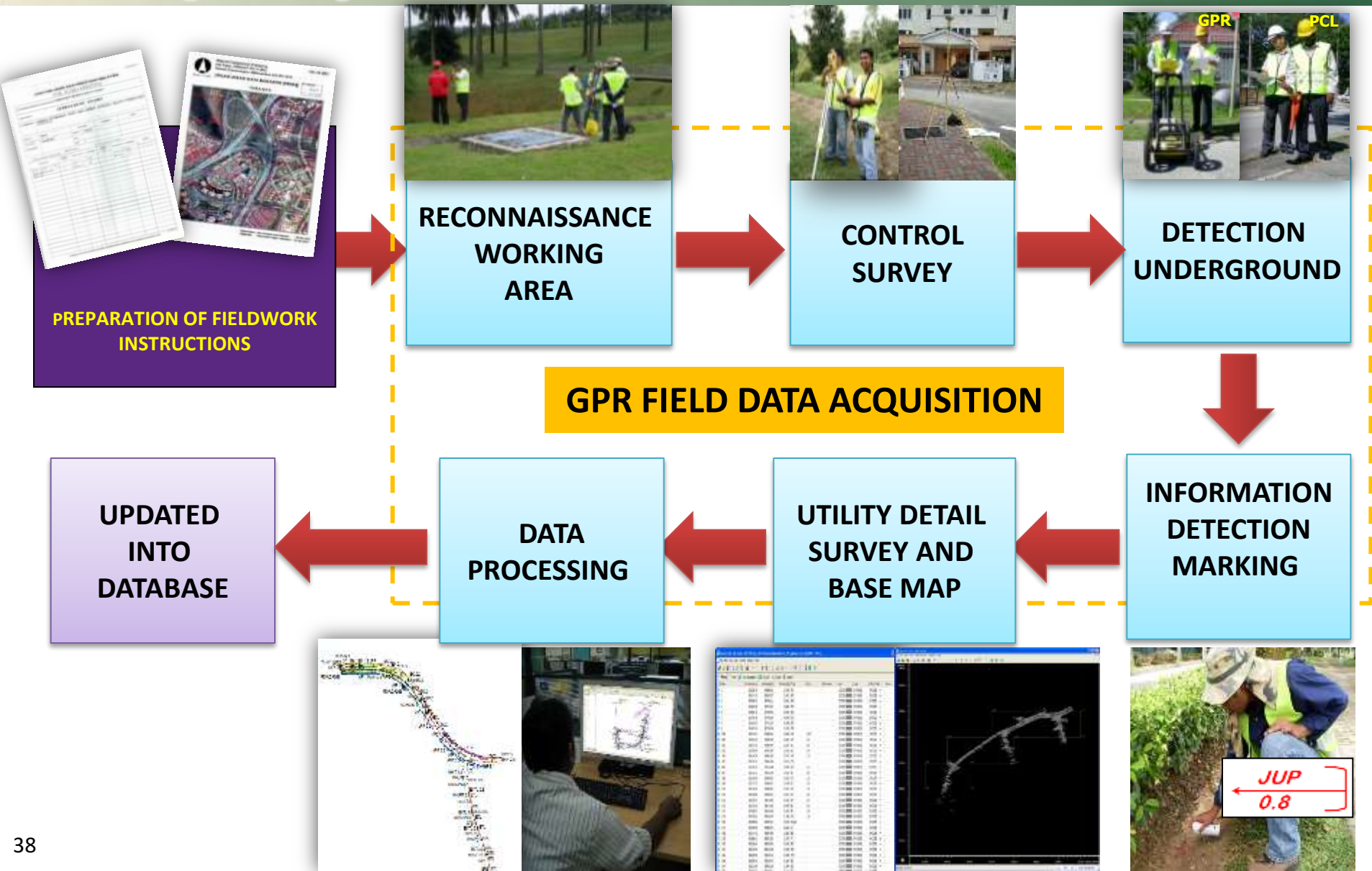
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3

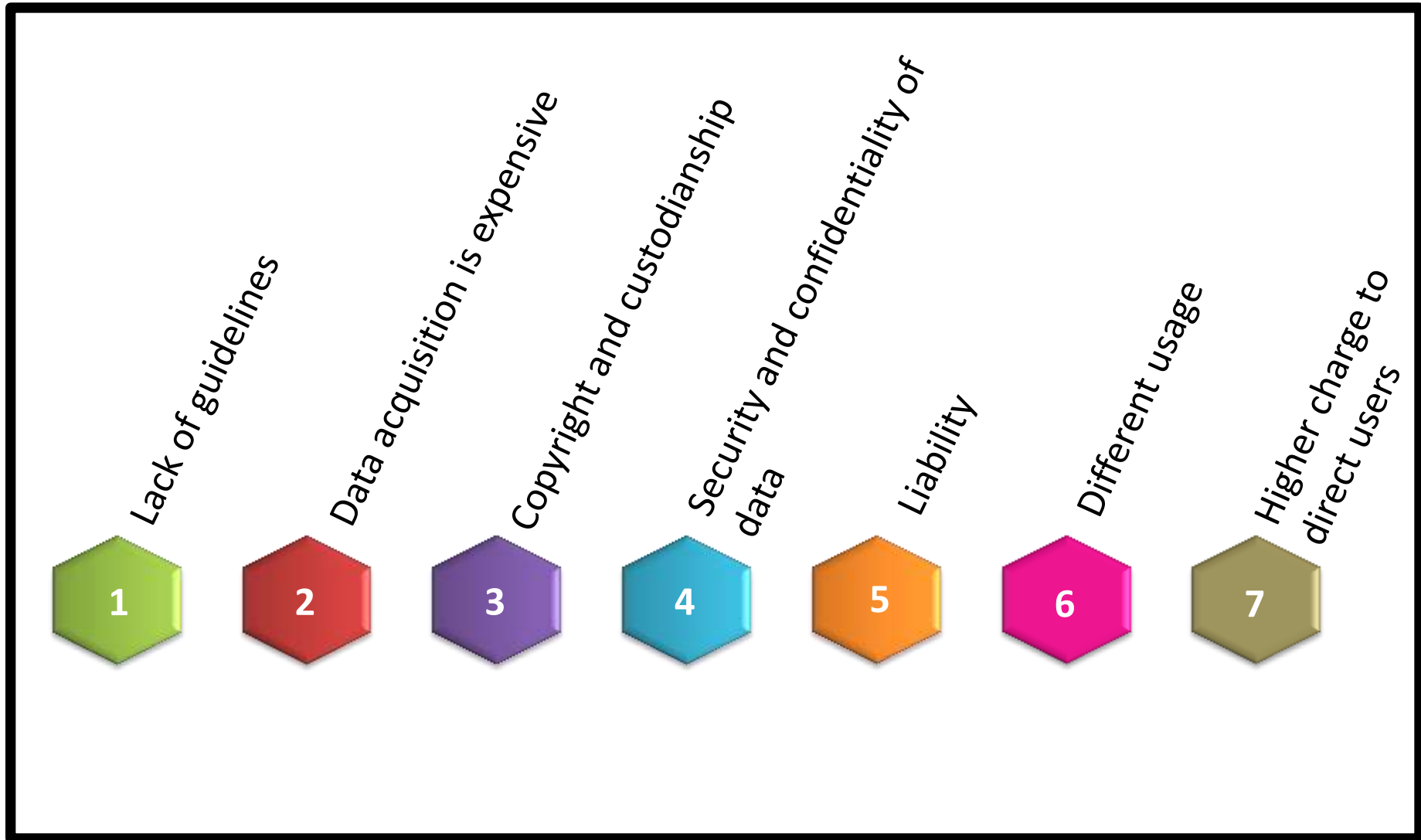
JUPEM UPDATE UNDERGROUND UTILITY DATABASE

DATA USED FOR FUTURE UTILITY PROJECTS BY UTILITY AGENCIES AND CONTRACTORS

4



CHALLENGES OF PPP FOR NATIONAL GEOSPATIAL PLATFORM



**W
A
Y

F
O
R
W
A
R
D**

GEOSPATIAL DATA AS INFRASTRUCTURE

IMPORTANCE OF GEOSPATIAL

NBOS

COLLABORATION

PPP

THANK YOU

THANK YOU