

The Second UN-GGIM-AP Plenary Meeting

JUPEM GEOPORTAL (v2.0) *Malaysia*

Teheran Iran
29 October 2013

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BACKGROUND

- 1885 • Begin cadastral surveying activity through the establishment of the State Survey Department of Johor. Also geodetic surveying (trigonometrical surveying) for the provision of survey controls
- 1965 • Performs topographic mapping, apart from cadastral and geodetic surveying for whole country
- 1997 • Use of internet technology - accessing information and e-mailing
- 2000 • Introduction of e-commerce in transaction (limited applications)
- 2004 • Development of JUPEM GeoPortal & E-biz
- 2013 • Upgrading of JUPEM GeoPortal (v2.0) & commissioning by the end of year 2013



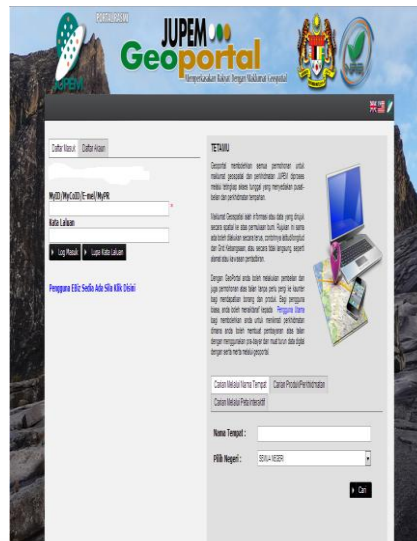
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JUPEM Geoportal

Year of First Creation : 2004

Current Creation Version Number : v2.0



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KEY FEATURES

- A centralized geospatial data warehouse (GDW)
- Provide on-line dissemination of JUPEM geospatial data, etc. ▶
- Provides metadata ▶
- Quick locate and preview of dataset/product in GDW
 - Data catalogue ▶
 - Map viewer ▶
- Data clipping ▶
- E-Commerce ▶
- Download datasets
- Web Mapping Services ▶



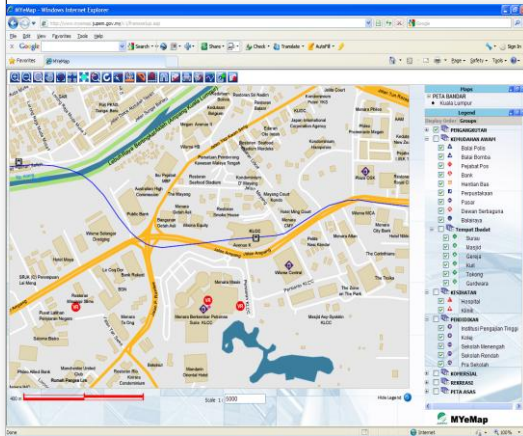
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WEB MAPPING SERVICES

❖ Webmap services

- Developed on Geomedia Webmap professional platform
- Would be available once whole data is consolidated seamlessly
- Available functionalities:
 - ✓ network routing
 - ✓ multiple layers display
 - ✓ searching
 - ✓ pan, zoom in and zoom out
 - ✓ measure distance and area
 - ✓ display coordinate
 - ✓ virtual reality: photo, video, audio
 - ✓ user added point and line features
 - ✓ print



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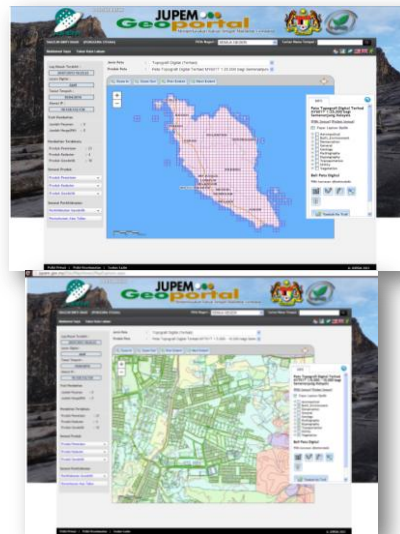
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SERVICED DATA VIA JUPEM GEOPORTAL

❖ Mapping Data

- Source of data
 - ✓ National Topographic Database
 - ✓ National Cartographic Database
- Data provided are at scales 1:5,000; 1:10,000; 1:25,000 & 1: 50,000
- Area covered : whole of Malaysia
- Layers provided :
 - i. Aeronautical
 - ii. Built Environment
 - iii. Demarcation
 - iv. General
 - v. Geology
 - vi. Hydrography
 - vii. Hypsography
 - viii. Transportation
 - ix. Utility
 - x. Vegetation



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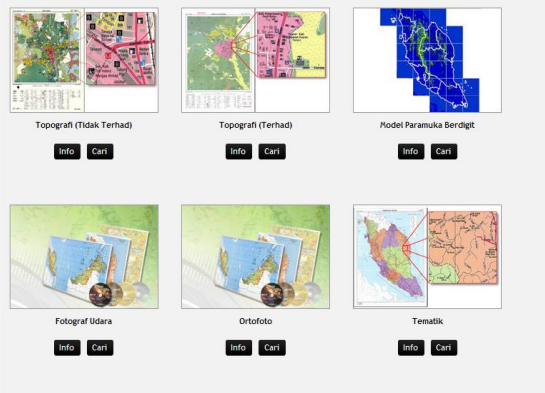
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SERVICED DATA VIA JUPEM GEOPORTAL

➤ Other products available include :

- Digital Terrain Model
- Aerial Photograph
- Orthophoto
- Thematic Maps
 - ✓ District map
 - ✓ Road map
 - ✓ Drainage map
 - ✓ Physical map
 - ✓ State map
 - ✓ E-map

Produk Pemetaan



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SERVICED DATA VIA JUPEM GEOPORTAL

❖ Cadastral Data

- Land parcel information layers :
 - ✓ Lot polygon
 - ✓ Boundary lines
 - ✓ Boundary marks / points
- Following related attributes of land parcel are also provided and can be obtained in shapefile (.shp) format
 - ✓ Parcel number
 - ✓ Parcel area
 - ✓ Bearings of boundary lines
 - ✓ Boundary distances



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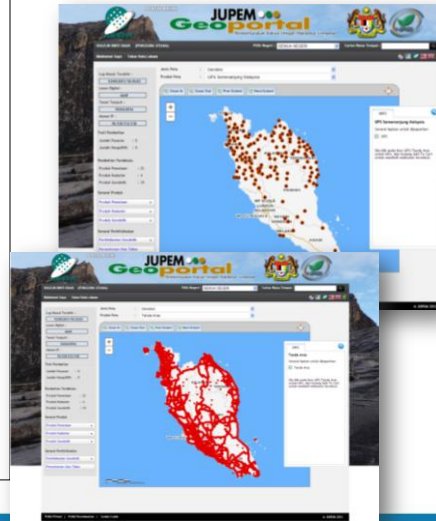
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SERVICED DATA VIA JUPEM GEOPORTAL

❖ Geodetic Data & Services

- The following are provided :
 - ✓ GPS Station
 - ✓ Benchmark
 - ✓ Gravity Data
 - ✓ Geoidal Map
 - ✓ Tidal Data
 - ✓ Coordinate Transformation Parameters
- Geodetic Services
 - ✓ Orthometric Height Computations
 - ✓ Real Time Kinematic (RTK) Services
 - ✓ Coordinate Transformation



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USE CASES OF JUPEM GEOPORTAL

ONLINE TRANSACTION ARCHIVES

Total Transaction 2013

PRODUCT	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
MAPPING	8	0	2	0	0	2	0	0	1	0	0	0	13
CADASTRE	5485	4126	4839	5273	5024	5231	5441	4531	4916	0	0	0	44866
GEODESY	205	202	199	212	192	212	269	232	263	0	0	0	1986
TOTAL	5698	4328	5040	5485	5216	5445	5710	4763	5180	0	0	0	46866

Total Transaction 2012

PRODUCT	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
MAPPING	10	0	5	1	33	24	0	6	0	2	0	0	81
CADASTRE	4126	5513	6462	5942	6197	5562	7137	4605	6031	6324	5286	5099	68284
GEODESY	135	185	216	196	223	217	217	157	185	259	251	223	2464
TOTAL	4271	5698	6683	6139	6453	5803	7354	4768	6216	6585	5537	5322	70829



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USE POLICY OF JUPEM GEOPORTAL

- ❖ User registration to handle authentication and security process
- ❖ Data license needed to purchase digital geospatial data
- ❖ Data reproduction activity requires permit
- ❖ Downloading of Real Time Kinematic GNSS Data requires Annual Fee Payment
- ❖ Purchaser of restricted geospatial data needs to pass security vetting
- ❖ Restricted geospatial data are not allowed to be disseminated outside of Malaysia



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CHALLENGES

- ❖ System development – successful vendor lacking expertise
- ❖ Financial constraint (allocation)
- ❖ Complying to governmental financial procedures in regards to accounting the sales and collection of revenue
- ❖ Inherent data-related problems in some locations
 - GIS ready
 - Seamless



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FUTURE WORKS

- Providing aerial photo and orthophoto streaming/browsing
- Underground utility data to be included
- Undertaking market research
- Enhancing web mapping services to cover new applications



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