

# APPLICATION FOR MONITORING AND ANALYSIS DURING COVID-19 PANDEMIC IN MALAYSIA

Yeap Wei Chien  
Assistant Director  
Defence Geospatial Division  
Department of Survey and Mapping Malaysia



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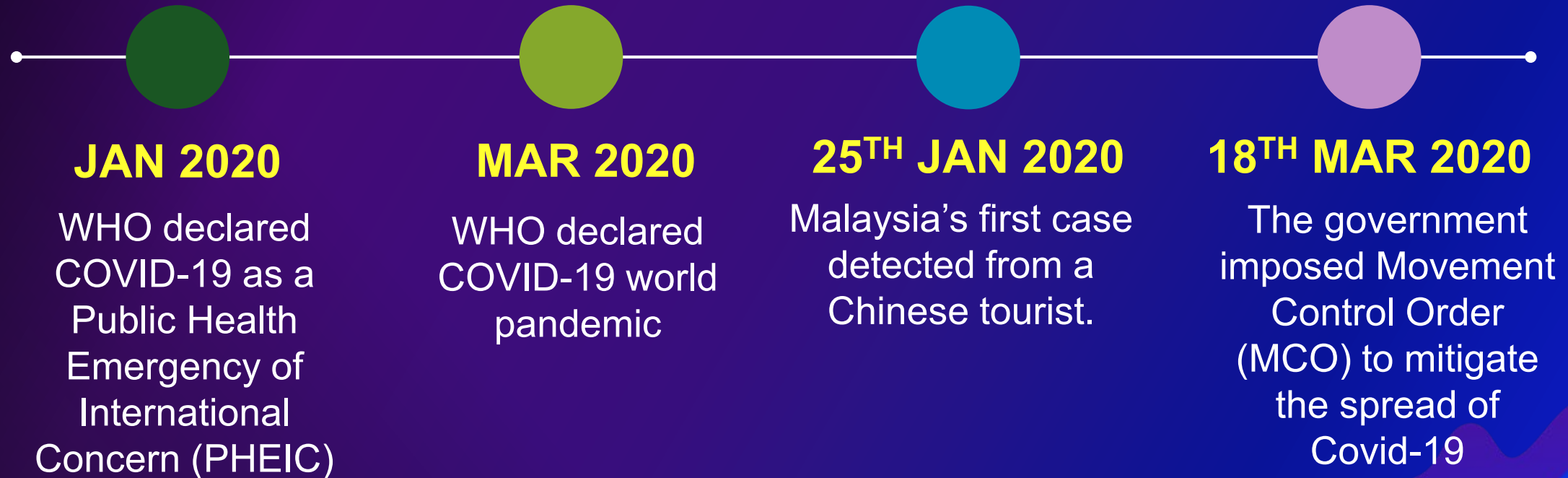


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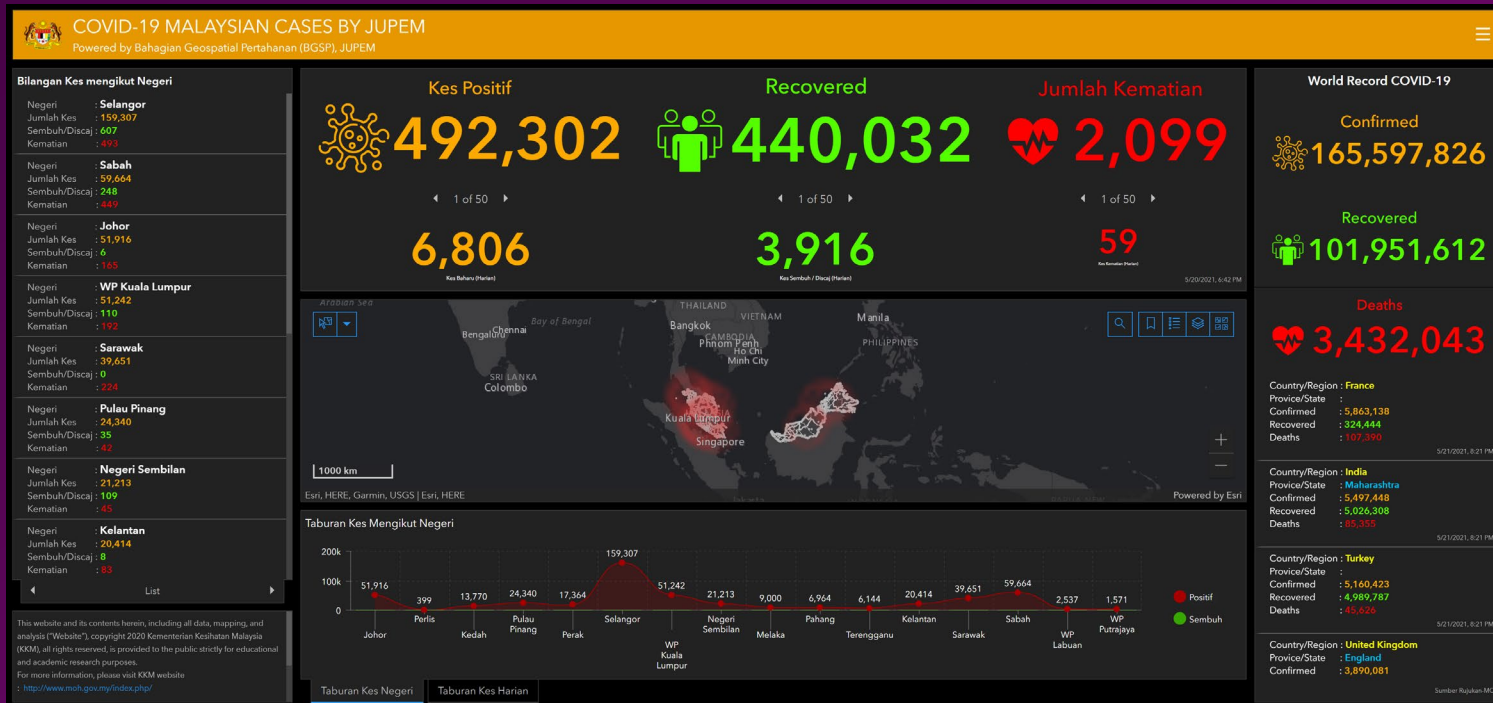


# INTRODUCTION





# COVID-19 DASHBOARD



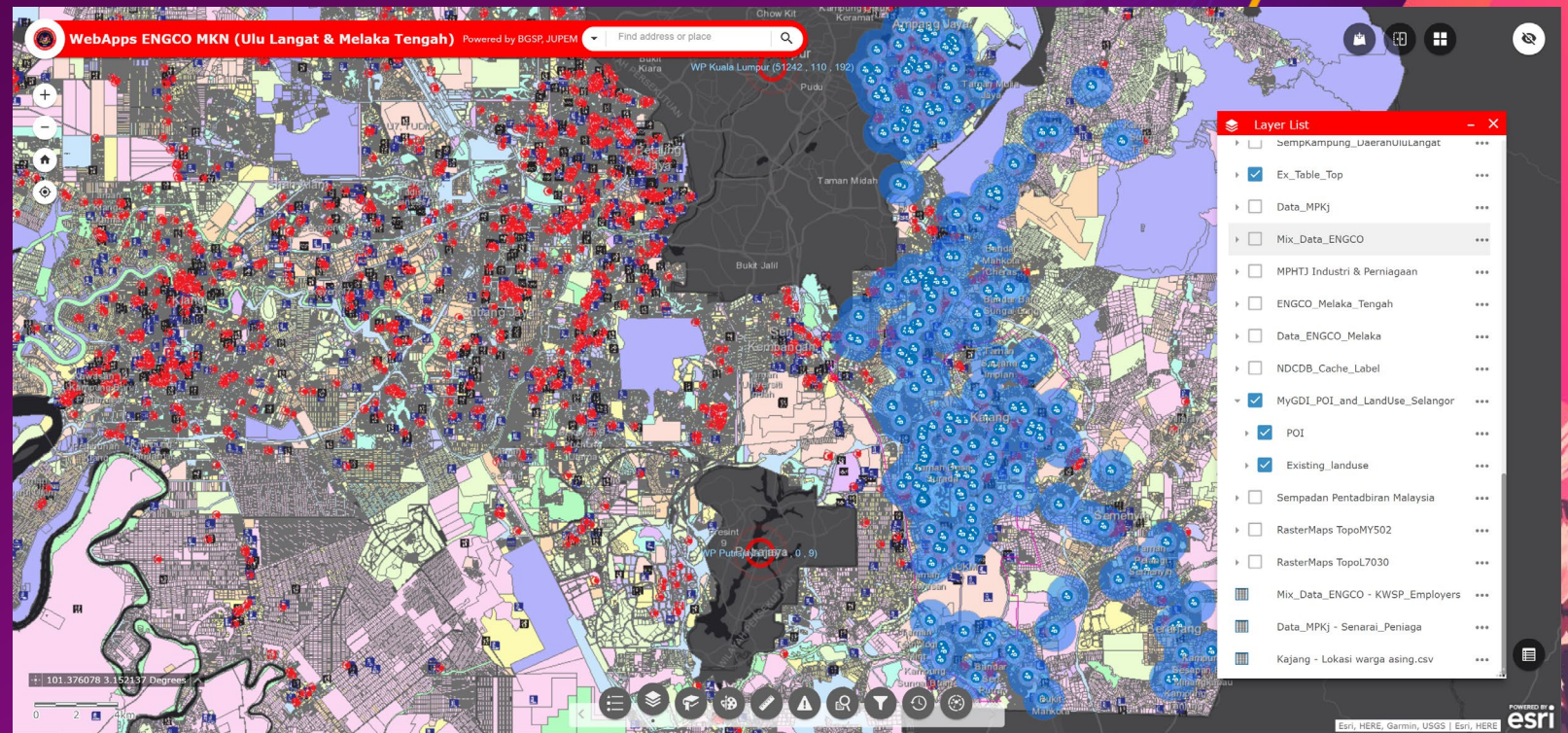
<https://bgp.maps.arcgis.com/apps/dashboards/58571642da3a4e68b30cfd5e7ca4deb8>

- ❖ Develop a Web GIS dashboard application to provide up-to-date and interactive information on COVID-19 cases in Malaysia.
- ❖ The information was gathered from related government entities, such as National Security Council (NSC), Ministry of Health Malaysia (MOH) and Malaysian Armed Forces (MAF).
- ❖ Being used by the NSC at their National Operation Management Centre (PPON) as a reference throughout their mitigation task.



# JOINT COMMON OPERATING PICTURE (JCOP)

- ❖ Shared data, statistics and analysis results from various agencies are displayed
- ❖ Helped NSC and MAF to prepare, plan and execute policies to fight the advancement of Covid-19
- ❖ JCOP is capable of monitor the movement for Person Under Investigation (PUI) and Person Under Surveillance (PUS).
- ❖ PUI or PUS can be closely observed and prevented from moving out of their confined areas.

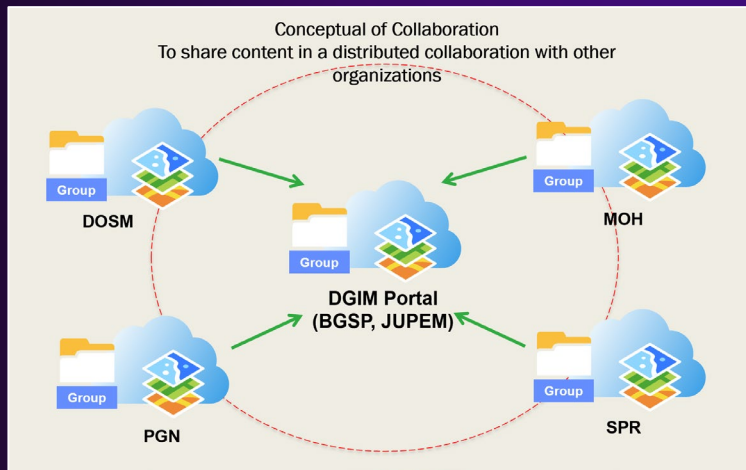


<https://bgs.maps.arcgis.com/apps/webappviewer/index.html?id=55c5d6e392bc4a908dda6ad585e008af>

# METHODOLOGY

## PHASE 1: DATA COLLECTION

- ❖ Data sourced from various agencies such as JUPEM, MOH, MAMPU, NADMA etc.
- ❖ BGSP through its DGIM Portal using ESRI's ArcGIS platform for data population and application development.



## PHASE 2: DATA CLEANING

- ❖ Coordinates systems of data have been standardised to conform to the national datum of GDM2000.
- ❖ The data cleaning process involved lots of manual intervention before a uniform set of data is prepared and ready for use.



## PHASE 3: DEVELOPMENT OF APPLICATION

- ❖ Various feature layers is created.
- ❖ Dashboard and JCOP web map application are created using built-in tools in ArcGIS Portal.





# INTEGRATION & COLLABORATION WITH OTHER AGENCIES

No	Agency	Data Provided
1.	Defence Geospatial Division (BGSP), JUPEM & Malaysia Center for Geospatial (PGN)	Geospatial: Boundary & Localities, Point of Interest (POI) – Education, Emergency, Community etc
2.	Ministry of Health Malaysia (MOH)	Statistics & Information of COVID-19 (Positive, PUI & PUS)
3.	Malaysian Administrative Modernisation Management Planning Unit (MAMPU)	CityDash Application (Big Data Analytics) Mobile Advertisement ID (MAID)
4.	National Disaster Management Agency (NADMA)	Statistics & Information of Quarantine Centre
5.	Department of Statistic Malaysia (DOSM)	Information of Population Demography, (Statistics, Profession, Age, Race etc)
6.	Election Commission of Malaysia (SPR)	Information of Localities & Statistics of Voters
7.	National Registration Department (JPN)	Individual Information
8.	Ministry of Higher Education (MOHE)	IPTA, IPTS, Staff, Students Information
9.	Ministry of Education Malaysia (MOE)	Schools, Teachers & Students Information
10.	Ministry of International Trade and Industry (MITI)	Approved Business, Companies that applying for Operation
11.	Companies Commission of Malaysia (SSM)	Registered Companies
12.	Inland Revenue Board of Malaysia (LHDN)	Individual & Registered Companies Information
13.	Employees Provident Fund (EPF)	Employer-Employees Information
14.	Department of Social Welfare (JKM)	Complaint Report MCO, Welfare Care Centre
15.	Volunteers Department of Malaysia (RELA)	RELA members
16.	eKasih, Unit Penyelarasan Pelaksanaan (ICU)	Group of B20
17.	Immigration Department of Malaysia (JIM)	Foreign Teacher - Tahfiz School
18.	Kajang Municipal Council (MPKJ)	Land Use, List of Park, Business Premises, Factory, Public Markets, Tahfiz School
19.	Ministry of Transport (MOT)	Used of Public Transport, MRT Route
20.	SMART Selangor	SMART Route

# RESULT

- ❖ The developed Dashboard and JCOP are proven as effective mediums to disseminate geospatial information in a single platform.
- ❖ The applications facilitate collaboration, sharing and integration of data among various agencies in sharing and assessing online data.
- ❖ This has subsequently reduced manpower, energy and time consumption in our fight against Covid-19.
- ❖ Capabilities in planning for a more effective strategy to combat the pandemic.





# DISCUSSION

- ❖ It could lead to intrusion of personal data and interference of personal privacy.
- ❖ The fear of data abuse for other criminal purposes and sale for benefits arises.



# RECOMMENDATION FOR IMPROVEMENT



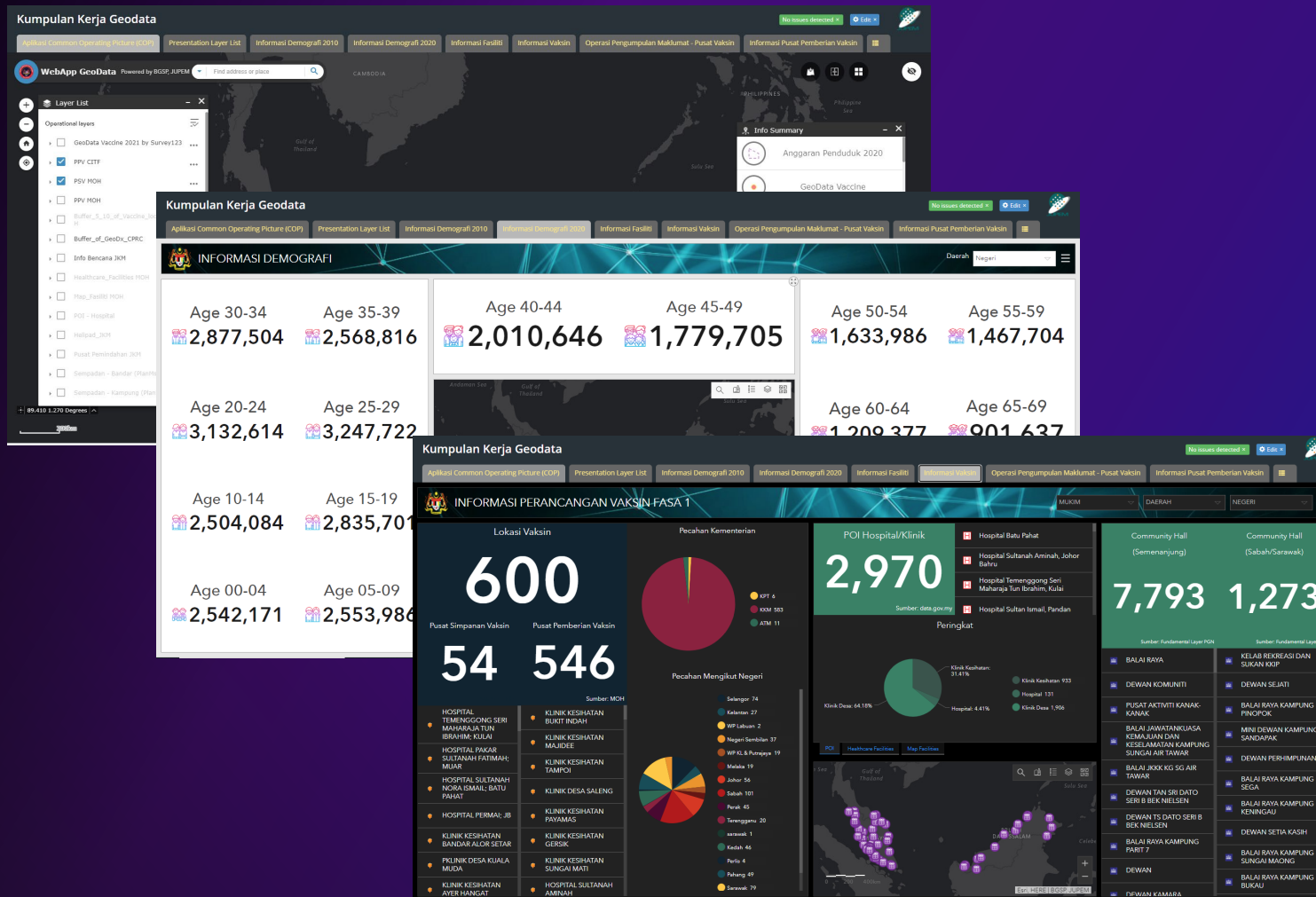
As an improvement, it could be integrated with MySejahtera. MySejahtera is an application developed by the government to assist in controlling the transmission of Covid-19 which allow self-assess by the user.



At the same time, it helps MOH to get the early data for a quick response. Therefore, the integration of these applications will be value-added and enrich each other in providing more comprehensive and informative information.



# WAY FOWARD



- ❖ Same platform using for Working Group Geodata
- ❖ Working Group Geodata is the committee for information gathering and initiating National COVID-19 Immunisation Programme.
- ❖ Established through Mesyuarat Jawatankuasa Khas Jaminan Akses COVID-19(JKAV) Bil.3/2021 on 2 Feb 2021

# WAY FOWARD

Kumpulan Kerja Geodata

Aplikasi Common Operating Picture (COP) Presentation Layer List Informasi Demografi 2010 Informasi Demografi 2020 Informasi Fasiliti Informasi Vaksin

### Operasi Pengumpulan Maklumat

Date\*  
04/03/2021 15:45

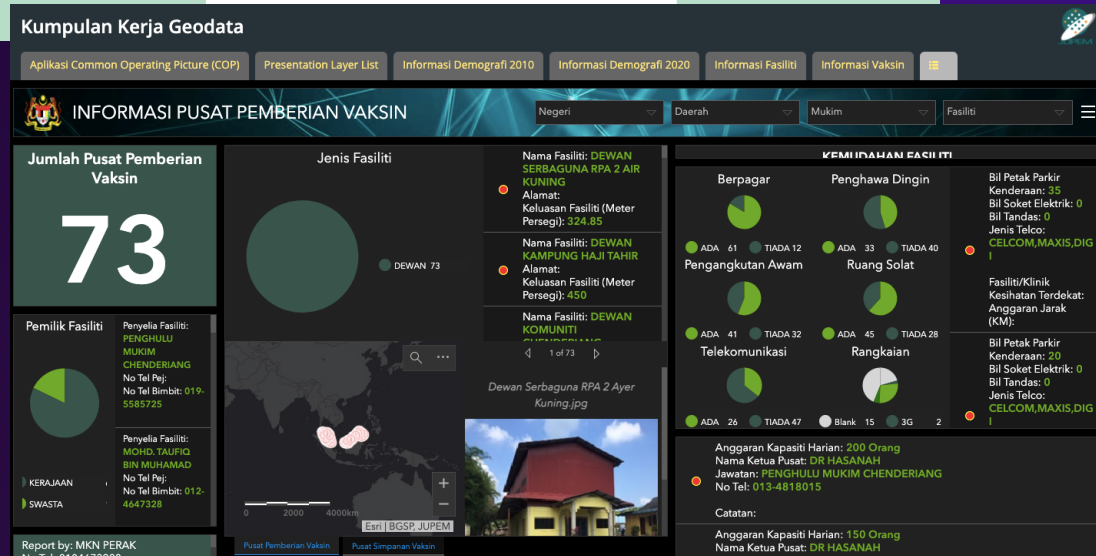
Report by\*

No. Contact\*

— BAHAGIAN A

— BAHAGIAN B

- ❖ A live form is linked into the application
- ❖ The data from the live form will be visualized into the dashboard

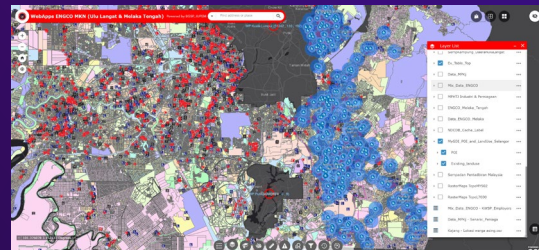
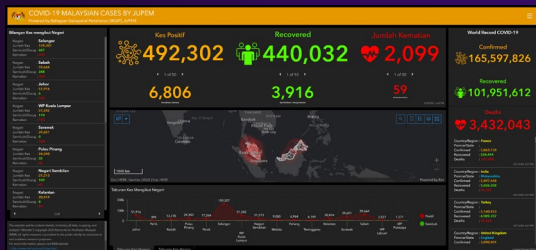




# CONCLUSION

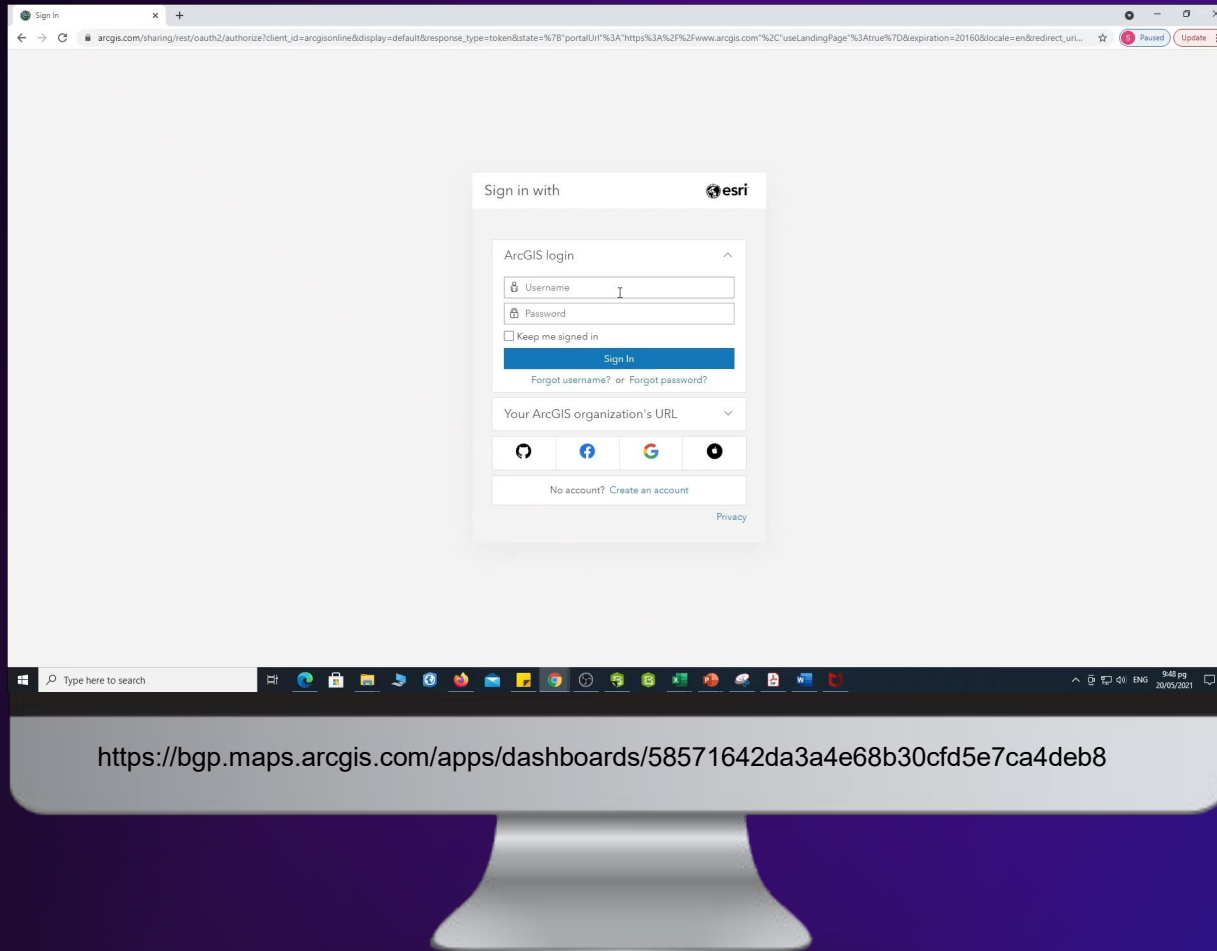


- ❖ The challenge to share information derived from different data formats among agencies, which were critical, was over-came so that accurate analysis can be achieved.
- ❖ With the existence of these applications, the discrepancies were addressed and data sharing efficiency has been accomplished.
- ❖ It has been proven, without doubt, and highly recommended that the Covid-19 Dashboard and JCOP application are used extensively to counter the Covid-19 threat.



# DEMOSTRATION

## ENGCO



## PROGRAMME IMMUNISATION



<https://bgsp.jupem.gov.my/portal/apps/MapSeries/index.html?appid=530565c20b0f4dddae8c3dfc51ac254b>



The background is a complex digital composition. On the left, a map of the United States is shown with red and blue highlights. To its right is a blue, stylized mountain range. A large yellow arrow with a black outline points from the bottom left towards the center. The bottom right corner features a low-poly, 3D-style landscape in shades of blue and purple. The overall color palette is dominated by blues, purples, and yellows.

**THANK YOU**