MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

MODERNIZING MALAYSIA'S NATIONAL STATISTICAL SYSTEM THROUGH DIGITALIZATION

14th Session of OIC Statistical Commission

1st October 2025

Presented by:
Dato' Sri Dr. Mohd Uzir Mahidin
Chief Statistician Malaysia, Department of Statistics Malaysia

@StatsMalaysia

MODERNISATION OF STATISTICS THROUGH DIGITAL INNOVATION

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AI AND MACHINE LEARNING IN STATSBDA-AI

Adopt Open-Source Tools:
Reduce costs and increase flexibility by utilizing open-source software and data in producing complementary official statistics.
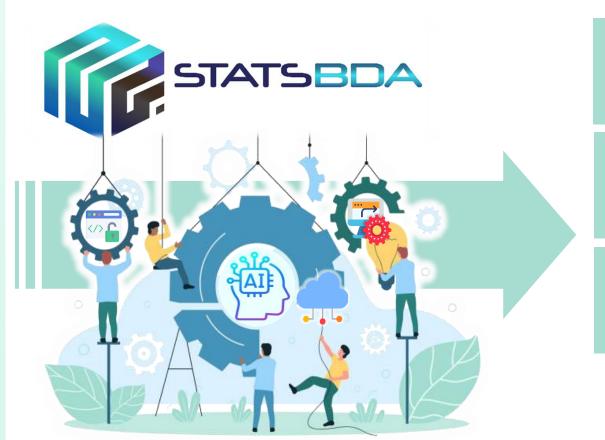
Automation:
Streamline repetitive tasks and business processes through automation to increase efficiency.

Leverage Artificial Intelligence:
Enhance data collection, analysis, and decision-making through AI-powered tools.

Cloud Computing:
Improve scalability, storage, and collaboration by migrating infrastructure and operations to cloud-based platforms.

TRADE ENTERPRISE CHARACTERISTICS	MOBILE PHONE DATA
PRICE INTELLIGENCE	LABOR MARKET ANALYTIC
AI CHATBOT	SENTIMENT ANALYSIS

LEVERAGING AI, ML AND BIG DATA FOR DATA PRODUCTION

✓ Completed
◎ Ongoing

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	Collection	Processing & Integration	Compilation & Analysis	Dissemination
Classification	▪ Mobile Phone Data (Tourism) ◎ ▪ Trade Enterprise Characteristics ✓ ▪ Price Intelligence (Web Crawling) ◎ ▪ Rental House Price Surveillance ◎ ▪ Internet Economy (i-Econ) ◎	▪ Satellite Imagery (Building Unit Detection in Rural Areas) ✓		▪ BizCode@Stats ✓
Integration	▪ Subnational Statistics (Parliament/State Legislative Assembly) – automated with VBA ✓	▪ Pangkalan Data Utama (PADU) – National central database integrating data across agencies for targeted policies ✓ ▪ Informal Sector and Micro Industries Database (PDSIIM) ✓ ▪ Social Protection Database (PDPS) ✓ ▪ Real-time Business Status (RTBS) ✓		
Prediction	▪ Satellite Imagery (Rubber & Oil Palm Estimation) ✓ ▪ Satellite Imagery (Poverty Prediction) ◎		▪ GDP Nowcasting with ML ✓ ▪ Public Maturity Assessment (PMAOS) ✓	▪ PriceDash (Market price predictions/insights) ✓
Visualization		▪ OpenDOSM NextGen ✓ ▪ MyLabourHub ✓	▪ Integrated Agricultural Statistical System (TaniStats) ✓ ▪ Agricultural Analytical System (visuals) ✓	▪ OpenDOSM NextGen ✓ ▪ Kawasanku ✓ ▪ Agricultural Analytical System (visuals) ✓ ▪ Malaysia Economic Recovery Dashboard (MERD) ✓

PADU
Central Database Hub

OpenDOSM NextGen

MyLabourHub
Your Ultimate Labour Market Info

TaniStats

MODERNISATION OF BUSINESS REGISTER

Real Time Business Status (RTBS)
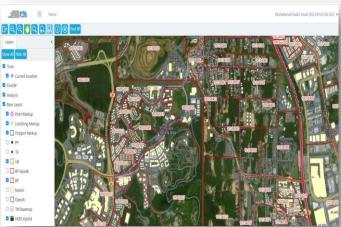
Interactive Malaysia Statistical Business Register (i-MSBR)

Geographic Information System (GIS)

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A. PRIMARY DATA SOURCES

1) Population & Housing Census of Malaysia 2020
2) Malaysia Statistical Business Register (MSBR)

B. ADMINISTRATIVE DATA SOURCES

Covering **186 Ministries/Departments/Agencies** that carry out agriculture activities.
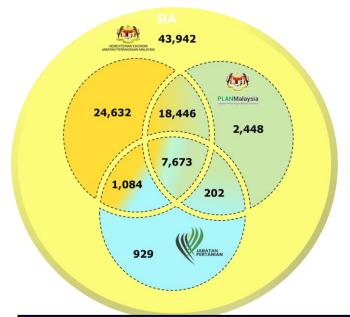Among them:

C. GEOSPATIAL DATA SOURCES

1) Land Use from PLANMalaysia
2) Shape file from Department of Agriculture

STUDY ON VECTOR OVERLAY : MALAYSIA

99,356 EB

SIA

43,942

24,632   18,446   2,448

7,673

1,084   202

929

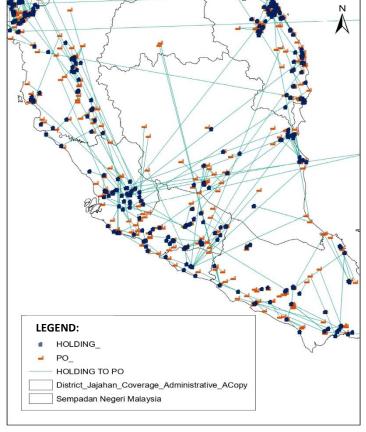| LEGEND: | | |
| POPULATION AND HOUSING CENSUS 2020 (NON-AGRICULTURE) |
| POPULATION AND HOUSING CENSUS 2020 (AGRICULTURE) |
| LAND USE IN PENINSULAR MALAYSIA |
| USE OF AGRICULTURAL LAND IN PENINSULAR MALAYSIA |

Note:
1. The DOA intersection excludes AD for Labuan, Putrajaya, Sabah and Sarawak
2. PLAN Malaysia intersection excludes AD for Sabah, Sarawak and Putrajaya

SPATIAL DISTRIBUTION OF AGRICULTURE LINKAGES BETWEEN HOLDINGS AND OPERATIONAL PREMISES
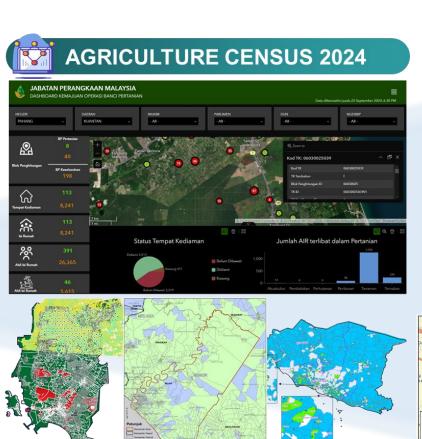
LEGEND:
- HOLDING_
- PO_
- HOLDING TO PO
- District_Jajahan_Coverage_Administrative_ACopy
- Sempadan Negeri Malaysia

IMPLEMENTATION OF GEOSPATIAL IN HIGH IMPACT PROJECT
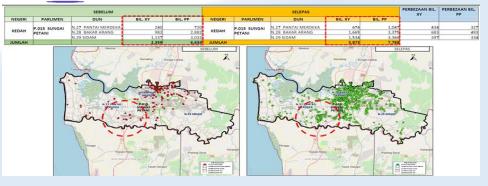
DOSM Geospatial Blueprint 2022-2025
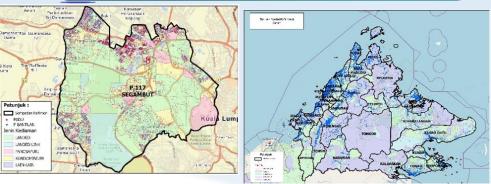
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MALAYSIAN POPULATION AND HOUSING CENSUS 2020

2020 CENSUS — The Sixth Census since the establishment of Malaysia in 1963.

OBJECTIVES — Obtain a comprehensive and up-to-date **national population and housing stock and profile.**

ALLOCATION — **RM413.9 million** using the 11th Malaysia Plan Development allocation.

MODERNIZATION
- 91.9% electronically (paperless)
- 8.1% paper-based

CENSUS OPERATIONS
- 482 days (7 July 2020 - 31 October 2021) in line with the Implementation of the MCO
- Involved 43,400 Census Officers.

CENSUS QUESTIONS — 108 questions covering demographic profiles, Environment and special modules Health & Fitness, Social Relations, Housing and Seniors

GLOBAL — Malaysia is among the **39 countries** that conduct the Census in the period 2020 - 2021 **out of a total of 110 countries** that plan to conduct the Census

ECONOMIC CENSUS 2023

Objective: To obtain a baseline figure to be used as a basis for the compilation of economic & social statistics

1 ECONOMIC CENSUS 2023 - 5TH CENSUS
- Conducted **every five years**
- The **first** Economic Census **is in 2001**
- It was last implemented in 2016
- BE 2021 becomes BE 2023 (Reference Year 2022)

2 COVERAGE & PROVISIONS
- Agriculture, Mining & Quarrying, Manufacturing, Construction and Services
- No. of establishments EC 2023: 1,248,260
- Involves 26 types of forms, 18 sections: 1, 133 industries
- Allocation: RM69.7 million)

3 IMPLEMENTATION DATE
- **April until October 2023**
- The COVID-19 pandemic in March 2020 has had an impact. Customization of the implementation
- BE 2021 becomes BE 2023 (Reference Year 2022)

4 INFORMATION COLLECTED
- **15 key questions** with more than **1,300 pieces of information** collected covering organization profile, income, expenses, labor force, wages & salaries, competitiveness, and digital information

AGRICULTURE CENSUS 2024

OBJECTIVES
01 **Monitoring SDG indicators**
02 **Poverty analysis and monitoring**
03 **Food safety analysis and monitoring**
04 **Measuring the role of women in the agricultural sector**
05 **Fact-based agricultural policy formulation**
06 **Improvement of agricultural statistics**

FINANCIAL ALLOCATION
The total allocation requested for the implementation of the Agricultural Census (2023 - 2025) is RM250,000,000

2023 RM83,279,409	2024 RM150,971,085	2025 RM15,749,506
33.3%	60.4%	6.3%

SCOPE & COVERAGE
Agriculture Holding

Household
Organization

Crops : 72 MSIC
Livestock : 27 MSIC
Forestry & Logging : 15 MSIC
Fishing : 26 MSIC

ACT & MANUAL
Implemented under Provisions
CENSUS ACT 1960

Manual Reference
WORLD PROGRAMME FOR THE CENSUS OF AGRICULTURE (WCA)
2020

#MenghitungMalaysia
#MyCensus2020
7.7.2020
POPULATION & HOUSING CENSUS MALAYSIA 2020
YOUR DATA IS OUR FUTURE
www.mycensus.gov.my

BE23
BANCI EKONOMI 2023
DATA PEMANGKIN EKONOMI NEGARA
1 APRIL - 30 SEPTEMBER 2023

"Statistik Nadi Kehidupan"
Januari-Disember 2022
Survei Pendapatan, Perbelanjaan Isi Rumah dan Kemudahan Asas 2022
Household Income, Expenditure and Basic Amenities Survey
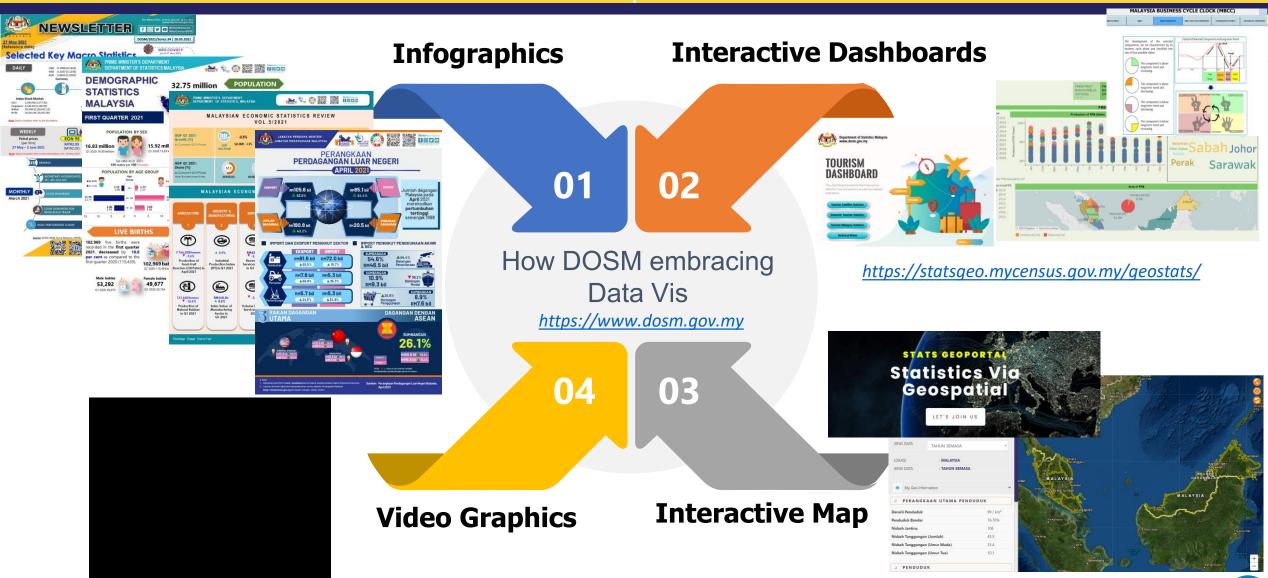■ Dilaksanakan 2 kali dalam tempoh 5 tahun ■ Input kepada Rancangan Malaysia ke-12

Modul Pendapatan
Modul Perbelanjaan
Modul Kemudahan Asas
3 MODUL UTAMA SURVEI

www.dosm.gov.my
@STATSMalaysia @MyStatsHIES

HIES BA 2022

7

HOW DOSM EMBRACING DATA VIS

Infographics

Interactive Dashboards

01 **02**

How DOSM embracing Data Vis
https://www.dosm.gov.my

https://statsgeo.mycensus.gov.my/geostats/

04 **03**

Video Graphics

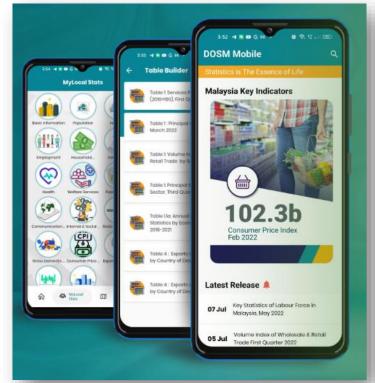**Interactive Map**

MOBILE APPS

Both of these apps can be downloaded via Apps Store (iOS) or Play Store (Android) by searching the words **DOSM Mobile** and **Bizcode.**

DOSM

Main indicators on Population, Unemployment, External Trade, Consumer Price Index, Industrial Production Index, Manufacturing and Gross Domestic Products are available for access via this mobile app. The data are available at different frequencies (e.g. monthly, quarterly or annually).

BizCode

BizCode@Stats is a platform for sharing activity code and statistics classification from DOSM which developed based on International Classification Standards. BizCode@Stats was developed to allow users to get code and description on mobile devices.

TANISTATS

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TaniStats: https://tanistats.dosm.gov.my/index.html

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TaniFacts
A concise presentation of Malaysia's macro agricultural data for an overall overview.

myAgroPrice
Monitoring of agricultural product prices at the farm, wholesale and retail levels by state.

myFoodStats
Comprehensive statistics on food supply, consumption and balance in Malaysia.
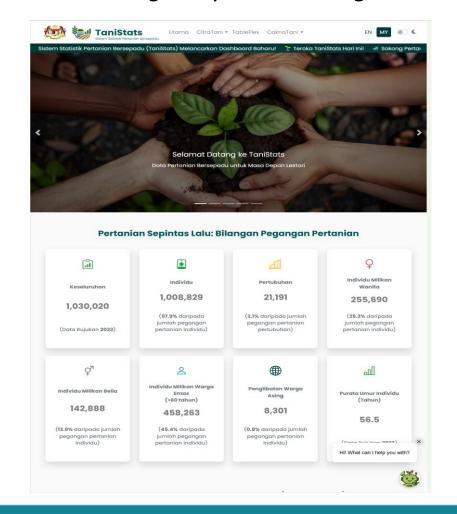
myAgroChain
Comprehensive visualization of the agricultural product value chain from farm to consumer.
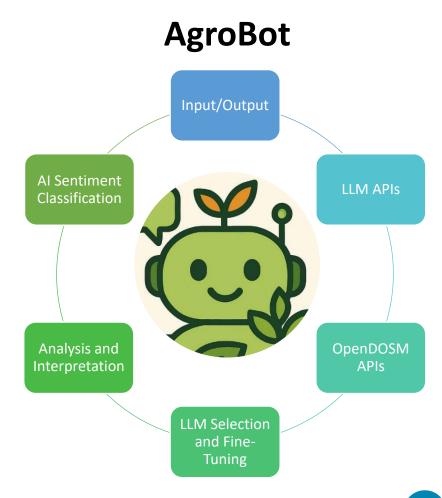
TableFlex
A flexible table for downloading official agricultural data according to user needs.

The **Integrated Agricultural Statistical System (TaniStats)** is a centralized digital system that organizes and simplifies agricultural data.
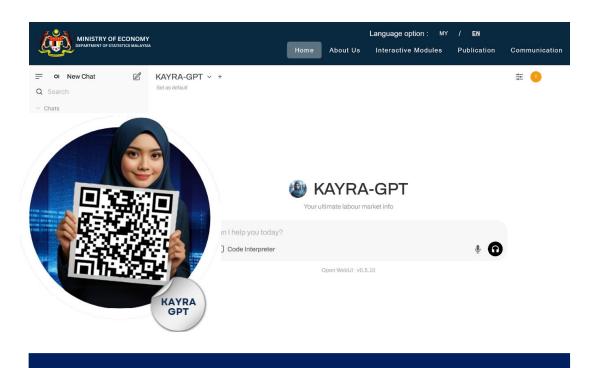

AgroBot

- Input/Output
- LLM APIs
- OpenDOSM APIs
- LLM Selection and Fine-Tuning
- Analysis and Interpretation
- AI Sentiment Classification

KAYRA-GPT

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KAYRA-GPT powered by AI, built for everyone

Knowledge-driven AI for Labour Market Research & Analytics

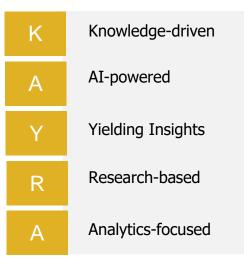With the power of AI technology, Kayra-GPT assists you in navigating and accessing labour market information

Enhancing AI Accuracy with Retrieval-Augmented Generation (RAG)

🧠 **Retrieval-Augmented Generation (RAG)**

Core Technologies:
- ⚙️ **OpenAI** (Generative AI engine)
- 🐳 **Docker** (Containerization)
- 🌐 **WebUI** (User interface)

Workflow
📖 **User submits a query → 🔍 RAG processes and retrieves trusted data → 💬 AI generates a response backed by official sources**

K	Knowledge-driven
A	AI-powered
Y	Yielding Insights
R	Research-based
A	Analytics-focused

Future Improvement

1. Complex classifications and indicators
2. Job recommendations
3. Predictive insights
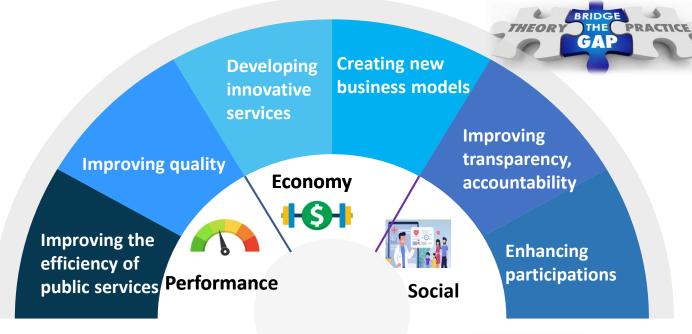
OPENDOSM: CITIZEN-CENTRIC DIGITAL INNOVATION

The **CARE Principles** in the Era of the Data Sharing Revolution emphasize the significance of people and purpose, acknowledging the pivotal role of data in advancing self-determination within the context of increased data sharing. These principles complement the **FAIR principles**, which promote the consideration of people and purpose in open data initiatives in the midst of the data sharing revolution.

Make shared data **FAIR**
- ✓ **Findable**
- ✓ **Accessible**
- ✓ **Interoperable**
- ✓ **Reusable**

C Collective Benefit
A Authority to Control
R Responsibility
E Ethics

Developing innovative services

Creating new business models

Improving quality

Improving transparency, accountability

Economy

Improving the efficiency of public services

Performance

Social

Enhancing participations

OpenDOSM NextGen: Offers a modern platform to open data access.

OpenDOSM NextGen

Launched: 12 Jan 2023

MysIDC 2012

Kawasanku 2022

2022 OpenDOSM GitHub

2023

New Facelift: 21 Sep 2023

"STATISTICS BLOOM IN HARMONY"

Doesn't matter far or near
Strength in numbers
we don't live in fear

Birds of feather flock together
Statistics our form of adour
We, will always live it up

Prechorus
So let us live in solidarity
And in the world arena we'll succeed
It is statistics that will come to be
The reason we will bloom in harmony

VIDEO "STATISTICS BLOOM IN HARMONY"

https://bit.ly/STATISTICS BLOOMINHARMONY

Chorus
Everybody undivided
Data's where our hearts reside in
There will always be a bind

Just like fire that ignites
That's how brightly lit our dreams are
We'll reach higher than the stars

Sending love to one another
Leaving no one in a slumber
We will stand with unity

Mustering our courage while
Embracing our disparities
We'll achieve our victory

One dream with unity
One love with harmony

THANK YOU

ASEAN MALAYSIA 2025
KETERANGKUMAN DAN KEMAMPANAN

MALAYSIA MADANI

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20 OCTOBER

SUSTAINABLE DEVELOPMENT GOALS MALAYSIA
2016 - 2030

@StatsMalaysia