



ECONOMIC CENSUS 2023

RESEARCH AND DEVELOPMENT STATISTICS

KEY STATISTICS



NUMBER OF ESTABLISHMENTS
3,007 establishments



R&D EXPENDITURE
RM12,813.0 million



GROSS OUTPUT
RM1,549.8 billion



INTERMEDIATE INPUT
RM1,099.3 billion



VALUE ADDED
RM450,376.3 million



NUMBER OF PERSONS ENGAGED
1,125,838 persons



SALARIES & WAGES
RM65,709.4 million



FIXED ASSET
RM663,401.6 million

R&D EXPENDITURE BY SECTOR



Agriculture

RM9.9 million
● (0.1%)



Mining &
quarrying

RM453.0 million
● (3.5%)



Manufacturing

RM9,498.9 million
● (74.1%)



Construction

RM9.5 million
● (0.1%)



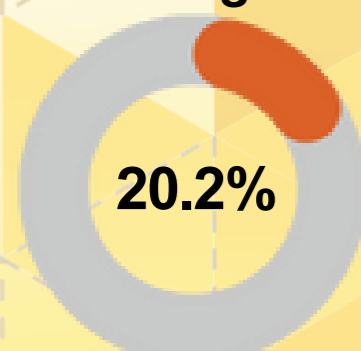
Services

RM2,841.6 million
● (22.2%)

TOP CONTRIBUTORS IN R&D EXPENDITURE BY STATE



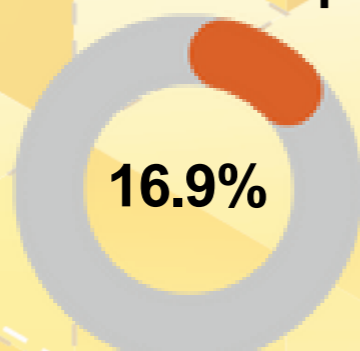
Selangor



RM2,589.0 million



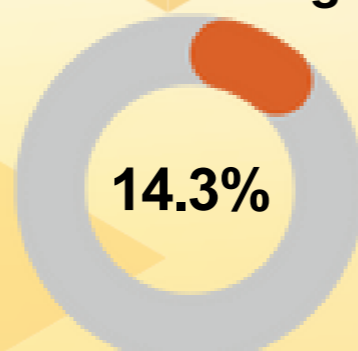
W.P. Kuala Lumpur



RM2,171.2 million



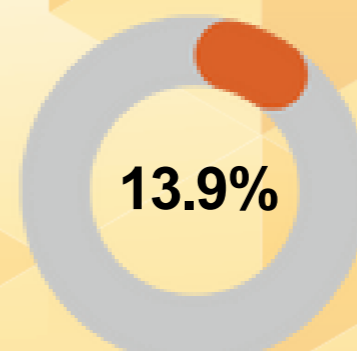
Pulau Pinang



RM1,832.1 million



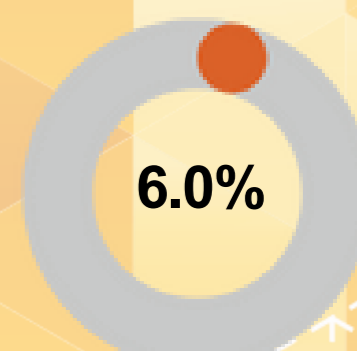
Johor



RM1,784.4 million



Kedah



RM772.6 million

Percentage share

Note: R&D: Research & Development

Source: Economics Census 2023, Department of Statistics Malaysia (DOSM)



The Economic Census 2023 revealed that Research & Development (R&D) expenditure amounted to RM12.8 billion, involving 3,007 establishments

- A total of 3,007 **establishments** were involved in R&D activities across all sectors in 2022. The Manufacturing sector was the highest contributor with a composition of 73.6 per cent (2,214 establishments), followed by the Services with 24.8 per cent (746 establishments) and the Mining & quarrying with 0.6 per cent (18 establishments). Meanwhile, the Construction contributed 0.5 per cent (15 establishments) and Agriculture accounted for 0.5 per cent (14 establishments).
- The total **R&D expenditure** recorded RM12,813.0 million in 2022, with the Manufacturing sector was the dominant contributor, accounting for RM9,498.9 million or 74.1 per cent of the total. This was followed by the Services, which recorded RM2,841.6 million (22.2%) and Mining & quarrying with RM453.0 million (3.5%). Meanwhile, Agriculture and Construction sectors registered R&D expenditures of RM9.9 million (0.1%) and RM9.6 million (0.1%) respectively.
- Selangor recorded the highest R&D expenditure in 2022, amounting to RM2,589.0 million (20.2%). This was followed by W.P. Kuala Lumpur with RM2,171.2 million (16.9%) and Pulau Pinang, RM1,832.1 million (14.3%). Subsequently, Johor and Kedah recorded R&D expenditures of RM1,784.4 million (13.9%) and RM772.6 million (6.0%) respectively. Overall, these five states contributed RM9,149.3 million or 71.4 per cent of the total R&D expenditure.
- The value of **gross output** generated by establishments involved in R&D activities amounted to RM1,549.8 billion, dominated by the Manufacturing sector, which accounted for 82.8 per cent or RM1,283.0 billion. This was followed by the Services, RM152.3 billion (9.8%) and the Mining & quarrying with RM108.1 billion (7.0%). Meanwhile, the gross output of the Agriculture and Construction recorded a value of RM4.0 billion (0.3%) and RM2.4 billion (0.2%) respectively.
- In line with its dominance in gross output, the Manufacturing sector also lead in **value added**, accounting for 59.2 per cent or RM266.5 billion of the total of RM450.4 billion. This was followed by the Mining & quarrying sector which recorded RM94.1 billion (20.9%), with the Services contributing RM86.6 billion (19.2%) and Agriculture registering RM2.5 billion (0.6%).



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- A total of 1,125,838 **persons were employed** in establishment engaged in R&D activities across Malaysia in 2022. The Manufacturing sector recorded the highest number of workers with 935,940 persons (83.1%), followed by Services with 163,137 persons (14.5%) and Mining & quarrying with 13,073 persons (1.2%).
- The **total salaries & wages** paid in 2022 recorded a value of RM65.7 billion. The Manufacturing sector recorded the highest total salaries and wages paid, amounting to RM48.5 billion (73.8%), followed by the Services with RM12.9 billion (19.6%) and Mining & quarrying recorded salaries and wages amounting to RM4.0 billion (6.0%).
- **The value of fixed assets** owned by establishments involved in R&D activities amounted to RM663.4 billion. The Services sector recorded the highest value of fixed assets at RM248.6 billion (37.5%), followed by the Manufacturing with RM210.6 billion (31.7%) and Mining & quarrying at RM200.8 billion (30.3%).

