# Summary of the results of the 2025 Survey of Research and Development

（1） R&D Expenditures

- Japan's total expenditures on science and technology research (hereinafter referred to as "R&D expenditures") during fiscal year (FY) 2024 stood at 23.79 trillion yen (up by 7.9% from the previous fiscal year). It has increased for four consecutive years, the highest ever.

- As a percentage of gross domestic product (GDP), R&D expenditures accounted for 3.70%, a 0.14-point increase from the last fiscal year.

- As looking by research sector, R&D expenditure of business enterprises stood at 17.43 trillion yen, with a 8.1 percent increase from the previous fiscal year, that of universities and colleges stood at 4.50 trillion yen, with a 2.9 percent increase from the previous fiscal year, and that of non-profit institutions and public organizations stood at 2.31 trillion yen, with a 16.0 percent increase from the previous fiscal year.

- Within the business enterprises sector, the R&D expenditures by industry division was the largest for "Transportation equipment" at 5.10 trillion yen (a 15.0 percent increase from the previous fiscal year), followed by "Medicines" at 1.66 trillion yen (a 7.9 percent increase from the previous fiscal year), and "Electronic parts, devices and electronic circuits" at 1.43 trillion yen (a 4.7 percent increase from the previous fiscal year).

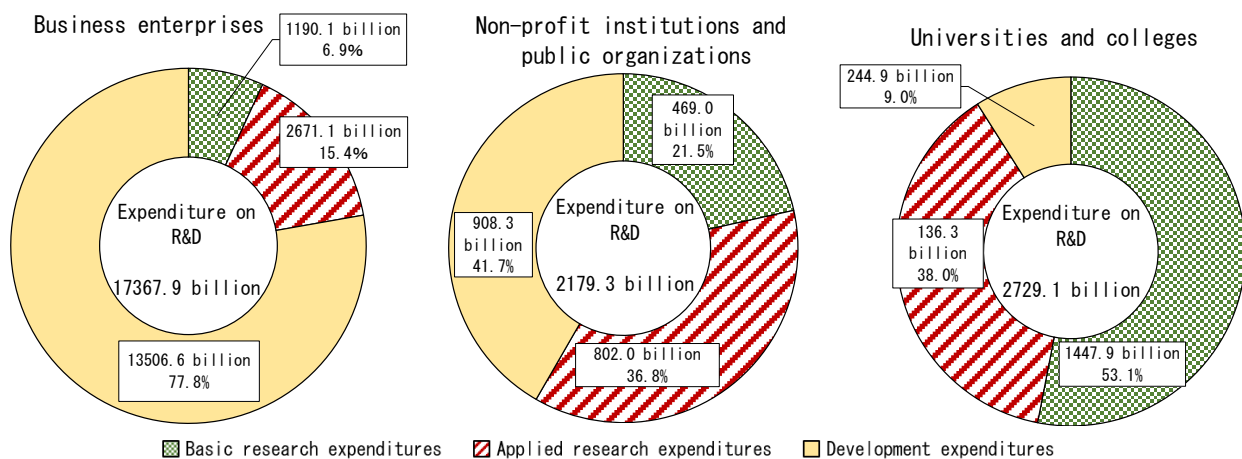### Chart1 Growth of R&D Expenditures
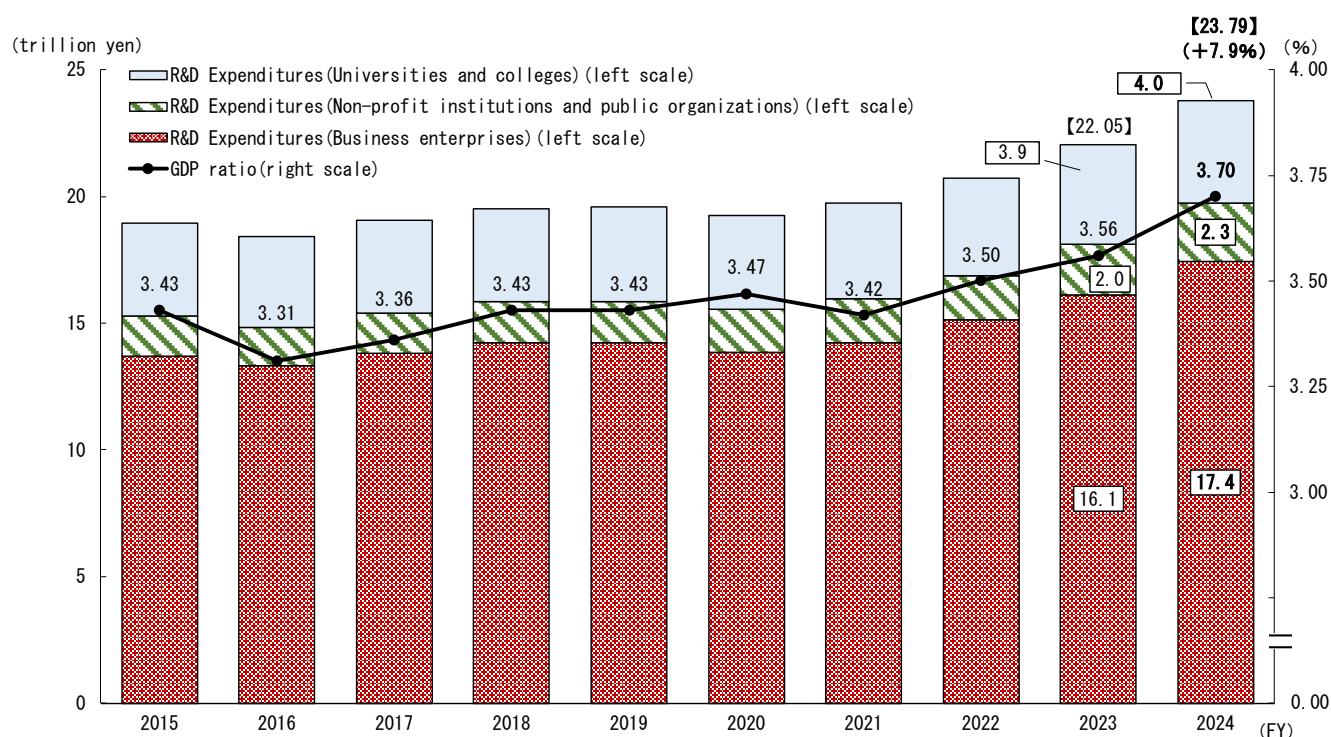
Notes: (1) ″【 】″ indicates the research expense by fiscal year. ″( )″ indicates change from the previous fiscal year.
(2) GDP ratio are taken from FY2024 Annual Estimates of GDP, Cabinet Office (Released on Dec. 8, 2025).

（2）R&D Expenditures by Type of Activity

・ An observation of the R&D expenditures in FY2024 spent on natural sciences and engineering by activity type was the largest for development expenditures at 14,659.8 billion yen (accounting for 65.8% of all R&D expenditures spent on natural sciences and engineering), followed by applied research expenditures at 4,509.5 billion yen (20.2%), and basic research expenditures at 3,107.0 billion yen (13.9%).

・ As looking by research entity, 13,506.6 billion yen (77.8% of the R&D expenditures in the natural sciences and engineering of business enterprises) was spent on development expenditures at business enterprises. At non-profit institutions and public organizations, 908.3 billion yen (41.7% of the R&D expenditures in the natural sciences and engineering of non-profit institutions and public organizations) was spent on development expenditures. At universities and colleges, 1,447.9 billion yen (53.1% of the R&D expenditures in the natural sciences and engineering of universities and colleges) was spent on basic research expenditures, - each being the largest within its respective entity.
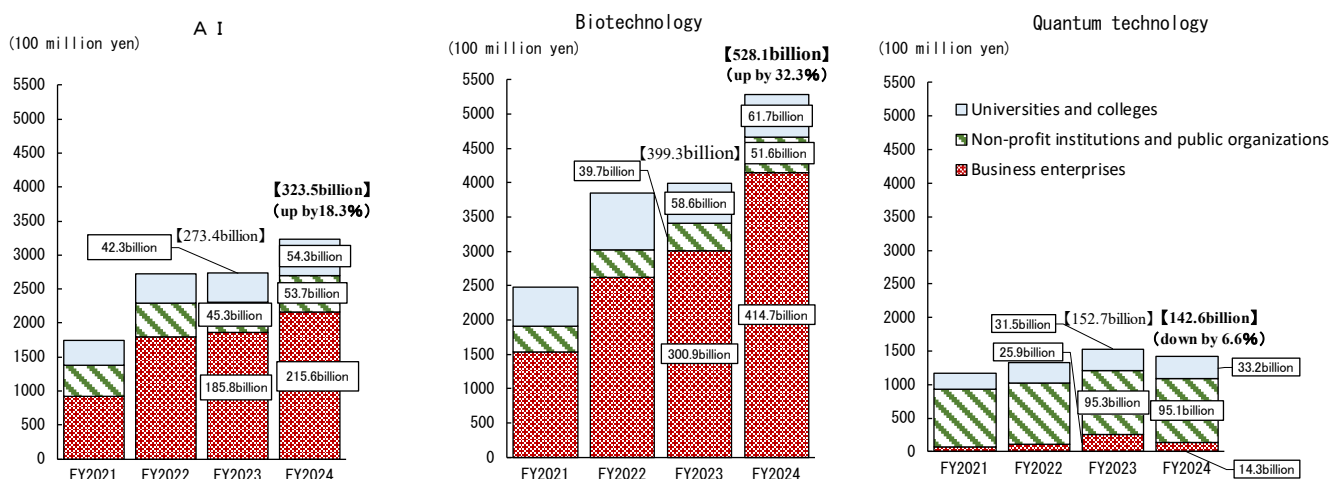
Chart2 Expenditure on Natural Sciences and Engineering R&D by Type of Activity (FY2024)

Business enterprises
- 1190.1 billion 6.9%
- 2671.1 billion 15.4%
- Expenditure on R&D 17367.9 billion
- 13506.6 billion 77.8%

Non-profit institutions and public organizations
- 469.0 billion 21.5%
- 908.3 billion 41.7%
- Expenditure on R&D 2179.3 billion
- 802.0 billion 36.8%

Universities and colleges
- 244.9 billion 9.0%
- 136.3 billion 38.0%
- Expenditure on R&D 2729.1 billion
- 1447.9 billion 53.1%

■ Basic research expenditures ▨ Applied research expenditures ☐ Development expenditures

（3）R&D Expenditures by Selected Objective (3 fields)

・ R&D funds spent in the three areas positioned by the Japanese government as fundamental technologies to be strategically addressed were 323.5 billion yen (up by 18.3% from the previous fiscal year) for AI, 528.1 billion yen (up by 32.3% from the previous fiscal year) for Biotechnology, and 142.6 billion yen (down by 6.6% from the previous fiscal year) for Quantum technology.

Chart3 Growth of R&D Expenditures by Selected Objective (3fields) by Research Entity

AI (100 million yen)
- FY2021
- FY2022: 42.3billion 【273.4billion】
- FY2023: 45.3billion / 185.8billion
- FY2024: 【323.5billion】(up by18.3%) 54.3billion / 53.7billion / 215.6billion

Biotechnology (100 million yen)
- FY2021
- FY2022: 39.7billion 【399.3billion】
- FY2023: 58.6billion / 300.9billion
- FY2024: 【528.1billion】(up by 32.3%) 61.7billion / 51.6billion / 414.7billion

Quantum technology (100 million yen)
☐ Universities and colleges
▨ Non-profit institutions and public organizations
■ Business enterprises
- FY2021
- FY2022: 31.5billion / 25.9billion
- FY2023: 【152.7billion】 95.3billion
- FY2024: 【142.6billion】(down by 6.6%) 33.2billion / 95.1billion / 14.3billion

Notes: (1)" 【 】 " indicates the research expense by fiscal year in each field.
(2)" （ ） " indicates change from the previous fiscal year in each field.

（4）R&D Personnel

- As of March 31, 2025, the total number of researchers was 912,800 (up by 0.6% from the previous fiscal year), It has increased for the first time in two years, making the highest ever.

- R&D expenditures per researcher was 26.07 million yen (up by 7.3% from the previous fiscal year). It has increased for four consecutive years, the highest ever.

Chart 4　Growth in the Number of Researchers and R&D Expenditures per Researcher
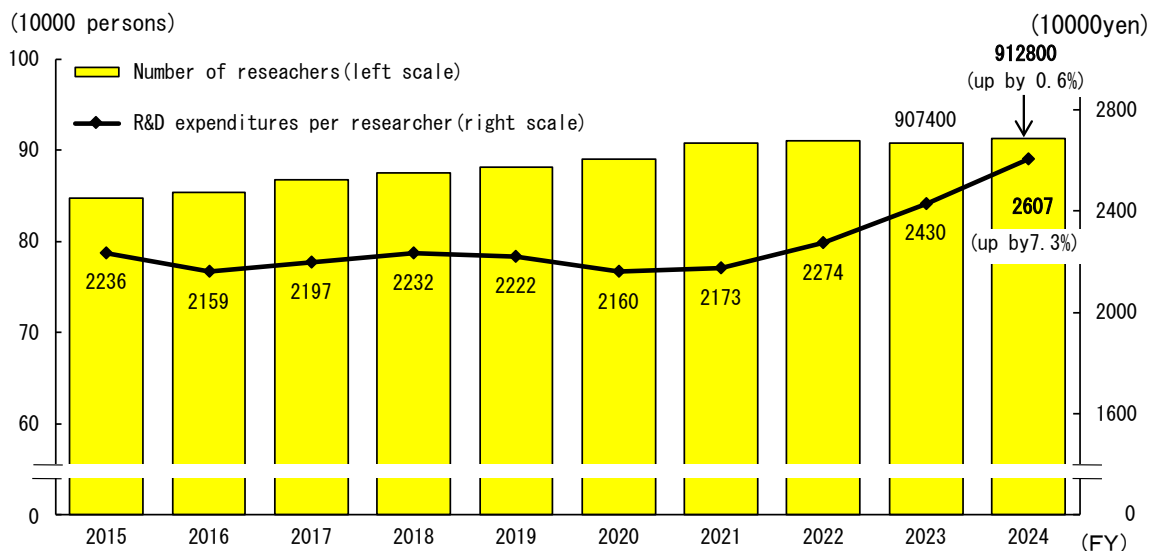
Note:　(1) Workers doing research concurrently with other responsibilities at business enterprises and non-profit institutions and public organizations are very likely to be engaged in non-R&D work in addition to their R&D duties.
For this survey, then, the number of workers has been prorated according to the percentage of time actually engaged in R&D activities.
(2) The number of researchers is the value as of the end of each fiscal year.
(3) The R&D expenditures per researcher are the R&D expenditures for that fiscal year divided by the number of researchers (Number of persons counted as shown in Note: (1)) at the end of each fiscal year.

- The number of female researchers (head-count) was190,400 (up by 4.2% from the previous fiscal year), and has increased for the first time in two years, accounting for 19.0% of researcher, the highest ever.

Chart 5　　Growth in the Number of Female Researchers (Head Count)
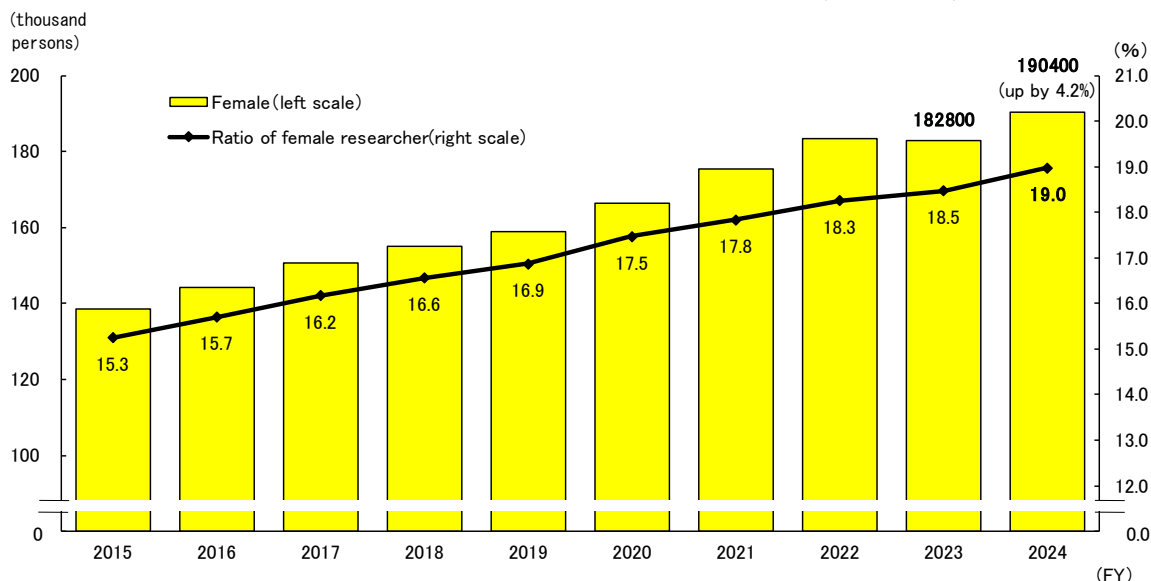
Note：　The number of female researchers(Head count)is the value as of the end of each fiscal year

Notes on the Statistical Tables

1. "-" indicates that there is no applicable figure.
2. "…" indicates that no data has been reported or aggregated.
3. "0" indicates that the applicable figure is less than half of the given unit.
4. "X" indicates that the applicable figure is kept undisclosed.
5. Any change from the previous (fiscal) year or percentage distribution, etc., may not necessarily match a calculation based on figures in the table because they have been calculated by using figures that may include those less than the unit.
6. Breakdown figures may not necessarily add up to the total because of rounding.
7. Capital is as of June 1 and total number of persons employed is as of March 31, 2025, while financial statistics such as sales and R&D expenditure are reported for the fiscal year ending on the latest settling day prior to March 31, 2025.
8. Industrial classification to which companies belong may change from the previous year, due to individual companies' mergers or business changes. Some statistical tables reflect such changes, so care should be taken in the use of the results.