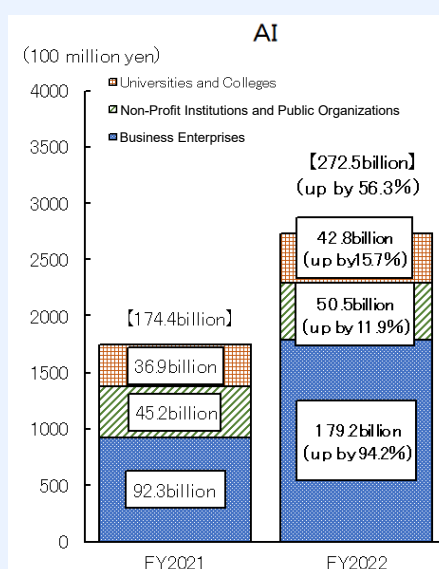


## Indicators Related to AI Science, Technology, and Innovation

While Part 1 introduced initiatives in Japan and global trends of AI R&D, this document will take a comprehensive look at various indicators related to AI science, technology, and innovation.

### Item 1: R&D Expenditures

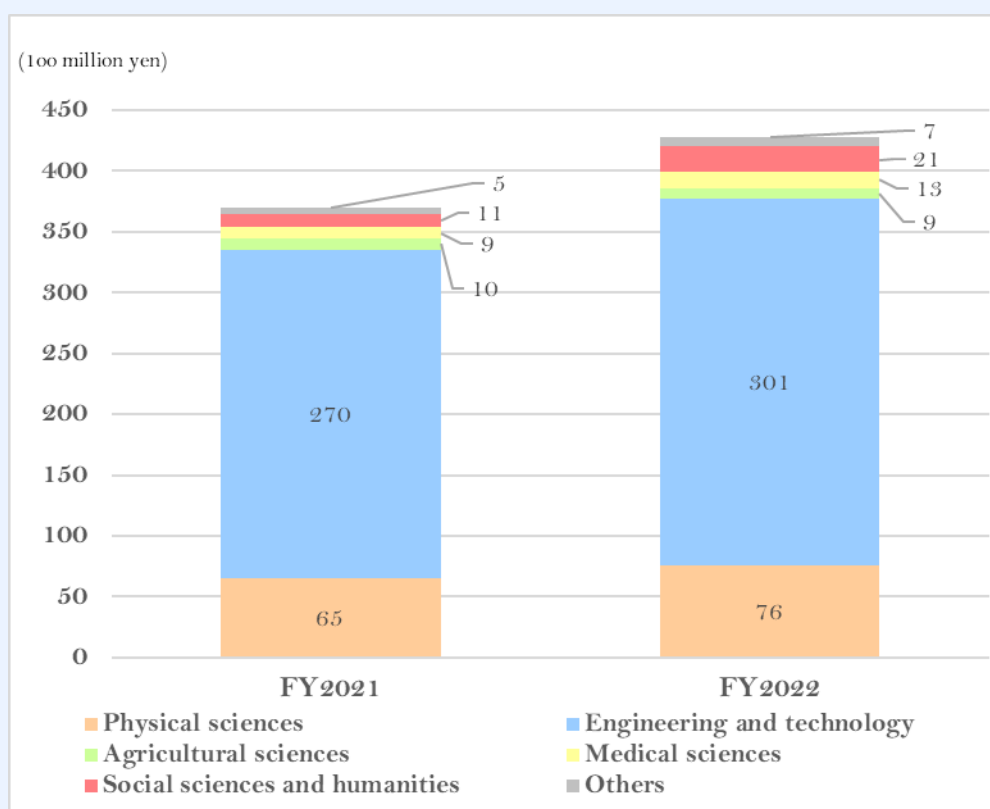
■ Figure D1-1/R&D expenditures by research sector in the AI field



Source: Statistics Bureau, MIC, "2023 Results of the Survey of Research and Development."<sup>1</sup>

<sup>1</sup> Statistics Bureau, MIC, "2023 Results of the Survey of Research and Development."  
[https://www.stat.go.jp/data/kagaku/kekka/kekkgai/pdf/2023ke\\_gai.pdf](https://www.stat.go.jp/data/kagaku/kekka/kekkgai/pdf/2023ke_gai.pdf)

■ Figure D1-2/Changes in R&D expenditures in the AI field (by university department/field)



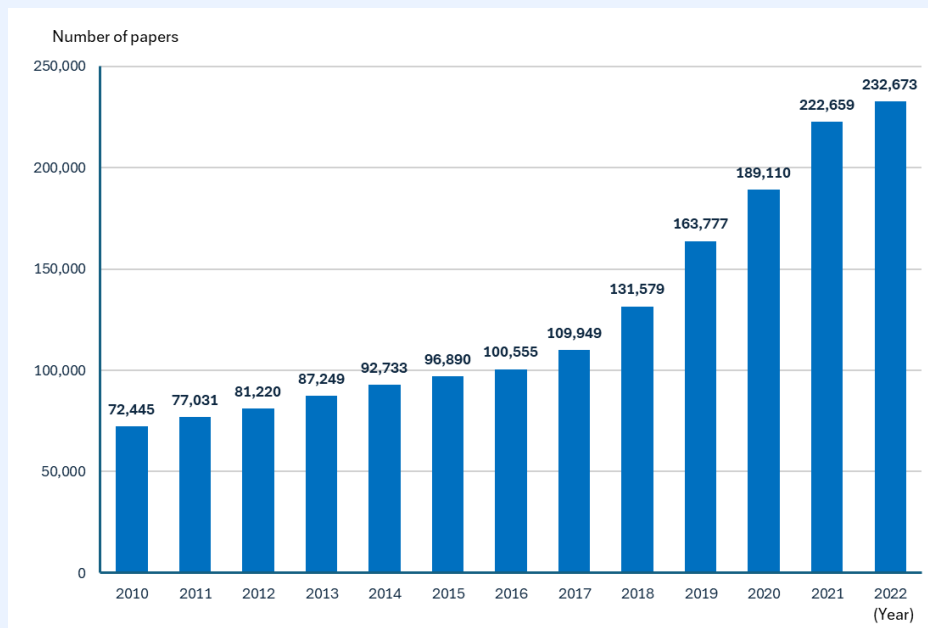
Source: Created by MEXT based on Statistics Bureau, MIC, “2022 Results of the Survey of Research and Development<sup>1</sup>” and “2023 Results of the Survey of Research and Development<sup>2</sup>.”

<sup>1</sup> Statistics Bureau, MIC, “2022 Results of the Survey of Research and Development.”  
<https://www.e-stat.go.jp/stat-search/files?page=1&layout=datalist&toukei=00200543&tstat=000001032090&cycle=0&year=20220&month=0&tclass1=000001171546>

<sup>2</sup> Statistics Bureau, MIC, “2023 Results of the Survey of Research and Development.”  
<https://www.e-stat.go.jp/stat-search/files?page=1&layout=datalist&toukei=00200543&tstat=000001032090&cycle=0&year=20230&month=0&tclass1=000001211180>

## Item 2: Paper Index

■ Figure D1-3/Changes in the number of AI-related papers

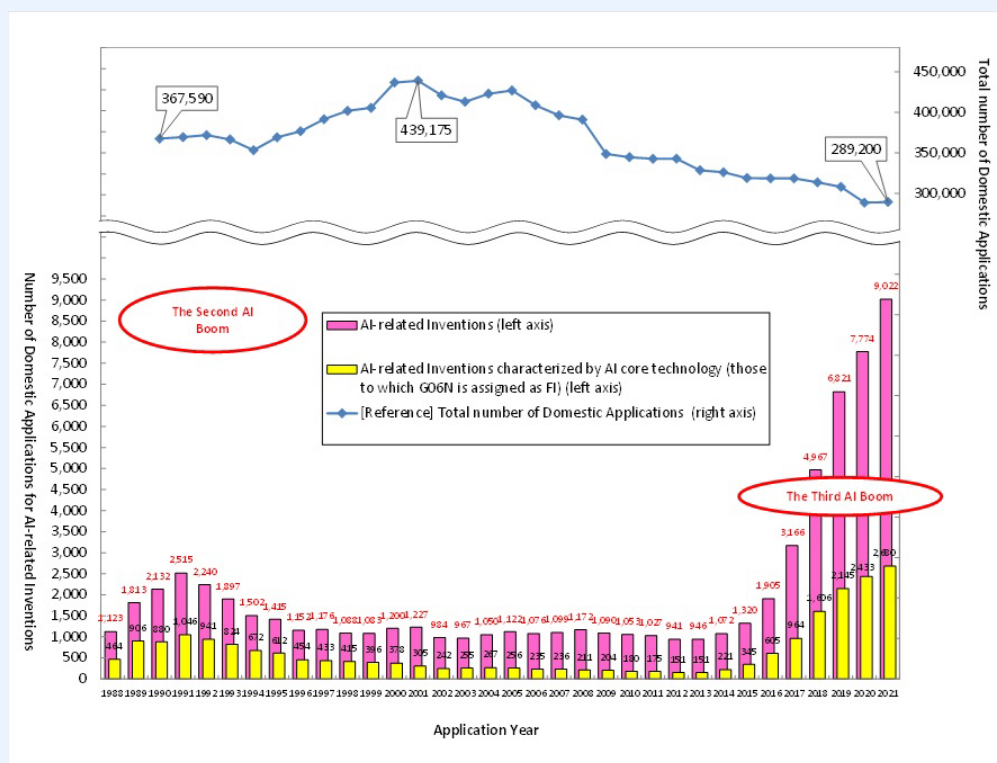


Note: The data only includes the number of “journal publications,” and does not include “books,” “dissertations,” and “conferences,” etc.

Source: Created by MEXT based on Figure 1.1.6 of Artificial Intelligence Index Report 2024, Stanford Institute for Human-Centered Artificial Intelligence.

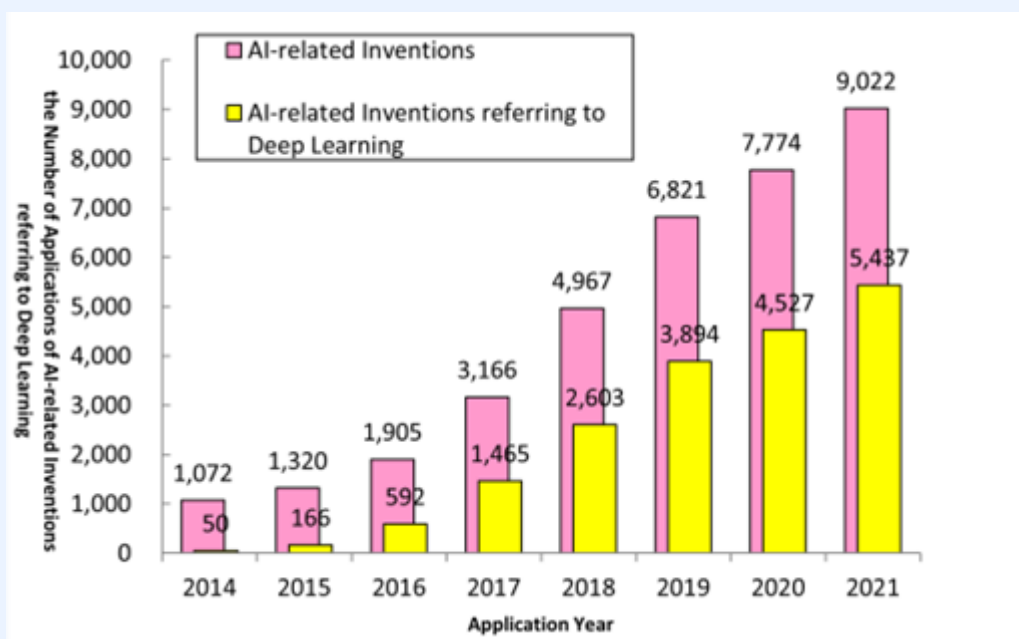
### Item 3: Patents

■ Figure D1-4/Changes in the number of domestic applications for AI-related inventions



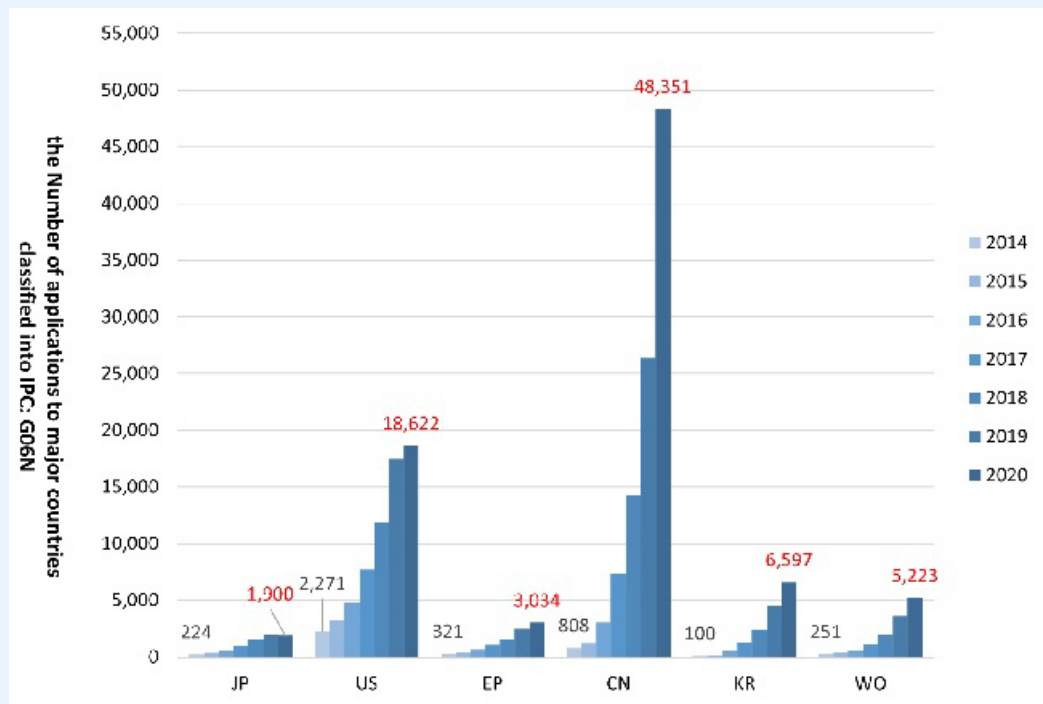
Source: Japan Patent Office, "Recent Trends in AI-related Inventions - Report" (2023).

■ Figure D1-5/Changes in the number of applications of AI-related inventions referring to deep learning



Source: Japan Patent Office, "Recent Trends in AI-related Inventions - Report" (2023).

■ Figure D1-6/Changes in the number of applications to major countries classified into IPC: G06N



Note: Country codes in the figure are JP: Japan, US: United States, EP: Europe (EPO), CN: China, KR: Republic of Korea, and WO: PCT international application (regardless of nationality of applicants).

Source: Japan Patent Office, "Recent Trends in AI-related Inventions - Report" (2023).