

Summary of Assessing South Korea's AI Ecosystem

Amidst rising regional tensions and challenging demographic trends, South Korea continues to be a leader in the development and adoption of critical and emerging technologies, including artificial intelligence. In this data brief, **we analyze South Korea's progress in AI across five key dimensions: hardware, patents, investment, research, and talent.**

- South Korea is among the handful of countries globally that **produce high-end semiconductor devices** needed for AI development. China accounts for almost 60 percent of South Korea's chip exports.
- South Korea **ranks third globally in the number of AI patents granted** between 2010 to 2021. **Machine learning, computer vision, as well as personal devices and computing** are the country's most frequently patented categories.
- South Korea's AI investment market is **still nascent but growing**. Investments into domestic AI companies have increased almost every year since 2014. In 2021, **\$2.76 billion was invested** in privately-held South Korean AI companies.
- Between 2010 and 2021, **South Korean researchers published 68,404 AI-related papers, ranking 11th** globally. Collaborations with U.S. researchers **account for 40 percent** of South Korea's internationally coauthored AI papers.
- Relative to population, **South Korea produces more engineering graduates than the United States, China, and India**. However, gender disparities in AI-related subjects may undermine Seoul's efforts to cultivate an AI workforce. In 2021, only **12 percent of doctoral graduates in AI-related fields were women**.

As an important technological and economic power in the Asia-Pacific region and a key U.S. ally, South Korea will continue to play a crucial role in technology, trade, and security in the region. Deepening cooperation and coordination between the United States and South Korea in AI and other technologies will serve to advance both countries' interests. U.S. policymakers should consider how competition between the United States and China might affect South Korea's economic and security priorities, and coordinate with South Korean counterparts to mitigate potentially adverse effects when possible.

For more information:

- Download the report: <https://cset.georgetown.edu/publication/assessing-south-koreas-ai-ecosystem>
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