

Japan

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Nature Index supplements on Japan over the past decade have documented the country's ongoing struggles to compete globally in high-quality research. The latest data are no exception: the nation's adjusted Share in the Nature Index fell to 3,185 in 2021, a level that represented just 12.6% of Asia Pacific output, down from 21.4% in 2015. There are rumblings, however, of a potential rebound. The data suggest there is light at the end of the tunnel as Japanese scientists show a stronger performance in life sciences, where adjusted Share remained higher in 2021 than in 2019.

Successes in creating spin-off companies from research, and a focus on tailoring support for young researchers are paying dividends (see page S48). We shine a light on individual successes among that emerging generation of scientists (see pages S62–S81). The government is also rolling out a new endowment scheme worth ¥10 trillion (US\$75 billion), inspired by the funding models that sustain the Ivy League universities in the United States, that could further boost recovery. There are concerns, however, about what this could mean for academic independence and whether enough universities in Japan will reap the benefit (see page S84).

There remain challenges that demand more complex solutions than cash injections. Robotics research, for example, was an area in which Japan enjoyed an edge as an enthusiastic and early adopter. But although the country's engineers continue to excel in robotics hardware, Japanese science is lagging behind other major global players in the emerging field of artificial intelligence (AI). Without finding a way to incorporate this AI revolution, it could be difficult for Japan to stay relevant in the field (see page S92). This is indicative of where Japanese science finds itself today more generally. It is still making impressive gains, but these achievements are fragile and need continual nurturing if they are to endure.

Benjamin Plackett
Locum senior editor, Nature Index

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On the cover: Mariko Kimura,
Credit: Irwin Wong for *Nature*

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