nature INDEX 2016 JAPAN

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The Japanese government recently presented a confronting picture of the state of science, technology and innovation in the country.

In a 2015 report on its Fifth Science and Technology Basic Plan, Japan's Council for Science, Technology and Innovation conceded its world standing in science and technology was falling. Government R&D investment growth has also stagnated in the past 10 years compared to spending by the world's other leading nations. "Our research papers are dropping in international rank, in quantitative and qualitative terms," the report said. "There have been delays in building an international network, and our science and technology activity is regrettably starting to fall behind the world leaders."

The Nature Index is a powerful tool to examine the nuances of this situation. While the database provides a broad overview of the country's research performance in the natural sciences, it also offers insights into the high-quality output and collaboration trends of individual institutions.

Japan is still a very strong scientific country with seven universities in the top 100 in the Nature Index. By some measures, the index reflects the government's recent assessment of the diminished state of science and innovation, it also reveals that some of Japan's institutions have increased their output of high-quality science.

Japan's overall output in the index has decreased by 12% since 2012, and the country is ranked in the database's top five countries. There is also evidence that the government's agenda to globalize universities and encourage international partnerships is working. In the past year, connections with nine of its top 10 collaborating countries have increased.

In our first index supplement dedicated to Japan, we present the performance of individual institutions in three categories.

On page S114 we profile the country's top universities by weighted fractional count. These institutions are publishing the largest portion of Japan's best research. We look at the country's rising stars on page S118. These are the institutions with the biggest growth in high-quality output between 2012 and 2015. Some are small or new, but their improvement surpasses many older and better-resourced universities.

Japan's institutions have improved their collaborative reach and the article on page S127 looks at some institutions whose research partnerships have resulted in the most publications in high-impact journals, measured by a metric known as collaboration score. For more information on how Nature Index metrics are calculated, see page S136.

Nicky Phillips
Editor, Nature Index

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The world's largest underground neutrino detector, Super-Kamiokande is hosted by the Institute of Cosmic Ray Research, part of the University of Tokyo.

KAMIOKA OBSERVATORY/ICRR/
THE UNIVERSITY OF TOKYO

EDITORIAL: Stephen Pincock, Nicky Phillips, Ichiko Fuyuno, Tim Hornyak, Mark Zastrow, Rebecca Dargie, Victoria Kitchener, Smriti Mallapaty, Simon Pleasants. **ANALYSIS:** Larissa Kogleck. **ART & DESIGN:** Alisdair Macdonald, Kate Duncan, Chris Gilloch. **WEB & DATA:** Bob Edenbach, Olivier Lechevalier, Naomi Nakahara, Pamela Sia, Bart Riepe, Jörn Ishikawa, Yuxin Wang, Jyoti Miglani, Jennie Pao, Paul Glaeser, Akiko Murakami, Takeshi Ouchi. **PRODUCTION:** Sue Gray, Karl Smart, Ian Pope, Chandler Gibbons, Yuko Onishi, Matt Carey, Mankoo Manpreet. **MARKETING:** Alan Abery. **PROJECT MANAGER:** Anastasia Panoutsou. **SALES:** Yuki Fujiwara, Maki Ishikawa, Yuko Takai. **ART DIRECTOR:** Kelly Buckheit Krause. **PUBLISHING:** Nick Campbell, Richard Hughes, David Swinbanks.

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Nature Editorial Offices
The Macmillan Building
4 Crinan Street,
London N1 9XW, UK
Tel: +44 (0)20 7833 4000
Fax: +44 (0)20 7843 4596/7

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