

# Superpowered science

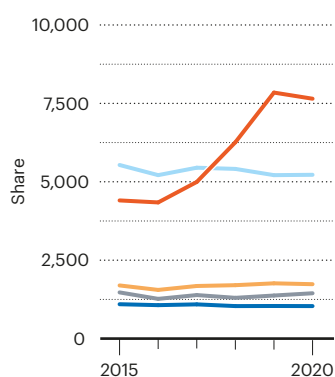
Charting China's research rise. Data analysis by Bo Wu.  
Infographic by Tanner Maxwell and Catherine Armitage.

## CLOSING THE GAPS

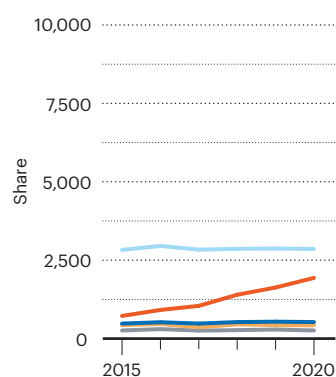
China surpassed the United States in chemistry in 2018 and is approaching it in Earth and environmental sciences and physical sciences according to Share.

China United States Germany United Kingdom Japan

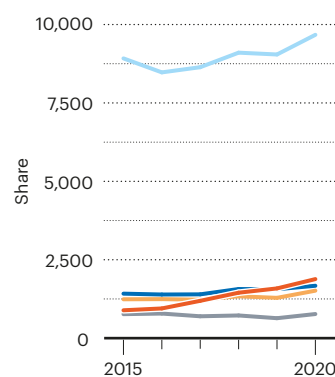
### Chemistry



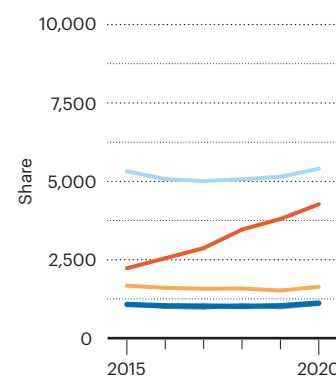
### Earth & environmental sciences



### Life sciences

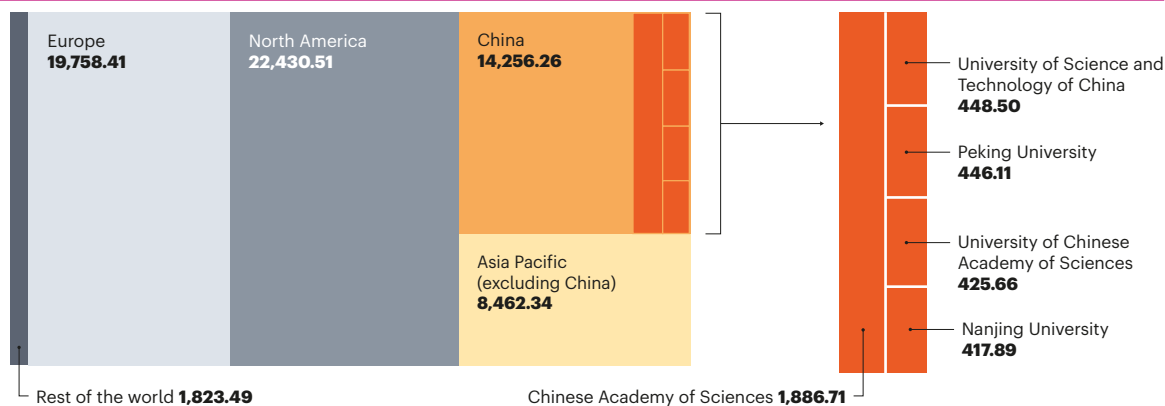


### Physical sciences



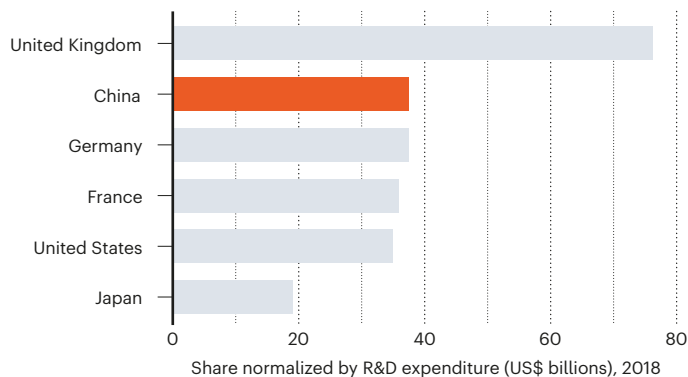
## OUTPUT BY SHARE 2020

Between them, China's leading five institutions account for 25% of the country's Share.



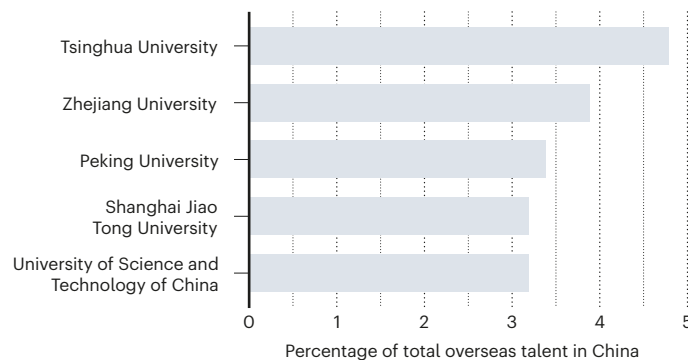
## RETURN ON INVESTMENT

For every US\$ billion spent on research and development, China achieves 37.47 worth of Share, in the mid-range of efficiency among the leading 6 nations in the Nature Index.



## TALENT MAGNETS

Among Chinese institutions, Tsinghua University has attracted the largest proportion of researchers from outside China over the past 25 years, even though it was displaced from China's leading 5 overall by the University of Chinese Academy of Sciences in 2020.



SOURCE: NATURE INDEX; LEAGUE OF SCHOLARS; UNESCO

# AREAS OF STRENGTH

Shown here are the 10 areas of China with the highest output by Share in the Nature Index in 2020, making clear the concentration of high-performing research institutions in the east of the country. The strongest-performing institution for each of the 10 areas is also shown. Six of these 10 are also among the 10 leading institutions in China overall. The country's leading institution by Share, the Chinese Academy of Sciences, is not shown because its affiliated institutions are dispersed throughout China, as is its output.

**Peking University**  
446.11

Peking University, with the third-highest overall Share among Chinese institutions, is second-highest in the life sciences. The Beijing municipality contributes more of China's Share (20%) than any other area, followed by Shanghai (11%).

**Nankai University**  
230.53

**Shanghai Jiao Tong University**  
295.15

Shanghai Jiao Tong University jumped from 14th to 8th place among leading Chinese institutions in the Nature Index 2015–20, and had the greatest Share rise among the leading 10 in the past year (21%).

**Shandong University**  
135.80

**University of Science and Technology of China**  
448.50

University of Science and Technology China had the second-highest Share in China in 2020 overall and in the chemical and physical sciences subject fields.

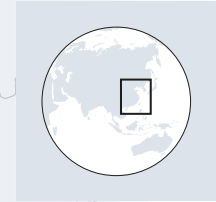
**Sun Yat-sen University**  
269.22

Sun Yat-sen University achieved a 421% increase in adjusted Share in Earth and environmental sciences from 2015 to 2020, but Guangdong's second-highest achiever, the Southern University of Science and Technology, contributed most to the area's status as the fastest riser among the leading 10, with a 1,100% overall increase in adjusted Share from 2015 to 2020.

**Wuhan University**  
208.92

**Nanjing University**  
417.89

**Zhejiang University**  
342.07



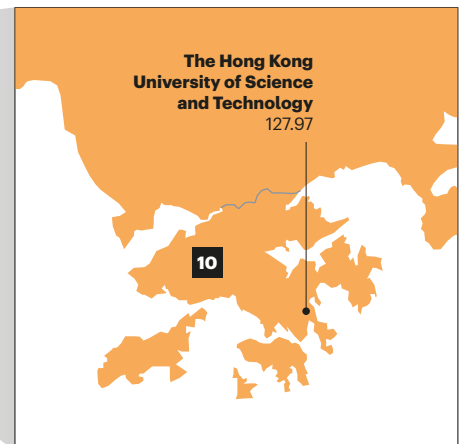
## Leading 10 areas by Share

- 1** **Beijing**  
2,895.37  
(+34.4% in adjusted Share since 2015)
- 2** **Shanghai**  
1,591.95 (+43.4%)
- 3** **Jiangsu**  
1,458.72 (+64.3%)
- 4** **Guangdong**  
1,222.14 (+211.4%)
- 5** **Hubei**  
734.74 (+89.1%)
- 6** **Zhejiang**  
650.60 (+76.5%)
- 7** **Anhui**  
620.38 (+60.0%)
- 8** **Shandong**  
521.86 (+138.3%)
- 9** **Tianjin**  
491.68 (+51.9%)
- 10** **Hong Kong**  
482.92 (+41.1%)

## Institution rankings

- Leading 10 in China
- Leading institution in area

100 km 300 km



**The Hong Kong University of Science and Technology**  
127.97

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