IZMENI SOZNANI
2025

ПЕРЕСБОРКА КИТАЯ


Cuna Tea


NEC
AEROFLA


Bank
中国光大银行
A5
A6
A7
A8
A3
A4


CRH


JDRONE


组合价
¥16.00
一收银机
EPSON


mobike
0106078778


中国航天
CZ-2F

TIANGONG SPACE STATION

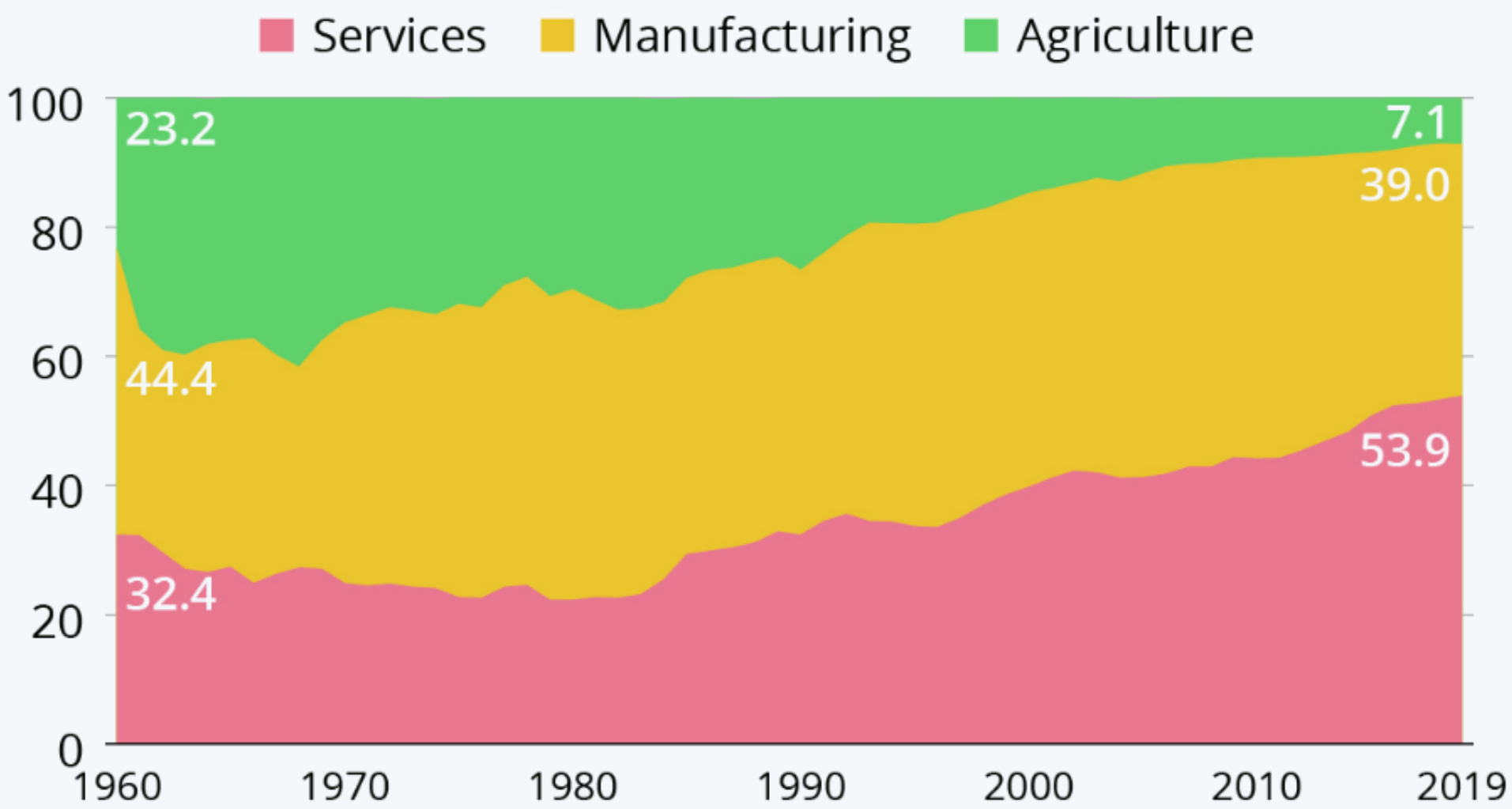
37 M

INTERNATIONAL SPACE STATION

109 M


ZEEKR 001

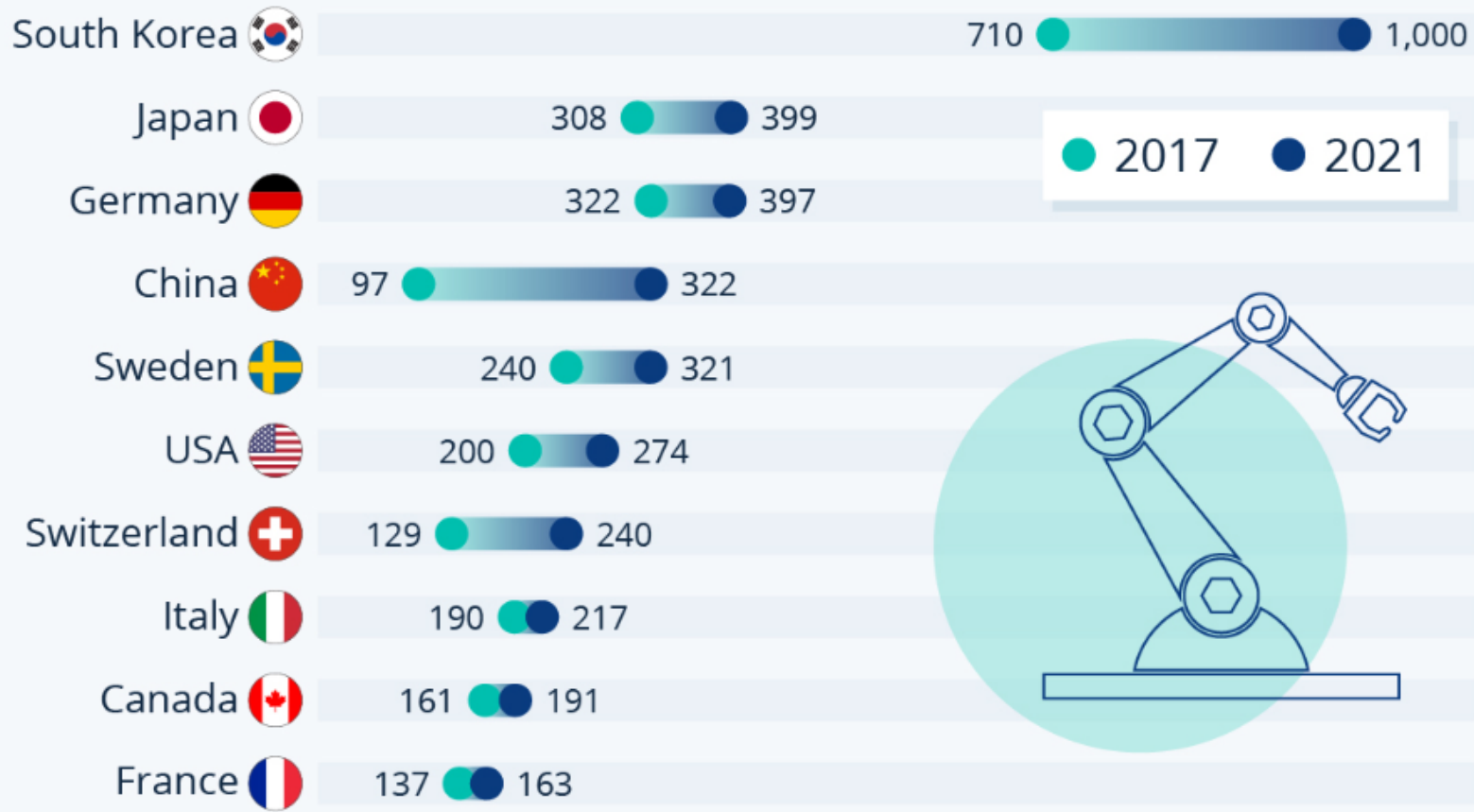
Economic sectors as a share of GDP in China from 1960 to 2019 (in percent)



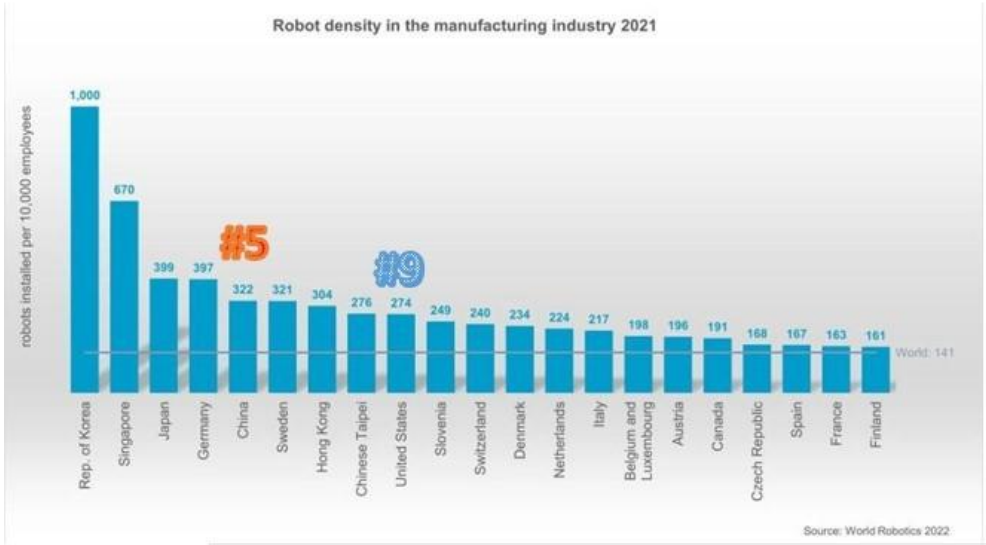
Source: World Bank

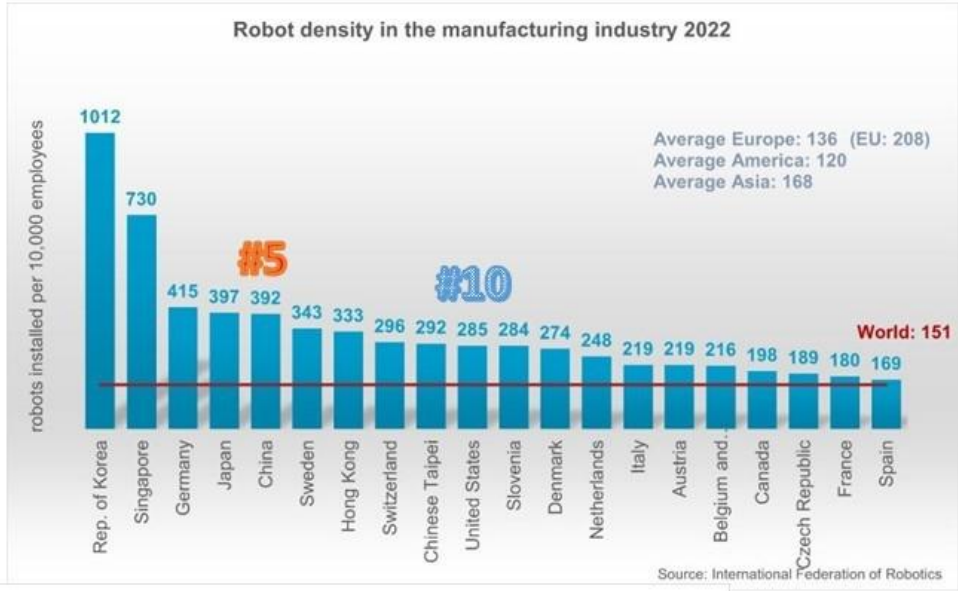
The Countries With The Highest Density Of Robot Workers

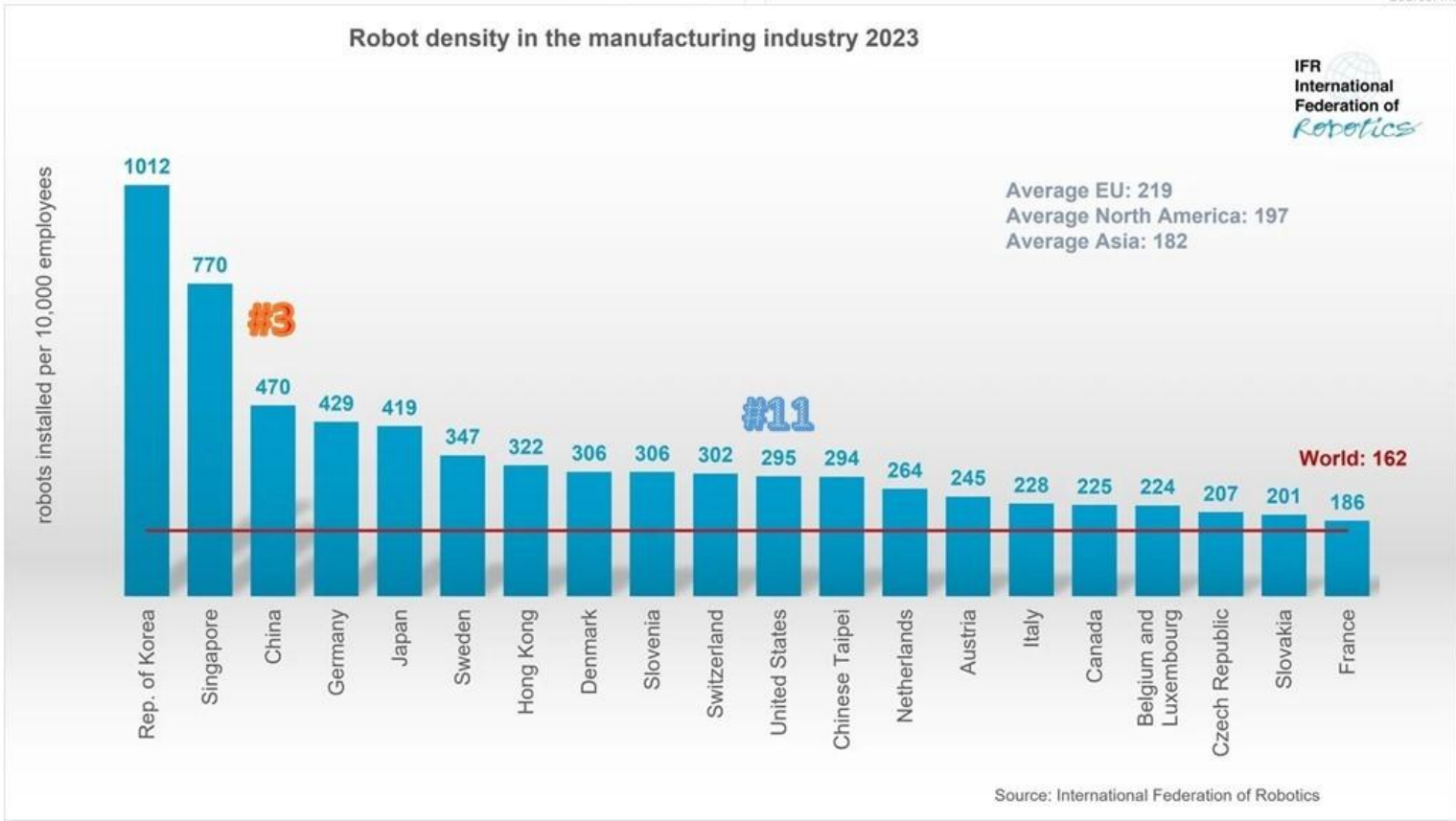
Number of robots installed per 10,000 employees in the manufacturing industry



Selected countries. Worldwide average: 141 per 10,000 employees in 2021.
Source: International Federation of Robotics

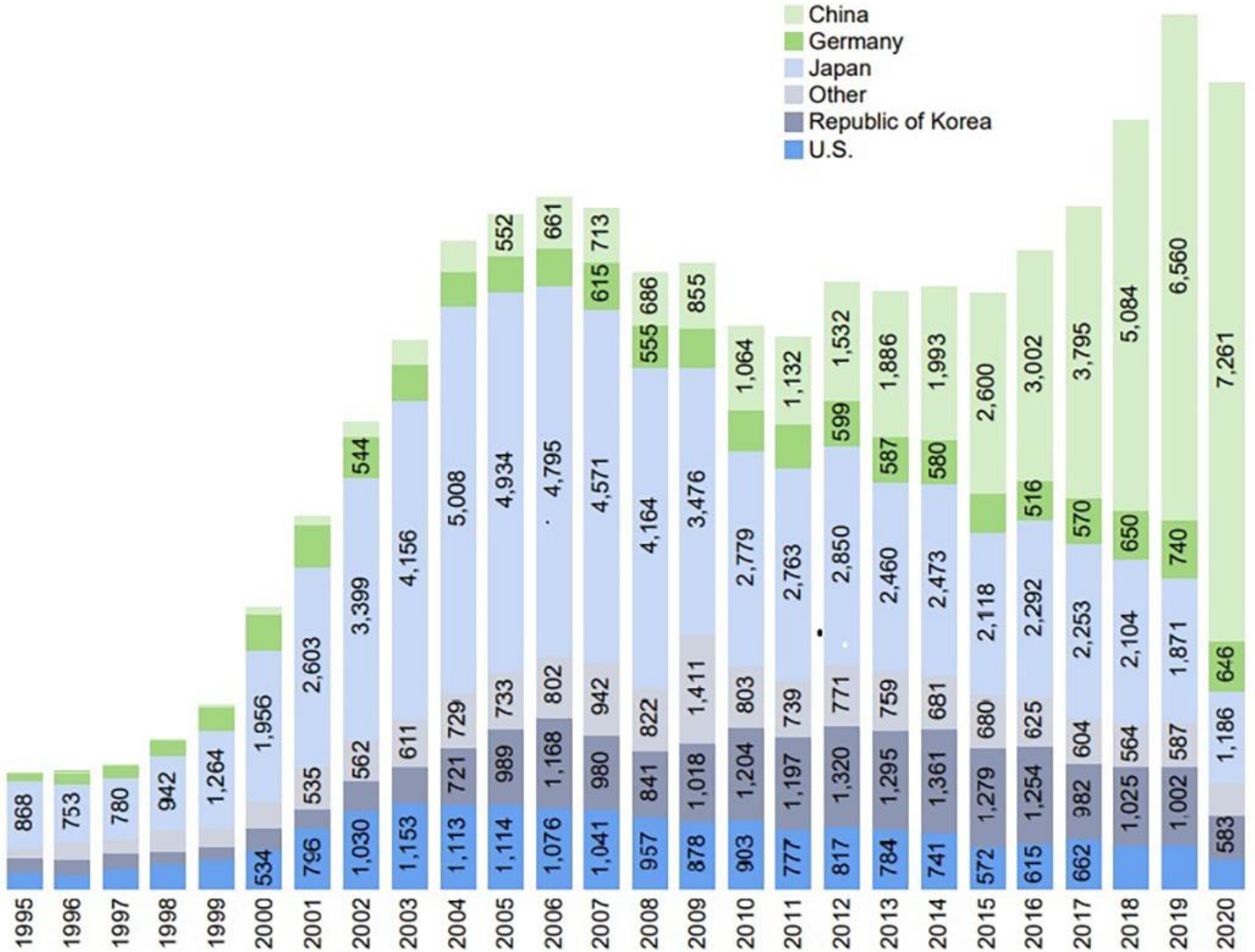

Robot density in the manufacturing industry 2021
robots installed per 10,000 employees
1,000
670
399
397
322
321
304
276
274
249
240
234
224
217
198
196
191
168
167
163
161
#5
#9
World: 141
Rep. of Korea
Singapore
Japan
Germany
China
Sweden
Hong Kong
Chinese Taipei
United States
Slovenia
Switzerland
Denmark
Netherlands
Italy
Belgium and Luxembourg
Austria
Canada
Czech Republic
Spain
France
Finland
Source: World Robotics 2022


Robot density in the manufacturing industry 2022
robots installed per 10,000 employees
1012
730
415
397
392
343
333
296
292
285
284
274
248
219
219
216
198
189
180
169
#5
#10
Average Europe: 136 (EU: 208)
Average America: 120
Average Asia: 168
World: 151
Rep. of Korea
Singapore
Germany
Japan
China
Sweden
Hong Kong
Switzerland
Chinese Taipei
United States
Slovenia
Denmark
Netherlands
Italy
Austria
Belgium and...
Canada
Czech Republic
France
Spain
Source: International Federation of Robotics


Robot density in the manufacturing industry 2023
IFR
International
Federation of
Robotics
robots installed per 10,000 employees
1012
770
470
429
419
347
322
306
306
302
295
294
264
245
228
225
224
207
201
186
#3
#11
Average EU: 219
Average North America: 197
Average Asia: 182
World: 162
Rep. of Korea
Singapore
China
Germany
Japan
Sweden
Hong Kong
Denmark
Slovenia
Switzerland
United States
Chinese Taipei
Netherlands
Austria
Italy
Canada
Belgium and Luxembourg
Czech Republic
Slovakia
France
Source: International Federation of Robotics

Number of patent filings by the five key inventor locations.

Japanese inventors contributed heavily to the first major surge in patent filings related to fuel cells (2000–2005) and Chinese inventors to the second (2016–2020).



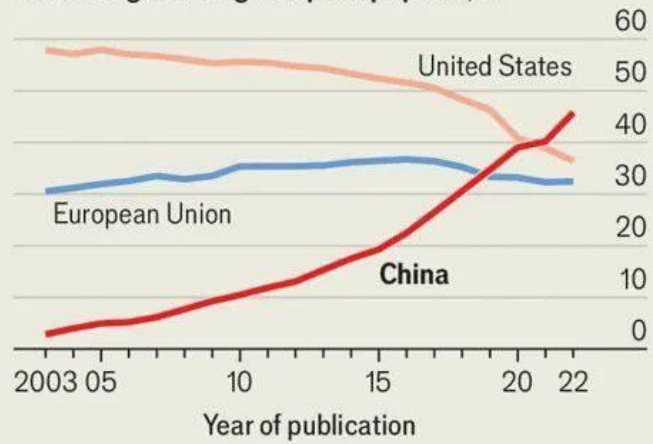
Source: WIPO, based on patent data Lexis Nexis PatentSight up to March 2022.
Note: "Others" refers to all other inventor locations. There is an average 18-month delay between patent filing and publication. 2019 is the last year for which complete data are available.

Red moon rising

1

High-quality science papers, by author location, selected countries/regions

Share of global high-impact papers*, %†



***Nature* Index, contributions to papers published‡, '000**

*Top 1% by number of citations, Web of Science platform
†Percentages can add up to more than 100 due to co-authorships ‡In prestigious journals
Sources: *Nature*; Clarivate, Web of Science; *The Economist*

China vs. US – Top Players for Key Verticals

Selected priority science projects in China's new 5-year plan

Quantum communications and computation

Brain research

National cyberspace security

Deep space exploration

Clean, efficient use of coal

Industrial, medical, and military robots

Applications of gene science

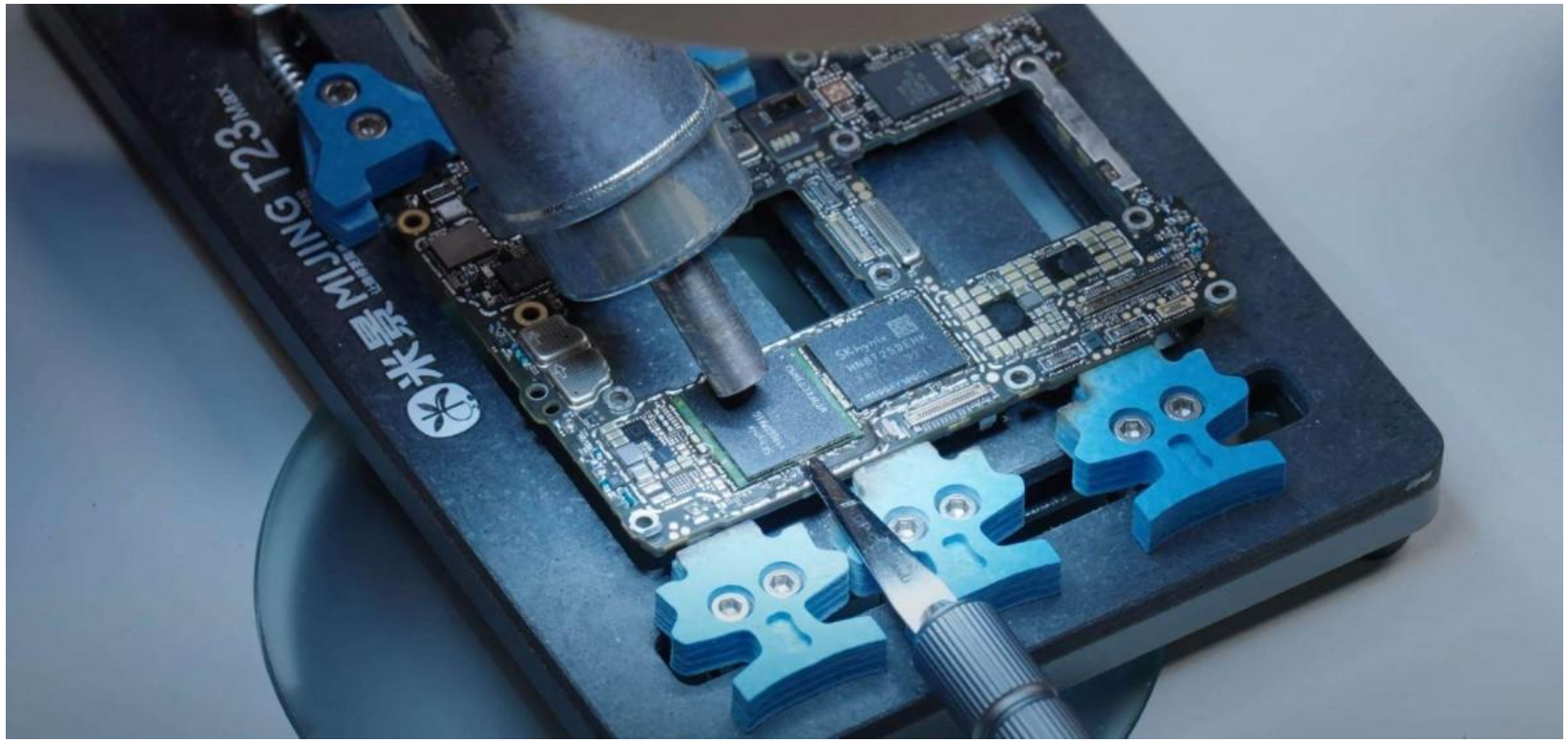
Big data applications

Deep–sea experimental platform

New Arctic observatory, Antarctic station

The BIG Fund
$45 000 000 000
(~6 трл руб)

x 3



Made in China 2025

10 Sectors that China is Targeting with the CM2025 Initiative

Medicine and medical devices

Information Technology

Aerospace equipment

Railway equipment

Ocean engineering and high tech ships

New materials

Power equipment

Agriculture machinery

Robotics

Green energy and green vehicles

1985 – приняли решение о технопарках

1988 – первый технопарк Zhongguancun

1988: Beijing New Technology Industry Development Experimental Zone was approved

1991: the first batch of 27 NHZs in Shenzhen, Shanghai, Wuhan, Chengdu, Xi'an and other major cities was approved

1992: 25 NHZs were approved

1997: Yangling Agricultural High-tech Zone was approved

2007: Ningbo NHZ was approved

2009: Xiangtan High-tech Zone and Taizhou High-tech Zone were identified as NHZs

2010: 27 NHZs were approved

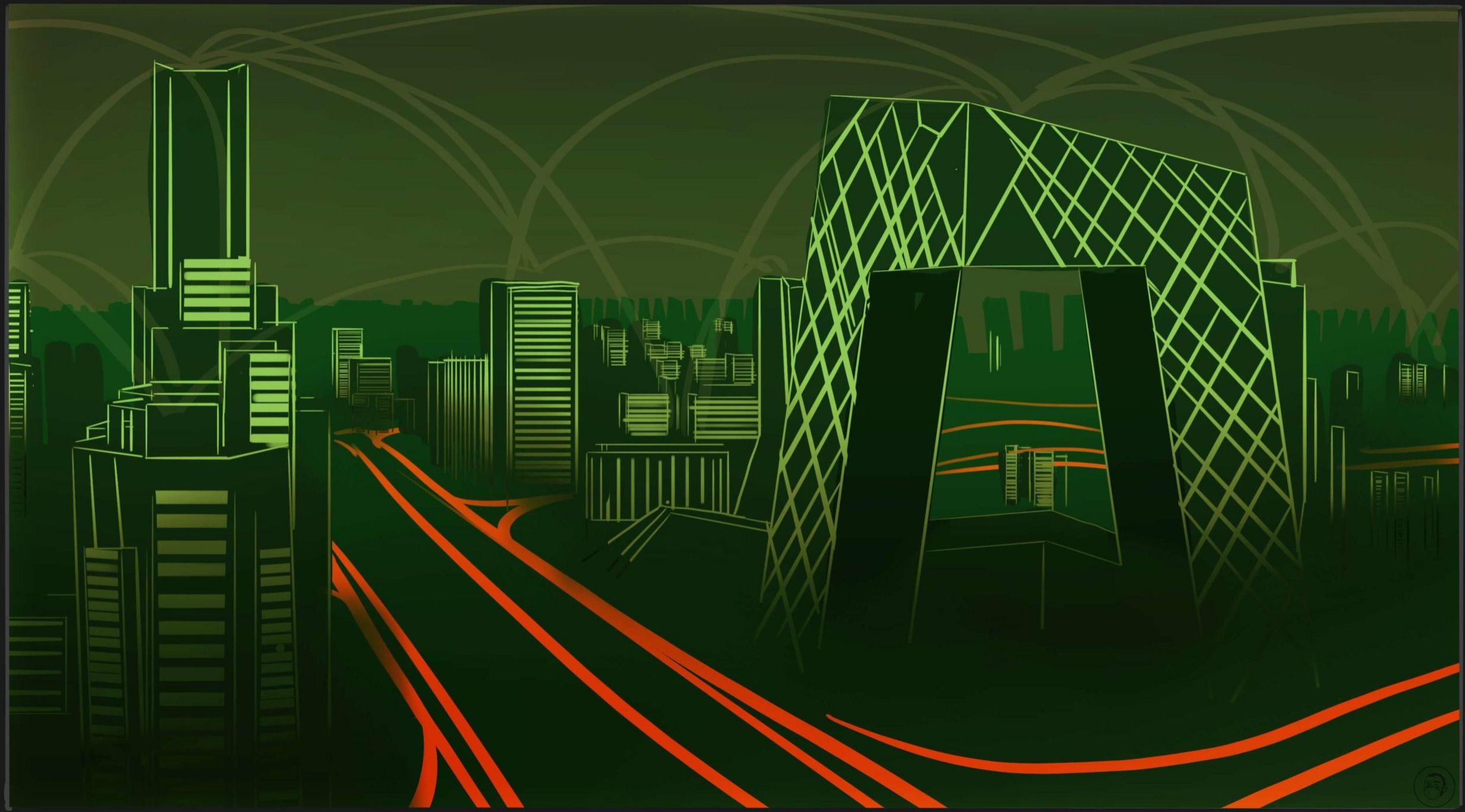
2011: 5 NHZs were approved

2012: 17 NHZs were approved

2014: 9 NHZs were approved

2015: 31 NHZs were approved


北京积水潭医院



«Очень трудно сделать точный прогноз, особенно о будущем»

- Нильс Бор

Table 1: Lead country and technology monopoly risk.

Technology	Lead country	Technology monopoly risk
Advanced materials and manufacturing		
1. Nanoscale materials and manufacturing	China	high
2. Coatings	China	high
3. Smart materials	China	medium
4. Advanced composite materials	China	medium
5. Novel metamaterials	China	medium
6. High-specification machining processes	China	medium
7. Advanced explosives and energetic materials	China	medium
8. Critical minerals extraction and processing	China	low
9. Advanced magnets and superconductors	China	low
10. Advanced protection	China	low
11. Continuous flow chemical synthesis	China	low
12. Additive manufacturing (incl. 3D printing)	China	low
Artificial intelligence, computing and communications		
13. Advanced radiofrequency communications (incl. 5G and 6G)	China	high
14. Advanced optical communications	China	medium
15. Artificial intelligence (AI) algorithms and hardware accelerators	China	medium
16. Distributed ledgers	China	medium
17. Advanced data analytics	China	medium
18. Machine learning (incl. neural networks and deep learning)	China	low
19. Protective cybersecurity technologies	China	low
20. High performance computing	USA	low
21. Advanced integrated circuit design and fabrication	USA	low
22. Natural language processing (incl. speech and text recognition and analysis)	USA	low
Energy and environment		
23. Hydrogen and ammonia for power	China	high
24. Supercapacitors	China	high
25. Electric batteries	China	high
26. Photovoltaics	China	medium
27. Nuclear waste management and recycling	China	medium
28. Directed energy technologies	China	medium
29. Biofuels	China	low
30. Nuclear energy	China	low
Quantum		
31. Quantum computing	USA	medium
32. Post-quantum cryptography	China	low
33. Quantum communications (incl. quantum key distribution)	China	low
34. Quantum sensors	China	low
Biotechnology, gene technology and vaccines		
35. Synthetic biology	China	high
36. Biological manufacturing	China	medium
37. Vaccines and medical countermeasures	USA	medium
Sensing, timing and navigation		
38. Photonic sensors	China	high
Defence, space, robotics and transportation		
39. Advanced aircraft engines (incl. hypersonics)	China	medium
40. Drones, swarming and collaborative robots	China	medium
41. Small satellites	USA	low
42. Autonomous systems operation technology	China	low
43. Advanced robotics	China	low
44. Space launch systems	USA	low

Note: A visual summary of the top 5 countries for each technology area can be found in Appendix 1.1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4.2
81
Bethany Jones
4.6


11796
11858
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@EEVVKK