



Surgical robotics today

Who are all these companies &
How did they get here?



Dwight Meglan

July 2026 Update · The commercial surgical robotics landscape
Companion to the Surgical AI Overview (July 2026)

All information discussed is derived from publicly available sources

Why me for this subject?

30+ years building surgical robots and simulators, and tracking everyone else's

- **Left Mayo tenure track 30+ years ago to stay an engineer**

Building surgical simulators since 1994; surgical robots since 2000

- **Part of many investment & acquisition diligence efforts**

Surgical robotics and adjacent: robotic systems, components and enablers; advanced visualization; machine learning

- **20+ years tracking commercial robots & simulators**

I work at the system level, from idea to prototype

15 COMMERCIAL SURGICAL ROBOTS

Involvement across specialties:

- 4 Abdominal / thoracic
- 4 Endovascular
- 3 Endoluminal
- 2 Cardiac
- 1 Ophthalmic
- 1 Vascular access

Why am I doing this?

A hobby that turned out to be useful, everything is a remix

- **I started collecting this information as a hobby**

Knowing how similarly focused robots could have diverse solutions was useful for my design work (everything is a remix)

- **As the collection grew, others might find it useful**

This deck is an overview of the field touching on the diversity of solutions for similar needs, e.g. surgeon consoles

- **I do deep dives for my own startup work and consulting**

NOTE

This talk is largely mechanics focused, but I typically work at the system level

- I work at the idea-to-prototype phase, i.e. typically much earlier than Steve Bell :-)

This talk...

A scope contract: breadth over depth, commercial over academic

IS

- A quick run through the breadth of commercial efforts
- An update on what has changed in the past ~6 months
- Examples of how this information provides insight
- Robots that act upon the body in some manner
- A broad view of 'commercial', even patents alone

IS NOT

- By any means exhaustive
- Delving into the myriad academic efforts
- Covering rehabilitation or assistive robots

Surgical robotics today: update notes, July 2026

What changed since the January 2026 edition

- **43 additions since January**

Roster now 757 robots / 663 companies: 7 orthopedic, 5 percutaneous, 5 endovascular, 4 abdominal/thoracic, 3 dental... 30 of the 43 are Chinese, mostly EPO patent-scan finds, not press

- **Full roster re-verification, 1-2 July**

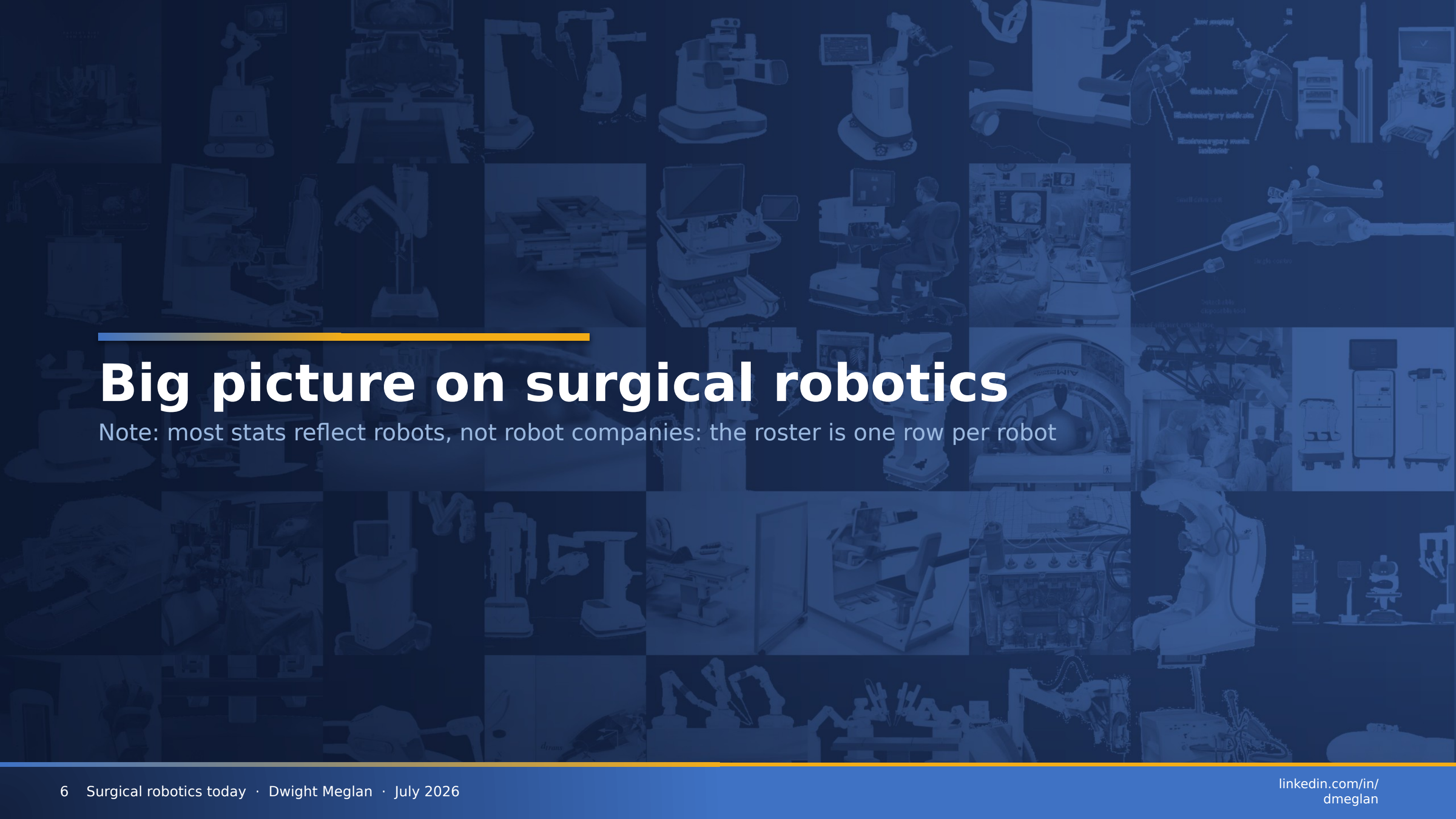
532 field corrections, 121 new milestones, duplicates merged; quietly-approved systems re-checked, On Market count: 86 in January → 237 now

- **Funding data added for every robot**

Stage, total raised, lead investors, valuation and most-recent-milestone columns now populated throughout

ALSO NEW IN THIS EDITION

- Funding & investor data throughout
- 2026 flameouts & exits section
- Founding-year (vs first-evidence) view
- All charts regenerated from the master roster
- Live companion dashboard, see the end of the deck



Big picture on surgical robotics

Note: most stats reflect robots, not robot companies: the roster is one row per robot

Surgical robotics is a busy place

316 review articles in 2020–2022 per the refreshed counts; a sampling of 2022 titles below

HISTORY & OVERVIEWS

A short history of robotic surgery · Past, present and future of surgical robotics · An introductory review of robotically assisted surgical systems

IMAGING & GUIDANCE

Image-Guided Interventional Robotics: Lost in Translation? · Robot-Assisted Medical Imaging: A Review · MRI-Guided Robot-Assisted Surgery and Interventions

SPECIALTY-SPECIFIC

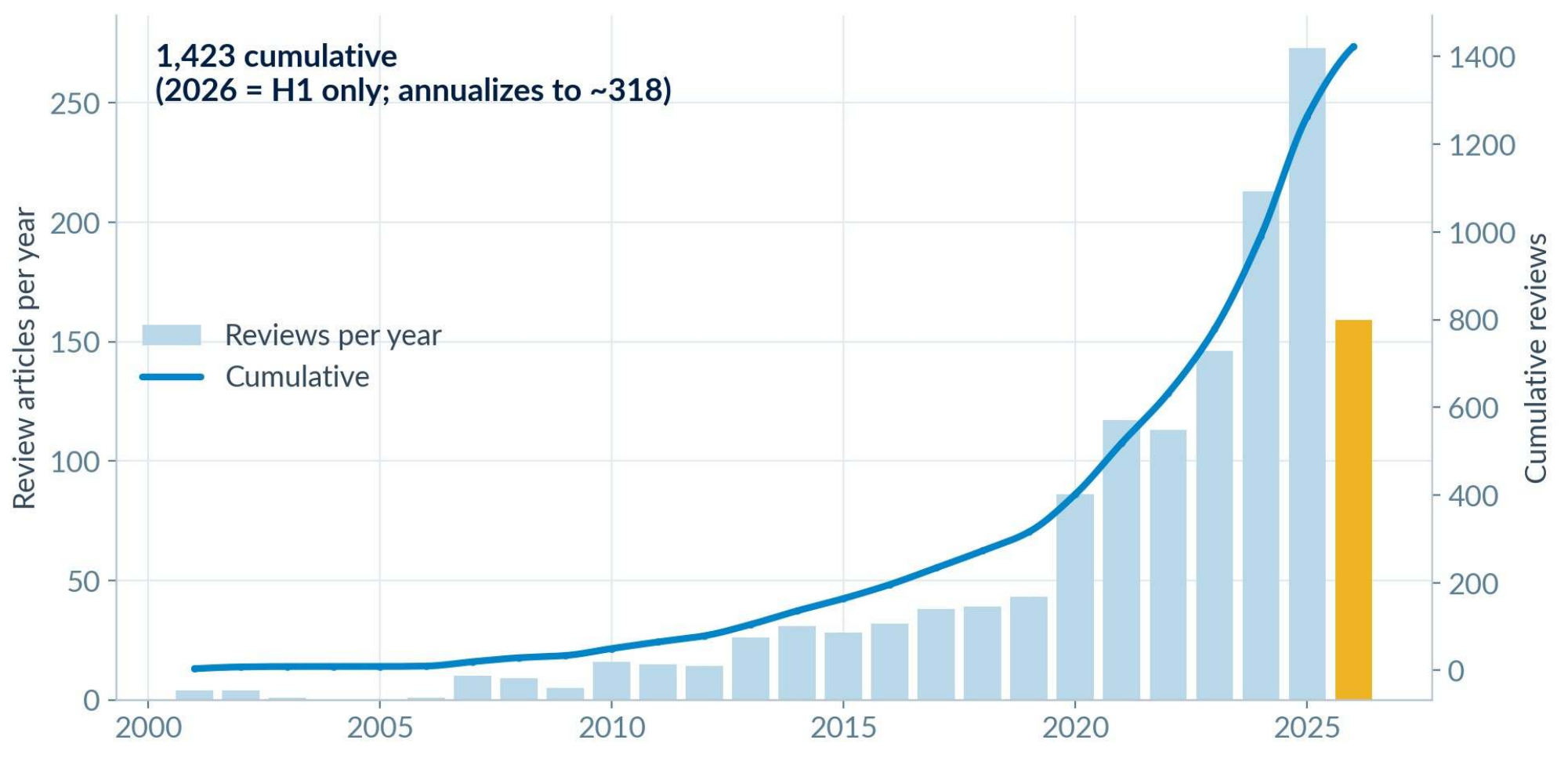
Robotics in neurosurgery · Intraocular Robotic Surgical Systems · Robot-assisted techniques in vascular and endovascular surgery · Robotic Systems in Radiotherapy

EMERGING TECH

Magnetically Actuated Medical Robots · Surgical Robotics in the Data Age · among others published in 2022

Surgical robotics is a busy place

Review articles per year, Google Scholar, refreshed 7 Jul 2026; 2026 = first half, actual



1,423 REVIEWS

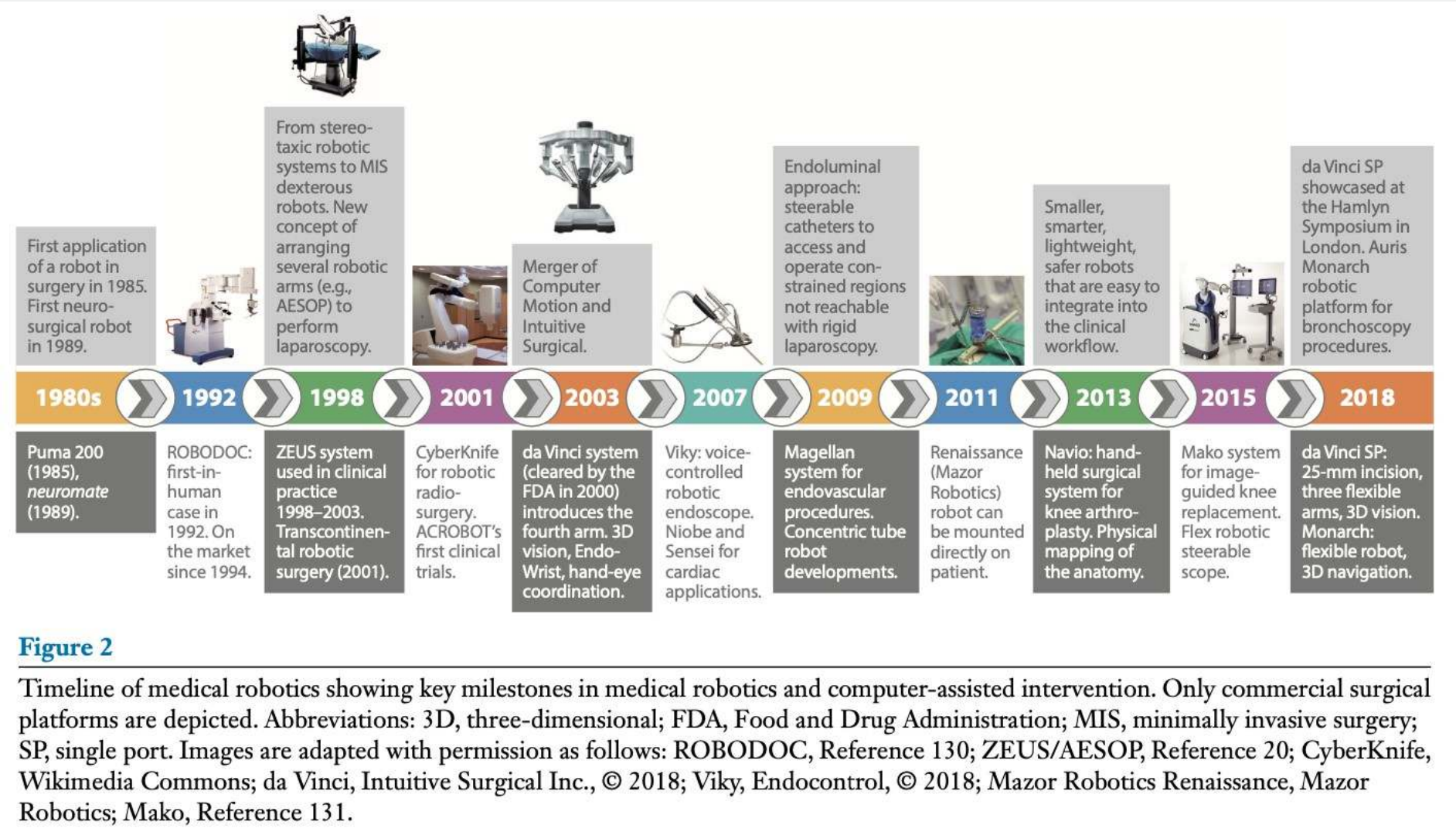
cumulative since 2001

273 in 2025; 159 in H1 2026, annualizing to roughly 318

Same Google Scholar query as prior editions; counts refreshed 7 Jul 2026

Where it came from

J Troccaz et al., Frontiers of Medical Robotics, Annu. Rev. Biomed. Eng. 21:193-218, 2019



J Troccaz et al., Frontiers of Medical Robotics: From Concept to Systems to Clinical Translation
Annu. Rev. Biomed. Eng. 21:193-218, 2019

Where it came from

knowablemagazine.org, Handing the surgeon's scalpel to a robot (2022)

Timeline of progress in surgical robots

- 1970s** NASA explores telesurgery.
-  **1983** First robot in the surgical suite, used to move patient's limbs into position during orthopedic surgery.
- 1985** First instance of a surgical robot, used during brain biopsy to avoid errors from hand tremors.
-  **1985** First laparoscopic procedure.
- 1990s** Laparoscopic surgery becomes more common, many novel procedures carried out and many new systems invented.
- 1991** First telepresence system, means surgeons don't need to be directly next to patient.
-  **1992** First robot with task autonomy gets FDA approval. Used in hip replacement, ROBODOC can carry out certain pre-programmed tasks autonomously once initiated by a human.
- 2000s** Surgical robots for general use become more common.
-  **2000** Introduction of da Vinci, the first robotic system for general and laparoscopic surgery in humans.
- 2001** Doctors in New York City use telesurgery to operate on a patient in France.
-  **2001** First robot with conditional autonomy gets FDA approval. Used in radiation therapy, CyberKnife can perform procedure autonomously.
- 2001 – present** Refinement of existing surgical robots continues to expand, robots become smaller, lighter, easier to use, and offer more assistance features for surgeons.
- 2009** Steerable catheters to access and operate constrained regions not reachable with rigid laparoscopy.
- 2022** STAR robot successfully sutures severed pig intestine.
- The future** Surgical robots gradually acquire increasing autonomy.

SOURCE: REPORTING BY J. GAINES

KNOWABLE MAGAZINE

<https://knowablemagazine.org/article/technology/2022/handing-surgeon-scalpel-to-robot>

Commercial milestones

T Ginoya et al., A Historical Review of Medical Robotic Platforms, J. Robotics 2021

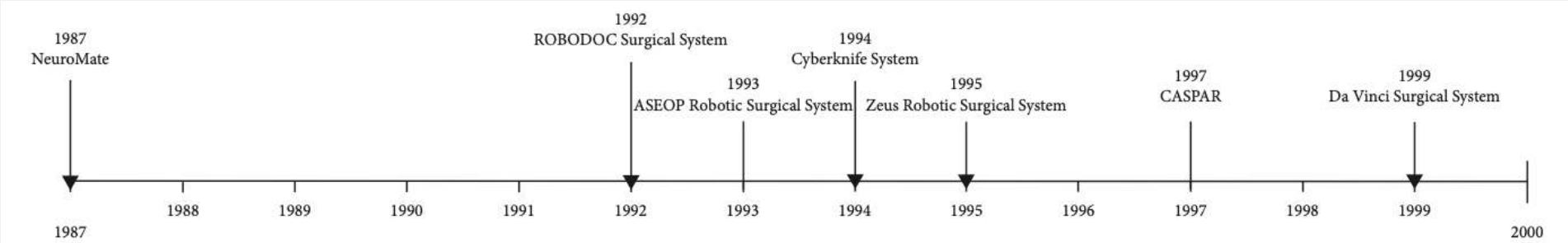


FIGURE 1: Decade I: timeline of robotic systems that founded and created the base for usage of robots in the medical field.

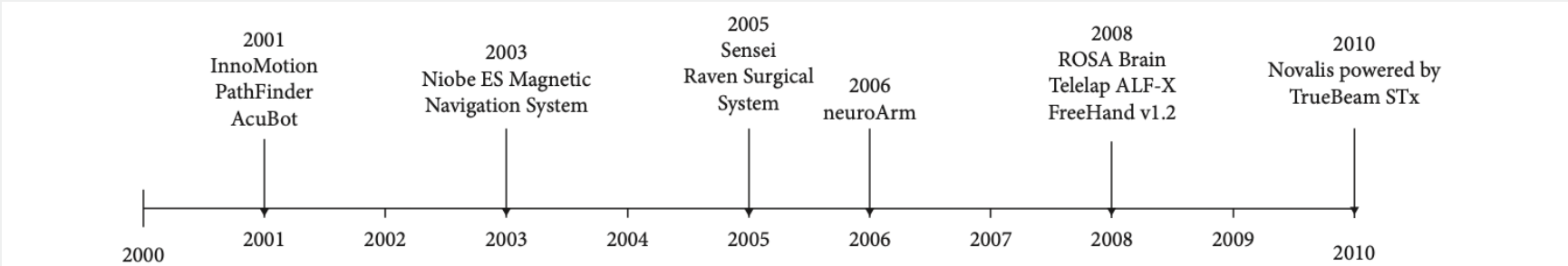


FIGURE 2: Decade II–timeline of robotic systems that signify the progress of the development curve of Robots in medical application.

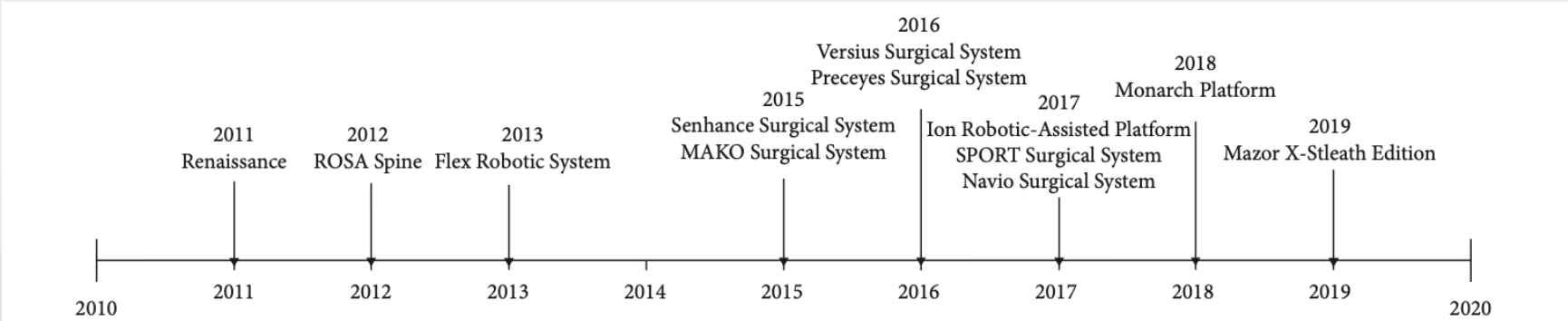


FIGURE 3: Decade III–timeline of robotic systems that show the recent advancement in the field of medical robots based on the advancement of technology and effort of three decades of research in this field.

T Ginoya et al., A Historical Review of Medical Robotic Platforms
Journal of Robotics Volume 2021, Article ID 6640031,
13 pages <https://doi.org/10.1155/2021/6640031>



Commercial surgical robotics trends

Five parts: the roster today · how fast it grew · where · specialty waves · the endovascular case.
Stats reflect robots, not companies.

Lots of bots, mostly on the way

Roster · the field at a glance; there are more: stealth and non-US companies evade detection

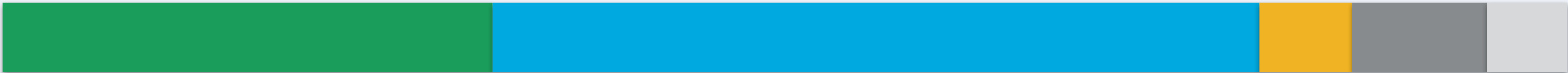
757
robots tracked

663
companies

237
on market

65
multi-robot companies

STATUS OF THE 757 ROBOTS

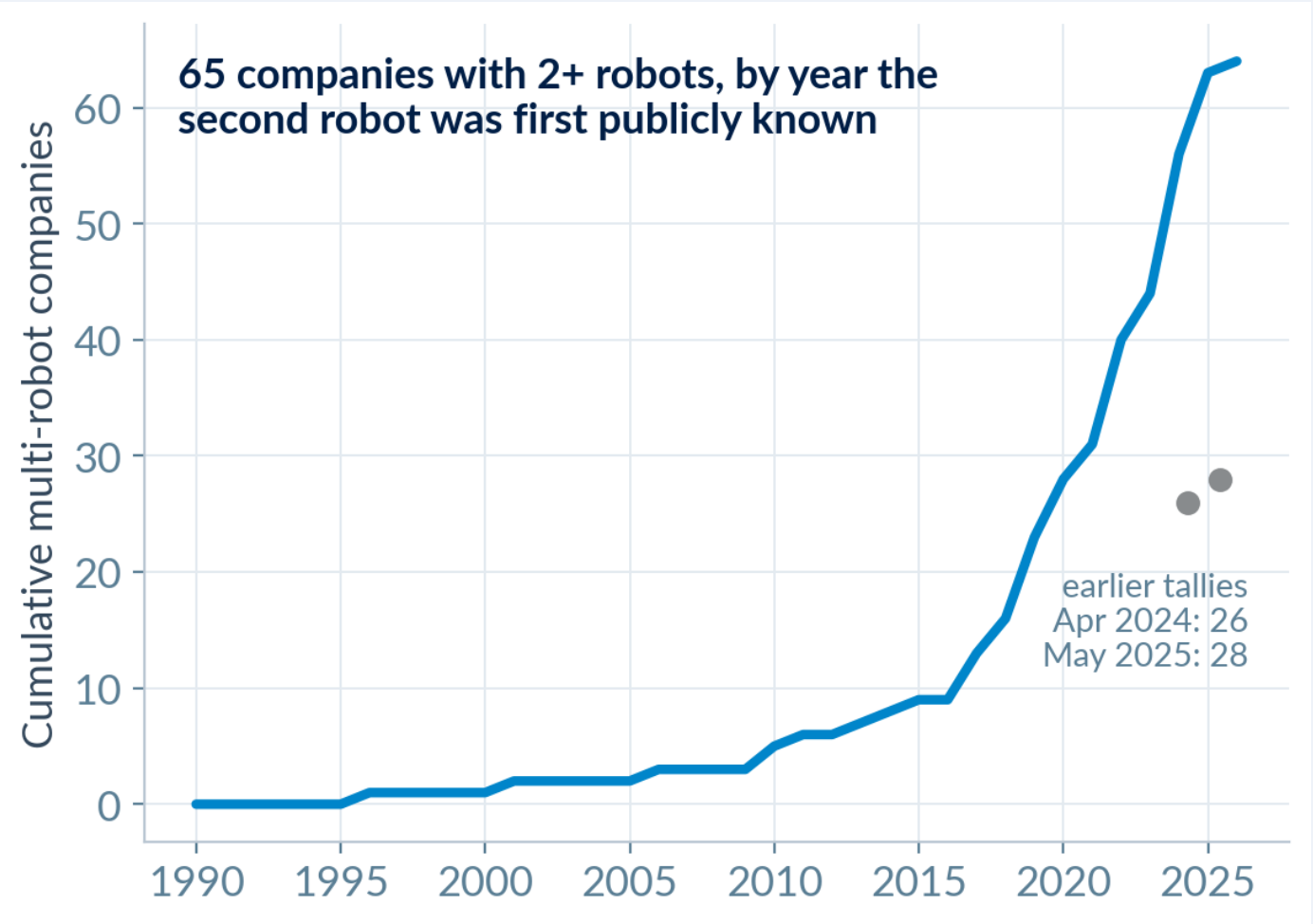


■ On Market (237) ■ Under Dev (371) ■ Acquired (45) ■ Dead (65) ■ Uncertain (39)

On Market re-verified against regulator databases & company disclosures. Rows are robots; companies counted once across multi-robot portfolios.

Multi-robot portfolios are mostly recent

Roster · sources: patent filings, FDA/NMPA submissions, press releases, papers; collected 8-11 Jul 2026



65 MULTI-ROBOT COMPANIES

10% of tracked companies field two or more robots

Dated by first public evidence for each second robot: patent filing, FDA/NMPA submission, press release, or paper

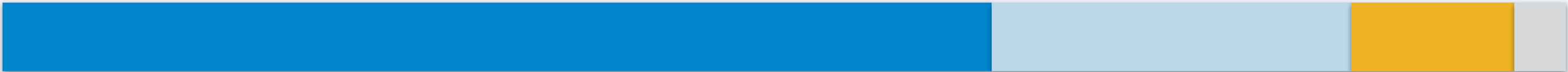
55% went multi-robot in 2021 or later; earlier edition tallies (26, 28) lagged detection

How they work

Roster · control philosophy across all 757 robots; teleoperation still dominates



CONTROL MODE OF THE 757 ROBOTS

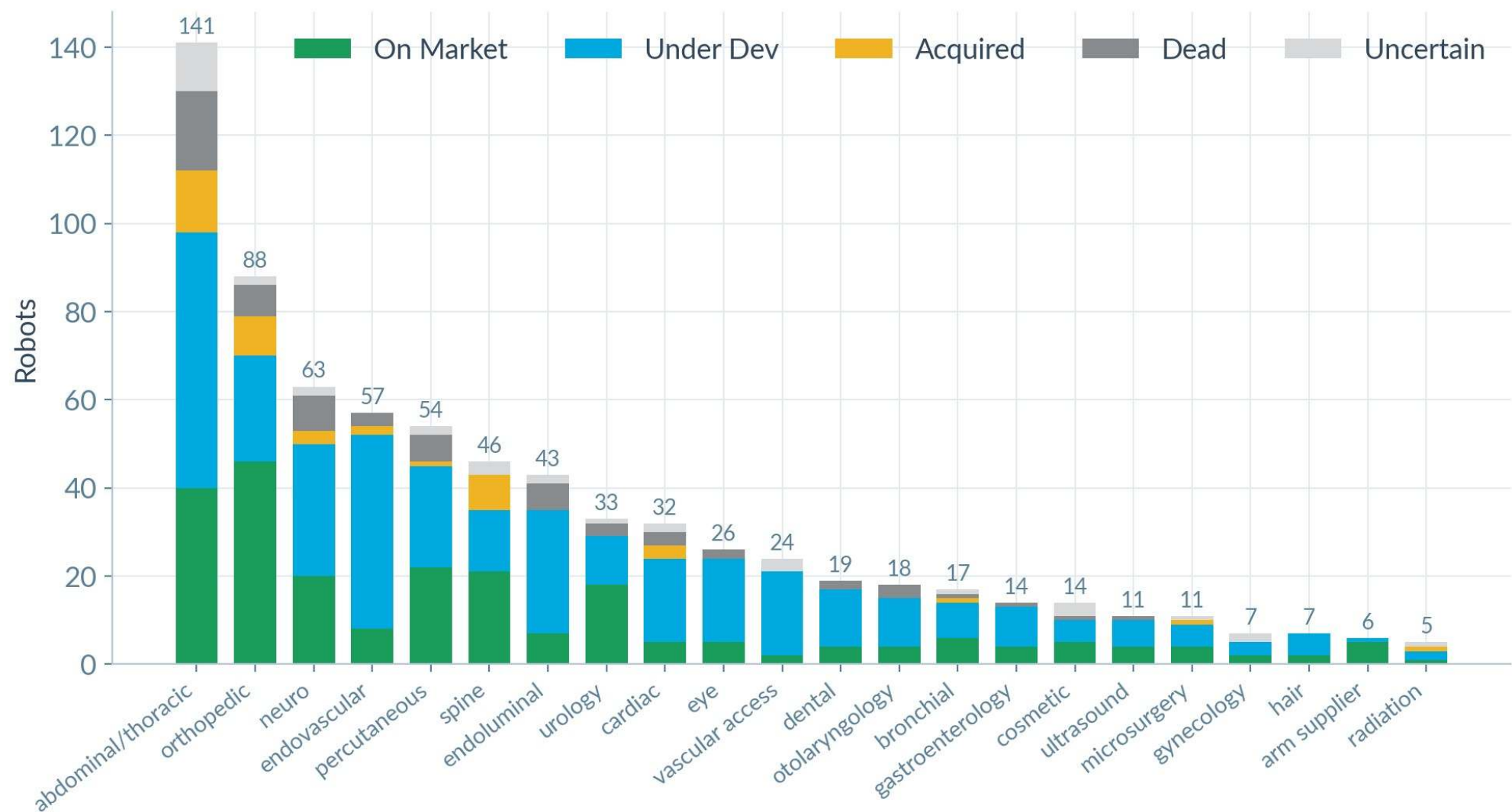


■ Teleoperation (479) ■ Preplanned (174) ■ Autonomous (79) ■ Handheld / manual / cooperative (25)

Autonomous roughly doubled since January (37→79), partly reclassification during re-verification, partly a real trend.

Focus is still predominantly in abdominal procedures

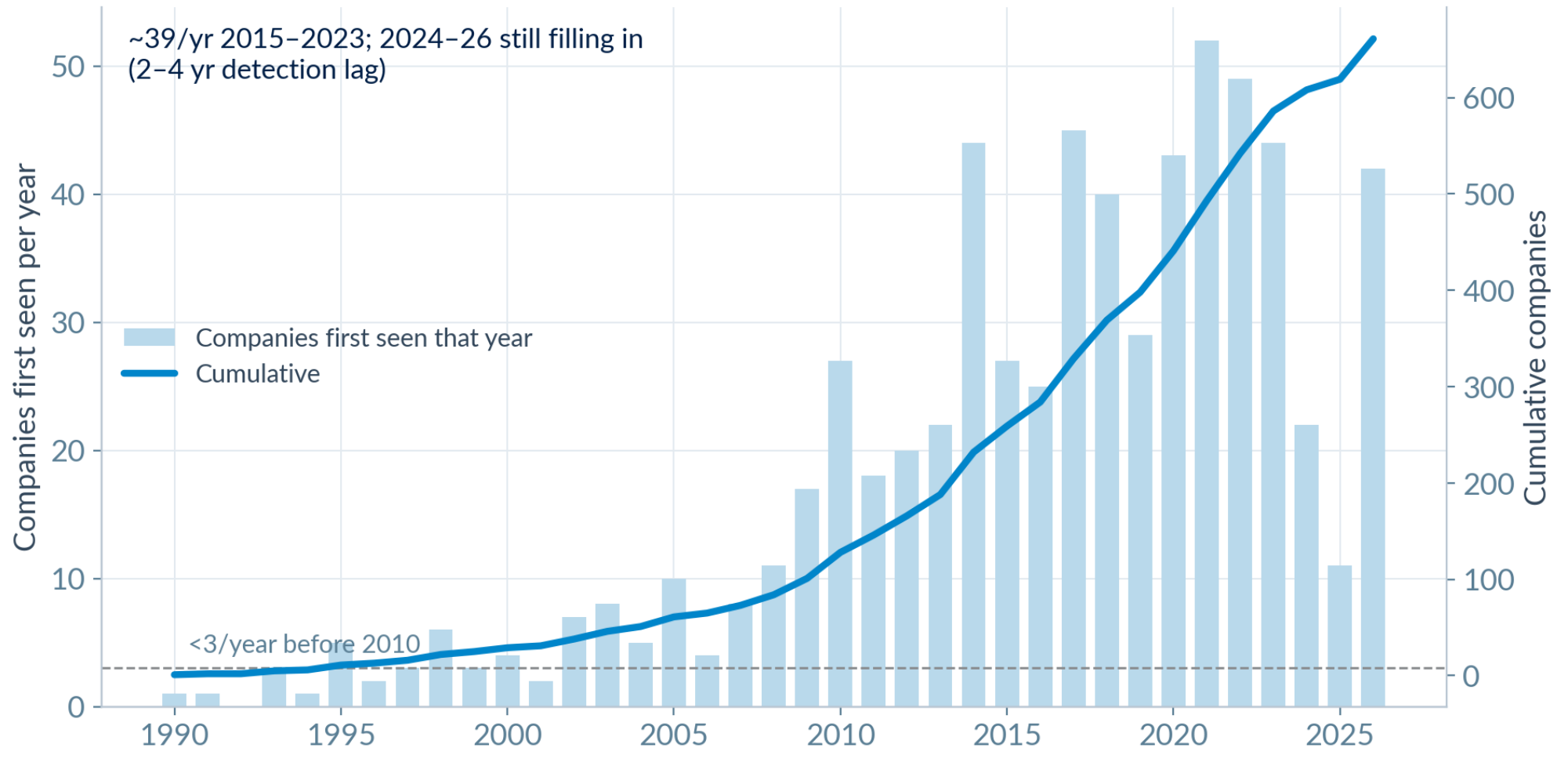
Roster · 757 robots by focus area, colored by status



141 ABDOMINAL / THORACIC
Orthopedic (88) and neuro (63) follow
A long tail of 32 focus areas
New categories since January: airway, regional anesthesia, trauma, podiatry, arm supplier

Company formation inflected around 2010

Growth · companies first seen per year, with the cumulative total



663 COMPANIES

Fewer than 3 per year before 2010

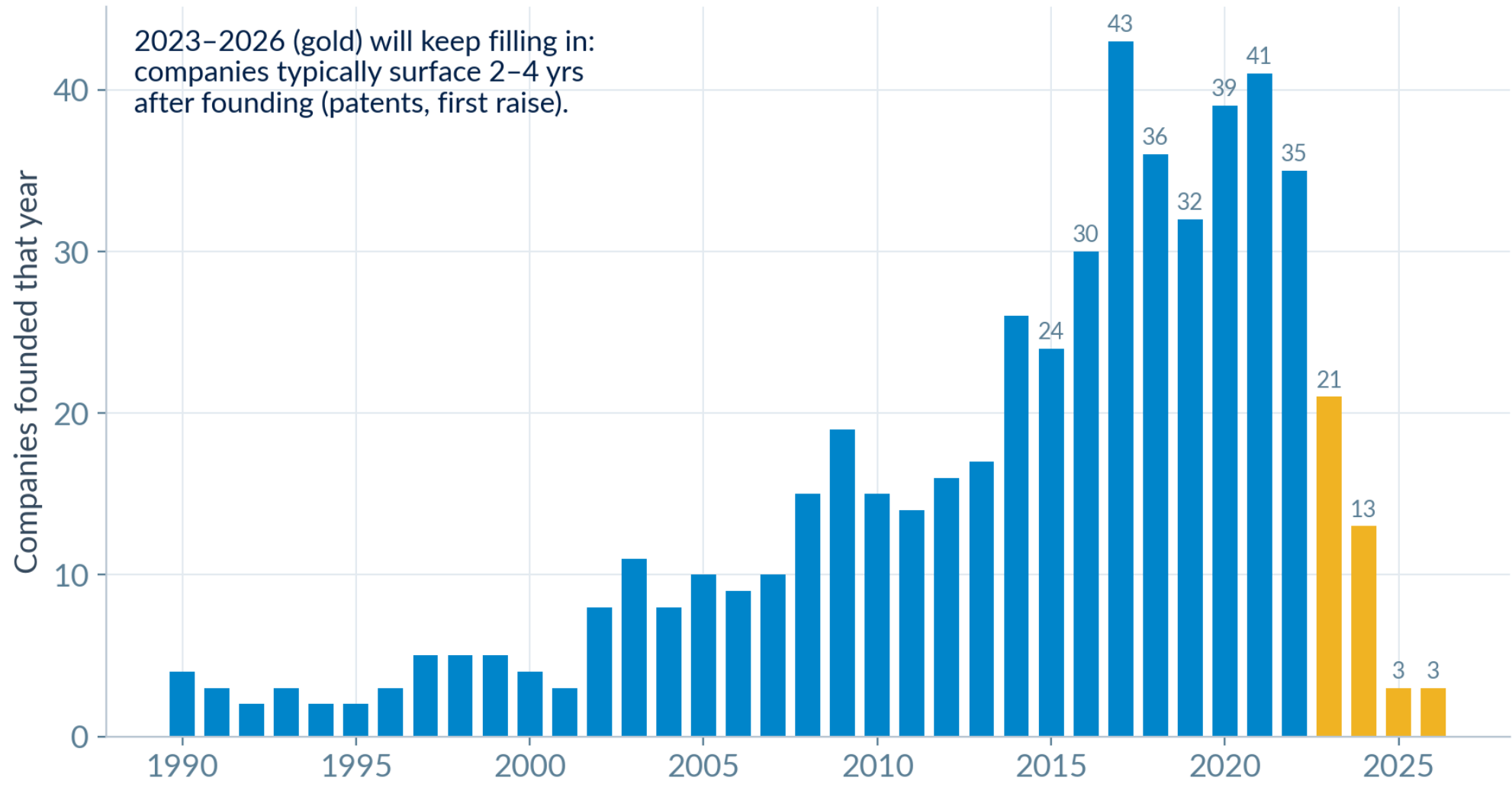
About 40 per year since 2015

2024-26 look low only because companies take 2-4 years to become detectable

2026 shows a bump because of improved detection which affects first year of detection

By founding year, the field is younger than it looks

Growth · companies by founding year; the Founded column is populated for 566 of 663 companies



DETECTION LAG

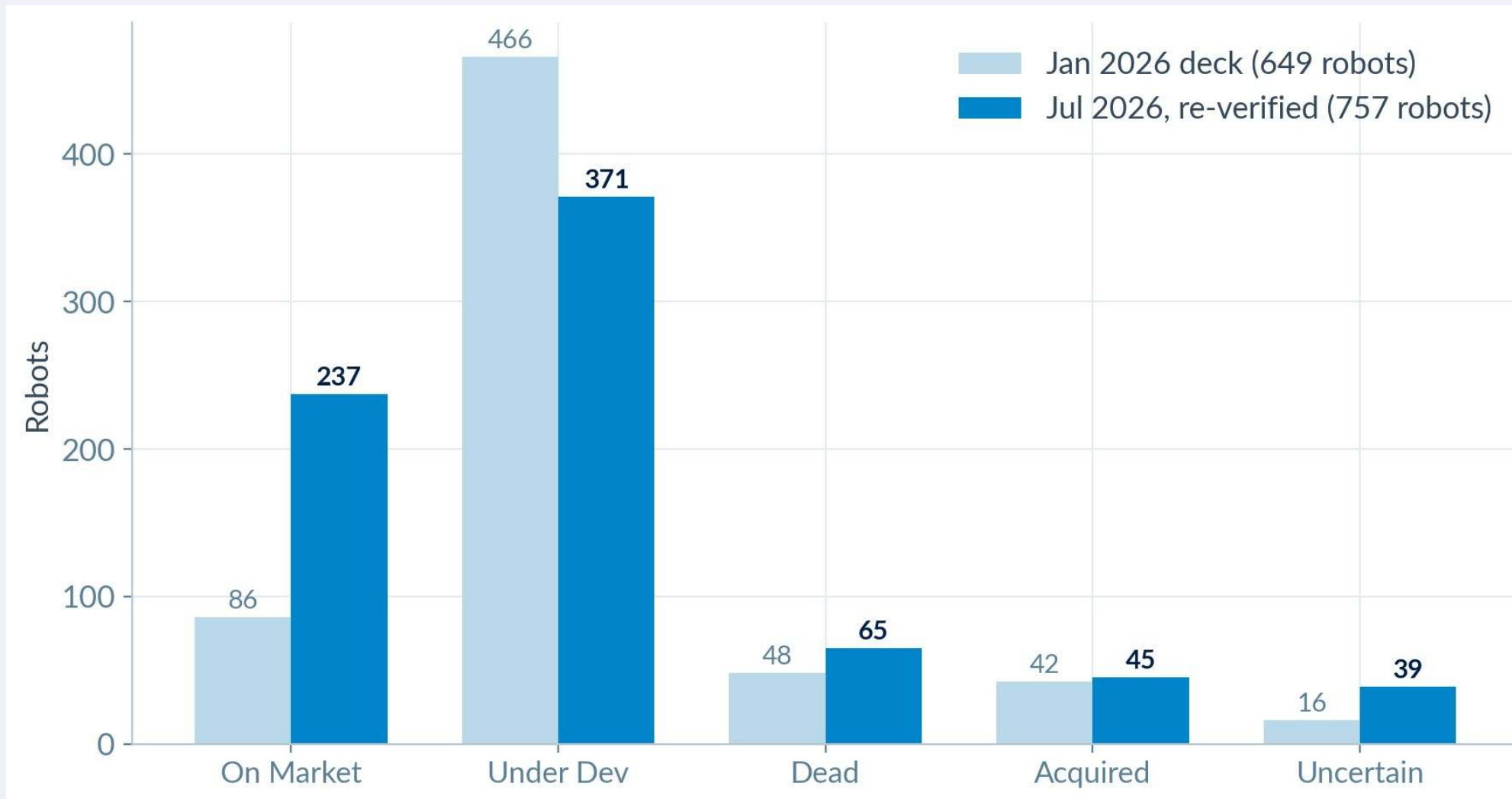
Companies typically surface 2-4 years after founding

First signals are patents and first raises, which lag incorporation

Expect the 2023-2026 bars to keep growing in future editions

The commercial wave is bigger than it looked

Growth · re-verifying every company tripled the on-market count; China's approvals were undercounted



86 → 237 ON MARKET

What changed

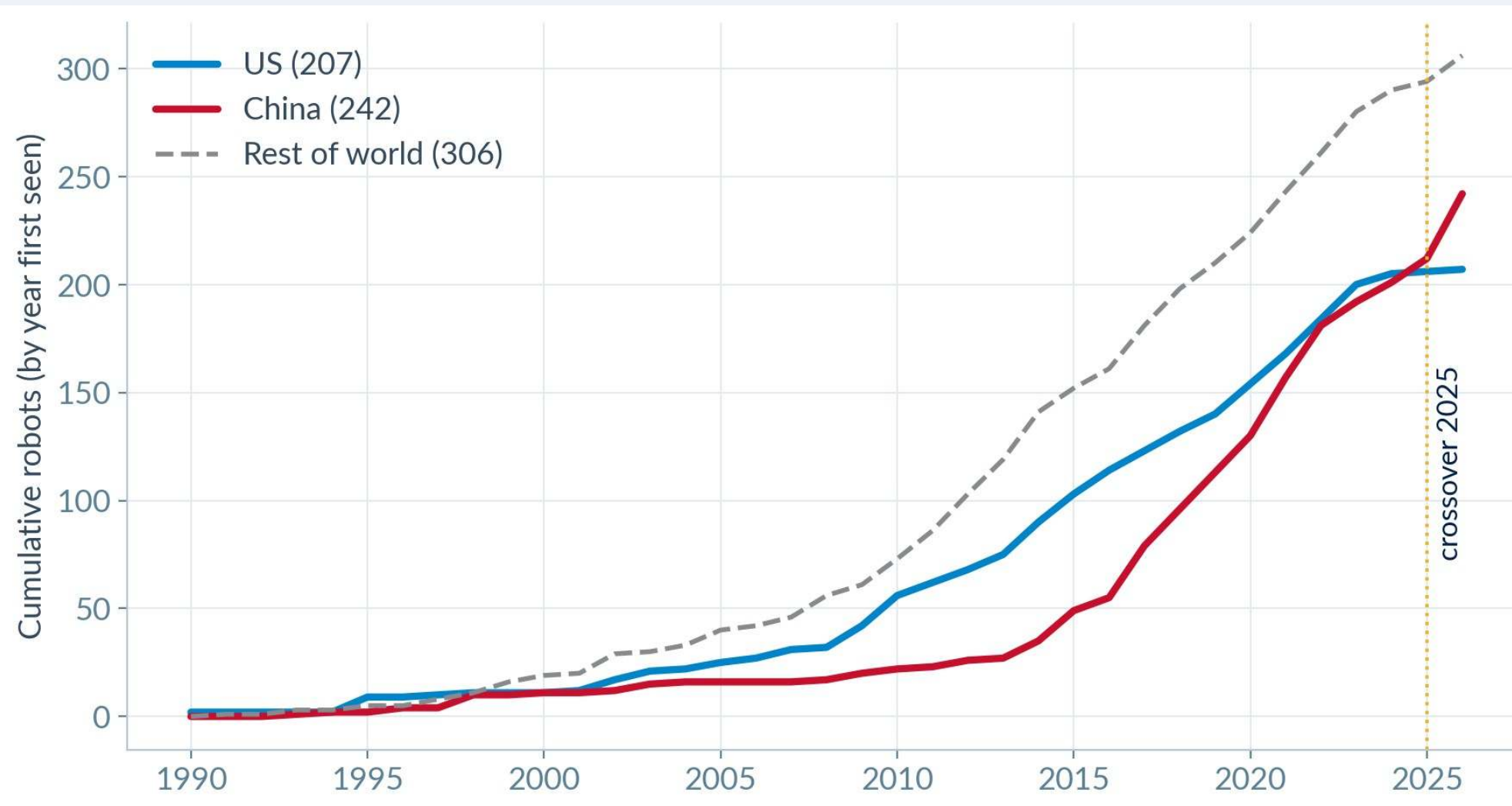
Jul 1-2 re-verification checked every row against NMPA/FDA/CE records and company disclosures

Many Chinese systems had approvals & installs that never made English-language press

Dead (48→65) and Uncertain (16→39) also grew, attrition was undercounted too

China surpassed the US in total surgical robots

Geography · cumulative robots by year first seen, China 242 vs US 207 today



242 vs 207

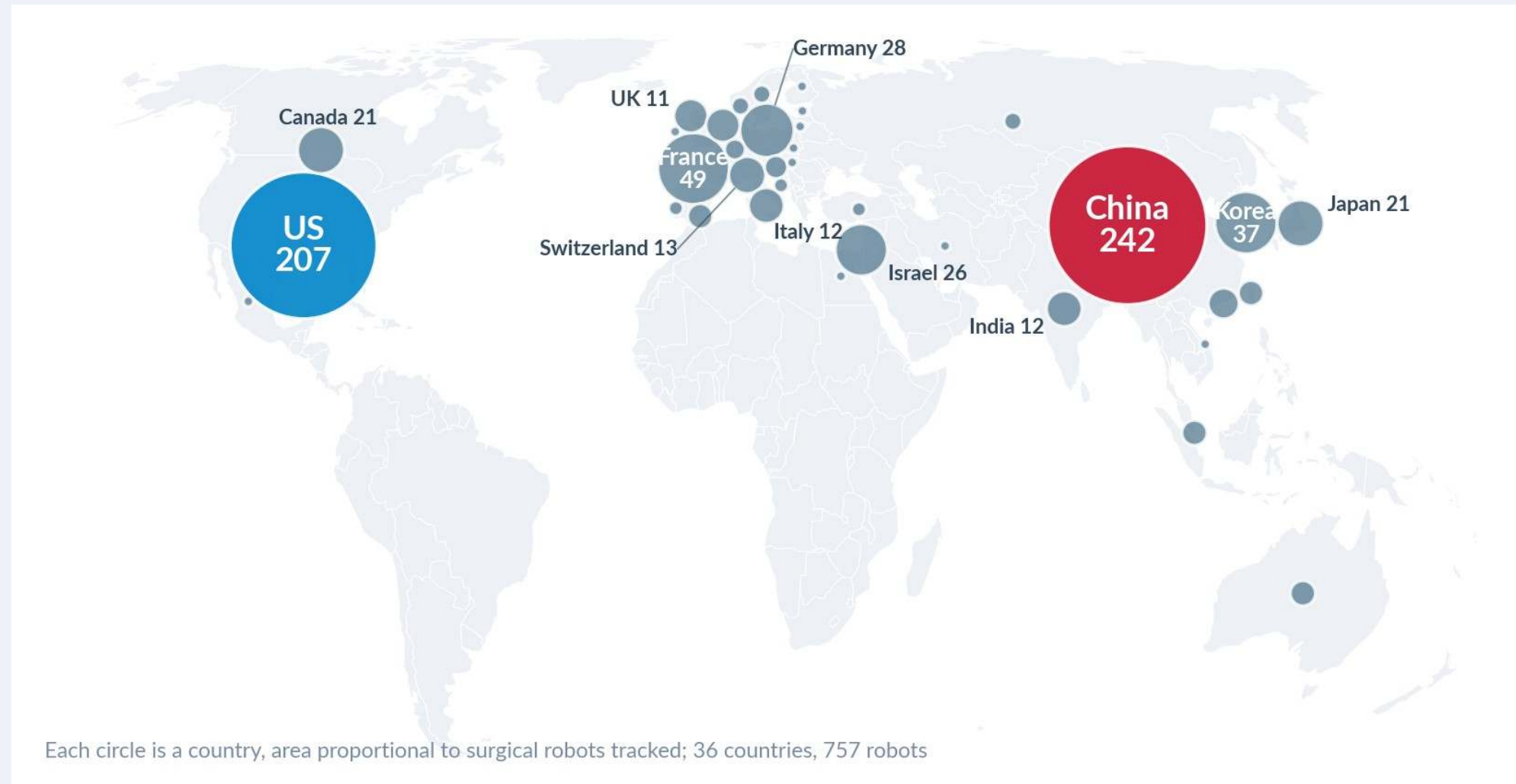
China vs US robots

There is detection lag in the US/China counts

Company-level counts mirror this crossover; detection lag on Chinese companies means the true gap is likely wider

Robots by country of origin

Geography · each circle is a country, area proportional to robots tracked



36 COUNTRIES

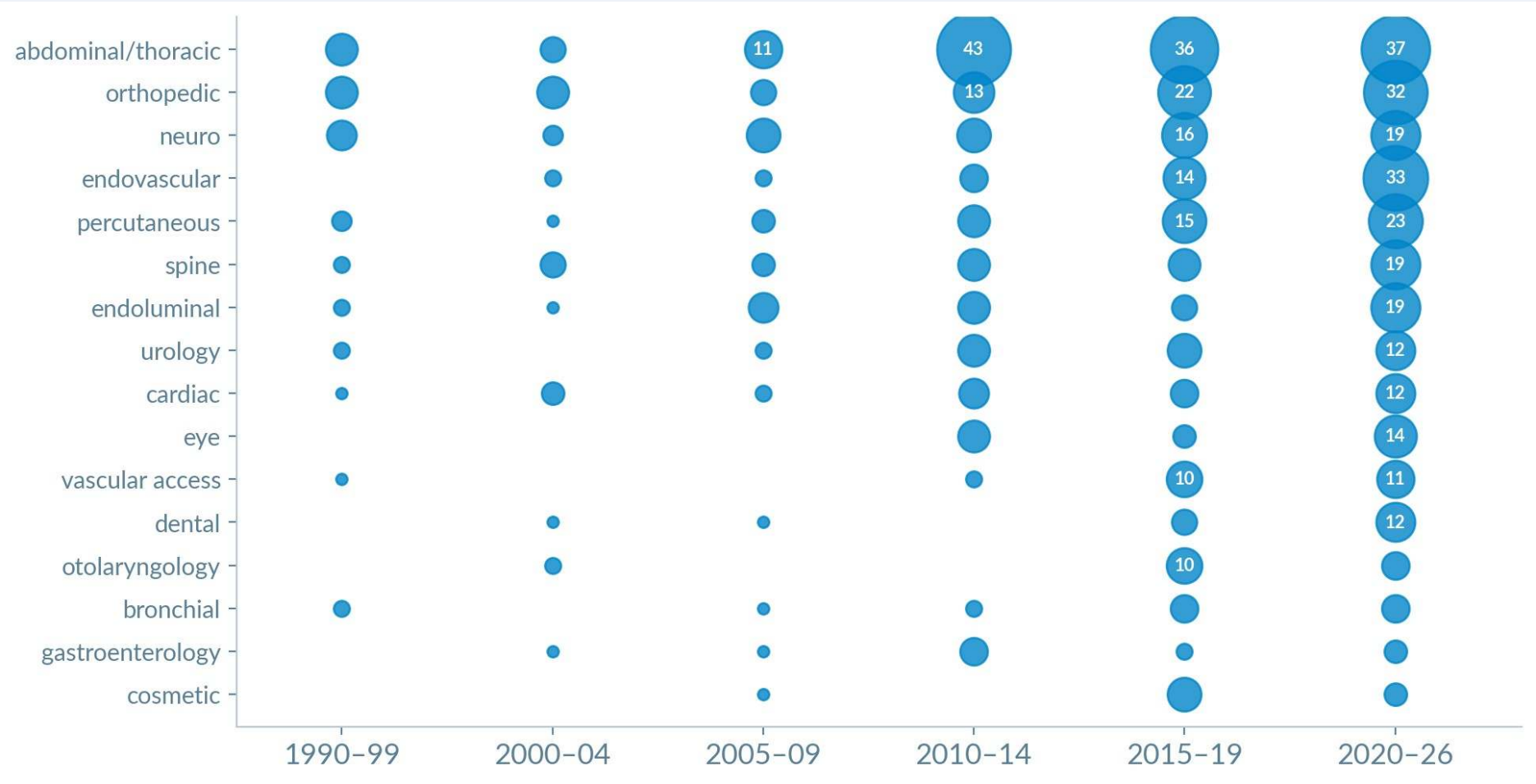
US + China = 59% of all robots

France (49), Korea (37), Germany (28) lead the tail

China's share of new robots by era: 13% through 2014, 40% in 2015-19, 44% since 2020

Global specialty robots development start

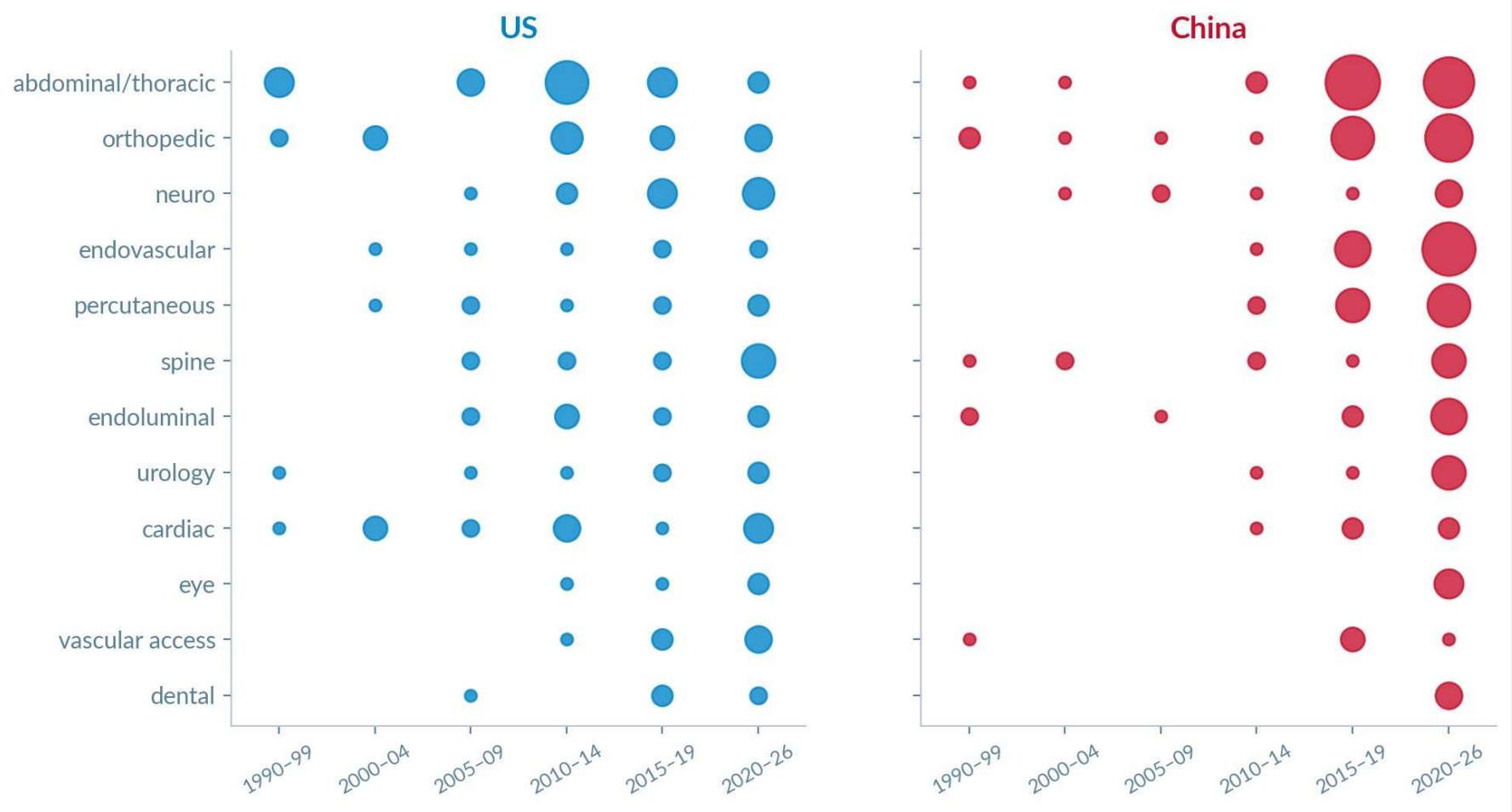
Specialty waves · Tufte-style period matrix; dot size = robots first seen in that period



Read across a row to see when each specialty became active; read down a column to see what each era produced.

China and US robots begun by specialty

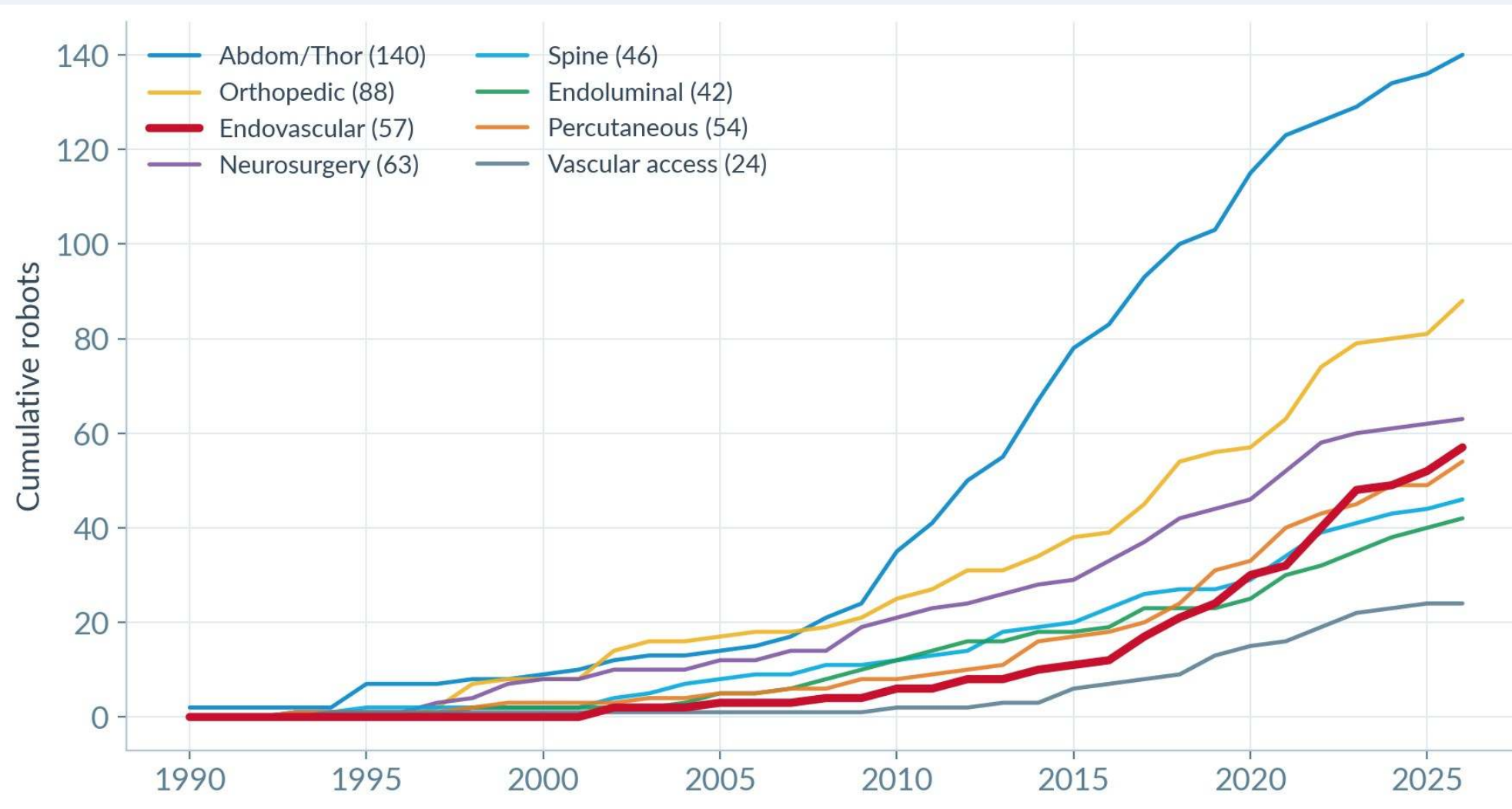
Specialty waves · side-by-side period matrices; dot size = robots first seen



The US spreads across specialties and decades; China concentrates hard in 2015-2026, especially abd/thor, endovascular, percutaneous and orthopedic.

One specialty breaks the pattern

Endovascular case · cumulative robots by specialty; one curve does not fit the pattern



57 ENDOVASCULAR ROBOTS

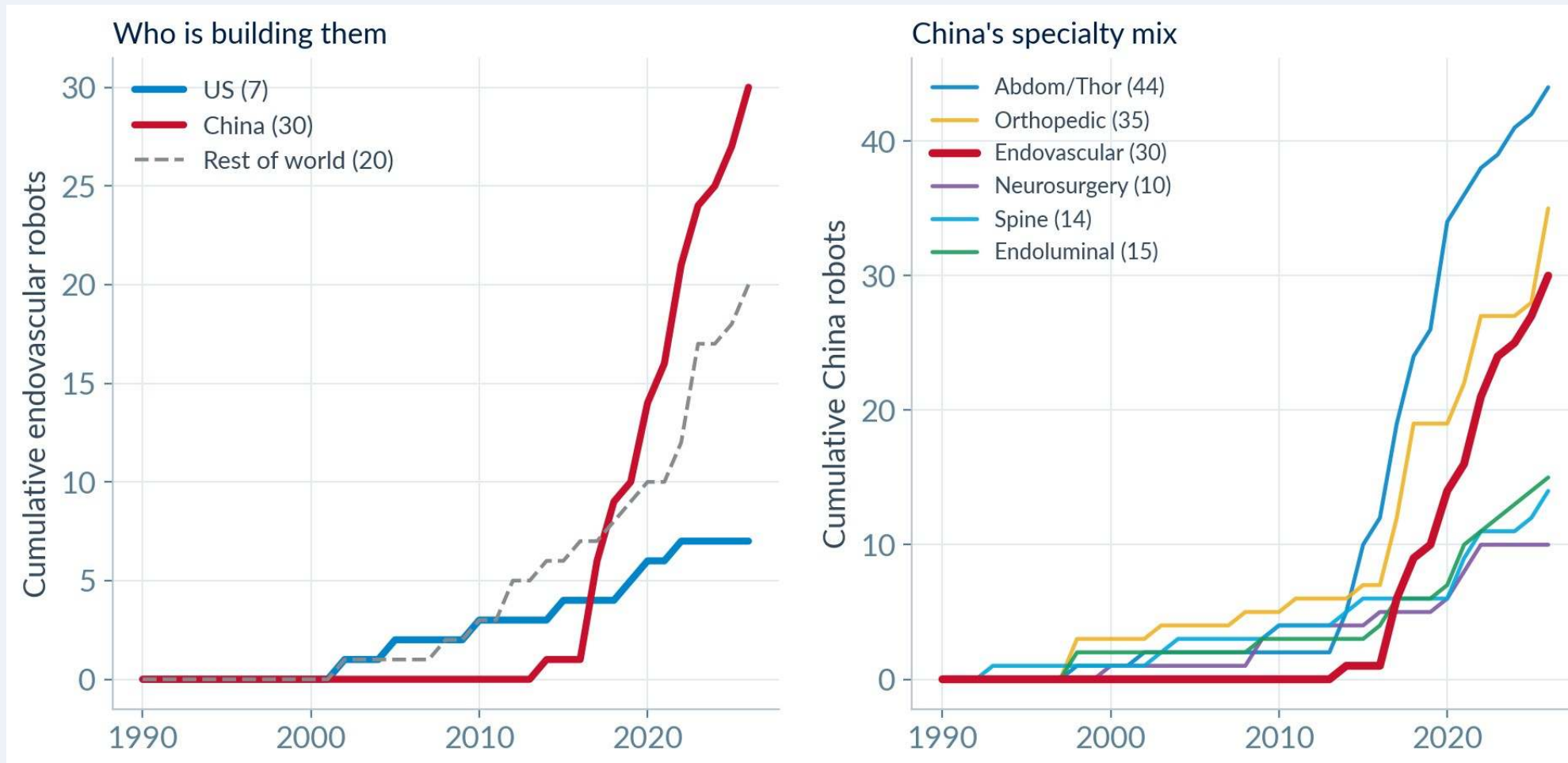
Roughly 3/4 began after 2015

The steepest specialty curve of the last decade

China drives the spike; next slide

China accounts for the majority of the endovascular increase

Endovascular case · attribution in two views: who is building them, and China's specialty mix



CHINA'S WAVE

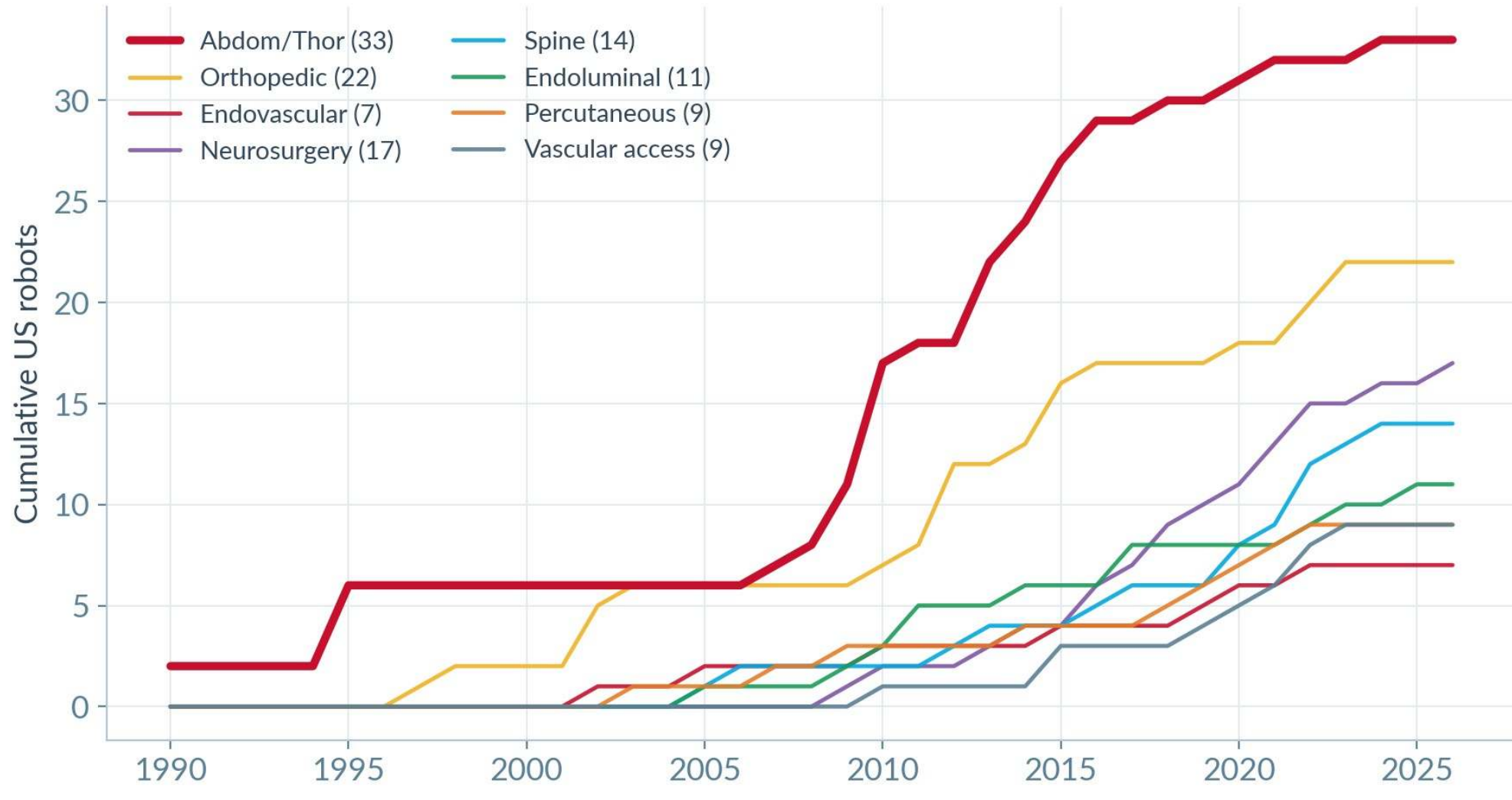
Endovascular was a US and EU niche until about 2015

China's curve bends sharply upward from 2018

Within China, endovascular is among the steepest specialty curves

US: abdominal/thoracic wave, steady orthopedic growth

Endovascular case · the US contrast: cumulative US robots by specialty

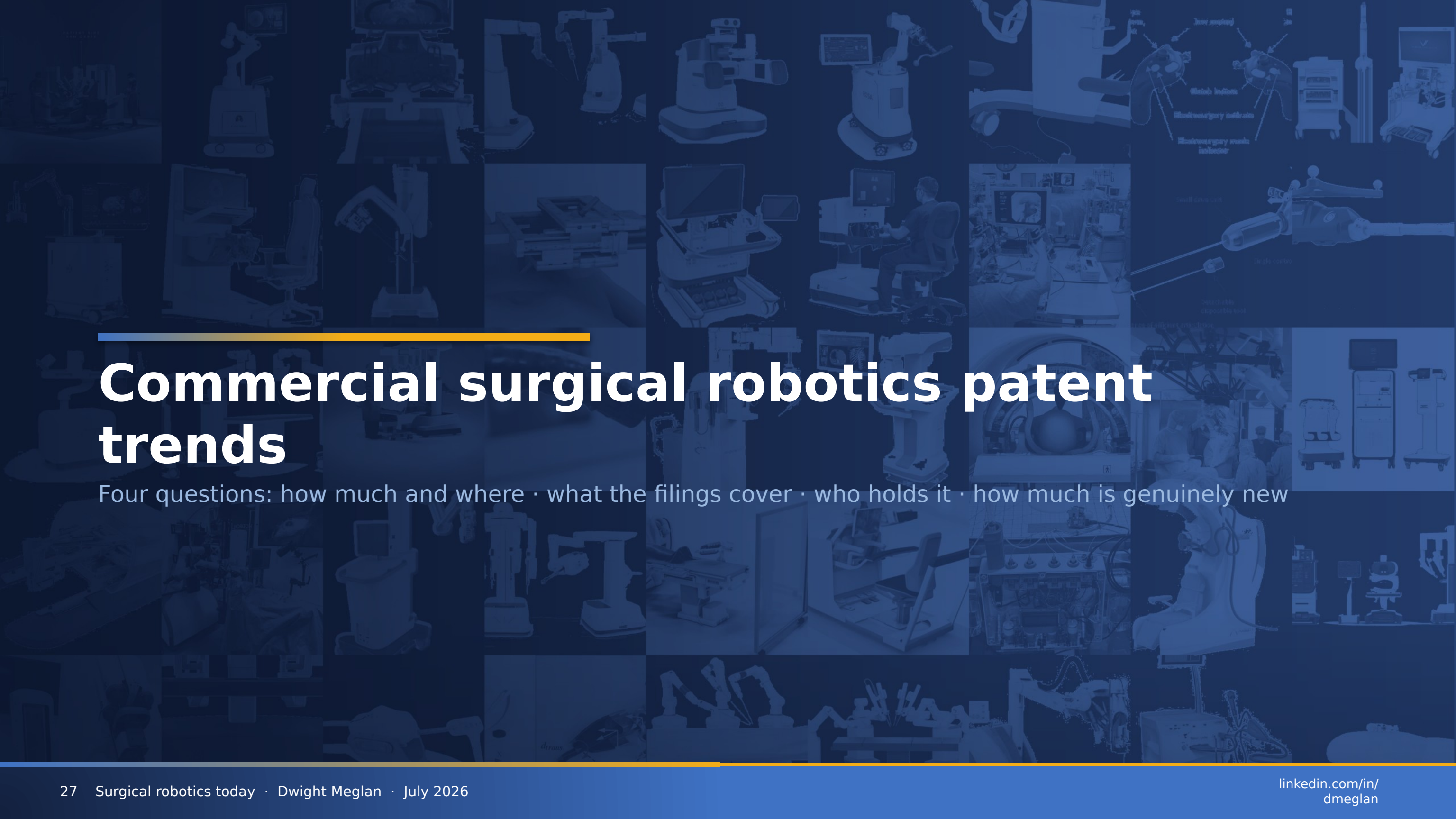


US PATTERN

Abdominal/thoracic keeps compounding despite the da Vinci incumbency

Orthopedic growth has been steady

Endovascular stays a modest US category, the contrast with China is the story

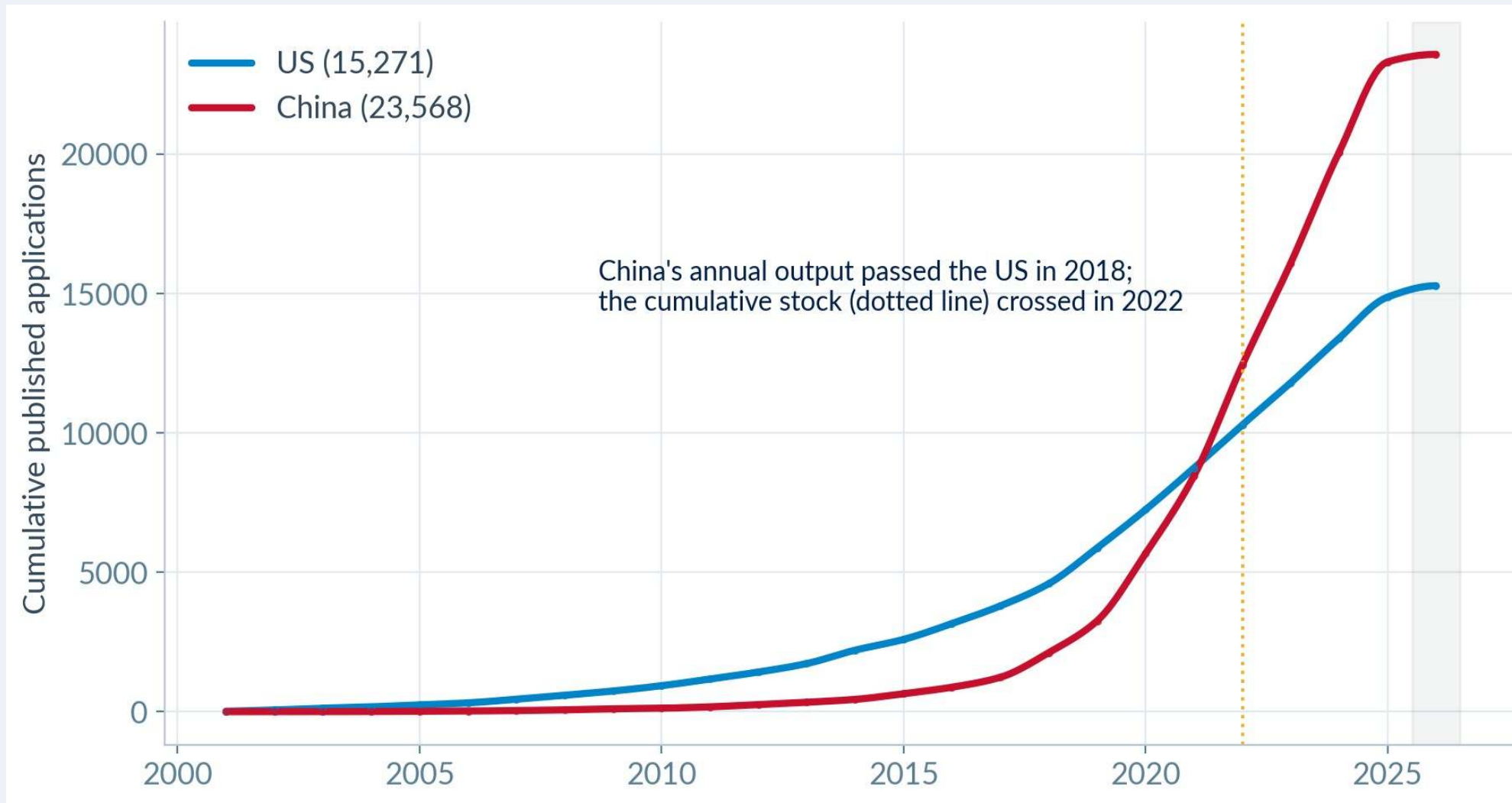


Commercial surgical robotics patent trends

Four questions: how much and where · what the filings cover · who holds it · how much is genuinely new

Overall surgical robotics patent applications: US & China

Cumulative published applications, A61B34/30 incl. subgroups, like-for-like basis, refreshed 7 Jul 2026



23,568 vs 15,271

China vs US cumulative applications

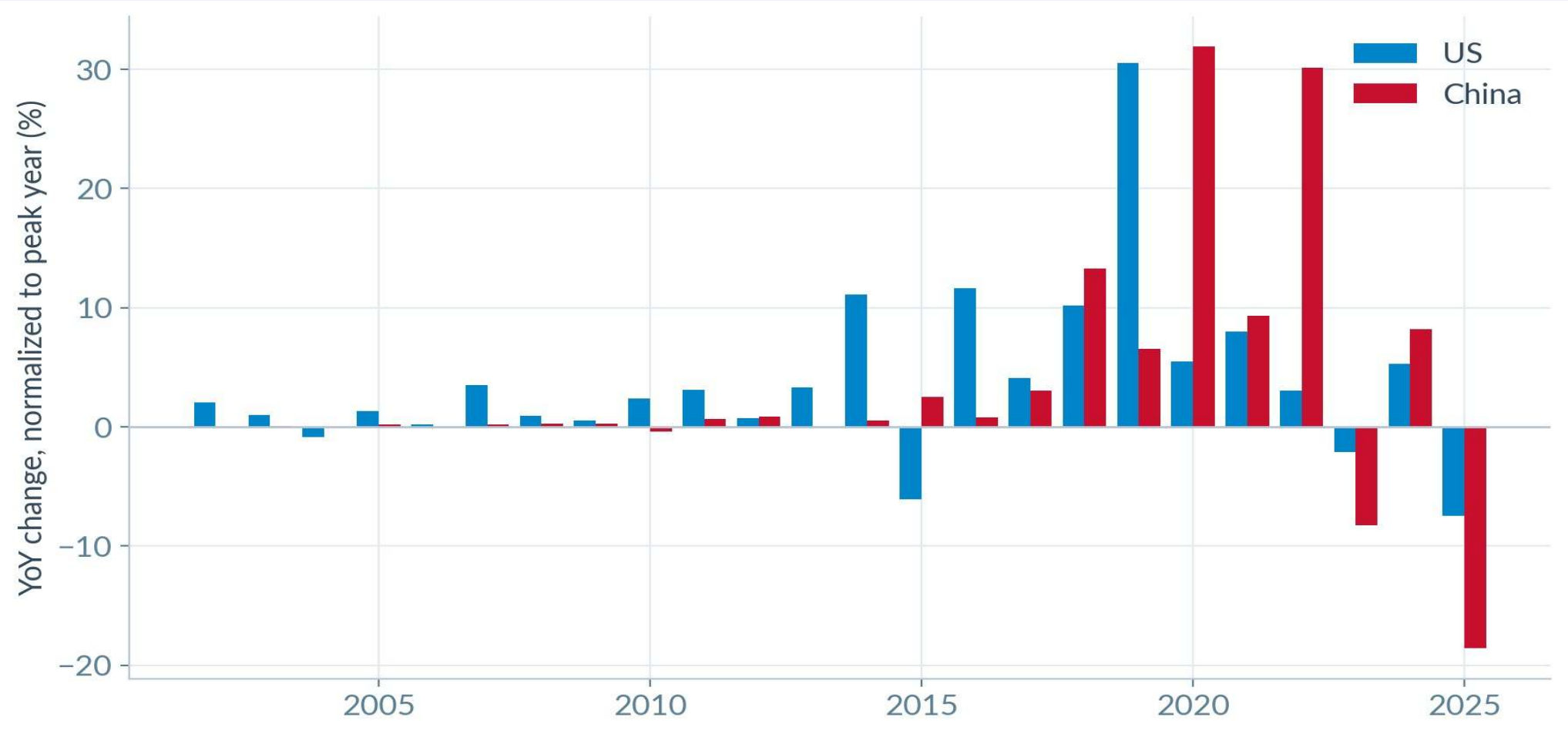
China's annual output passed the US in 2018; the cumulative stock crossed in 2022

Earlier editions mixed counting bases and overstated the gap; like-for-like it is ~2.5x and widening

Source: Google Patents result counts, q=(A61B34/30) country:US/CN, applications only, by publication year; collected 7 Jul 2026

US & China patents: normalized year-on-year change

$(\text{Year}[n] - \text{Year}[n-1]) / \text{peak year}$, normalized to each country's maximum



CHINA'S MOMENTUM

China's filing rate grew faster than the US rate in most years since 2010

Both countries decelerate after their peaks: China 2022, US 2024

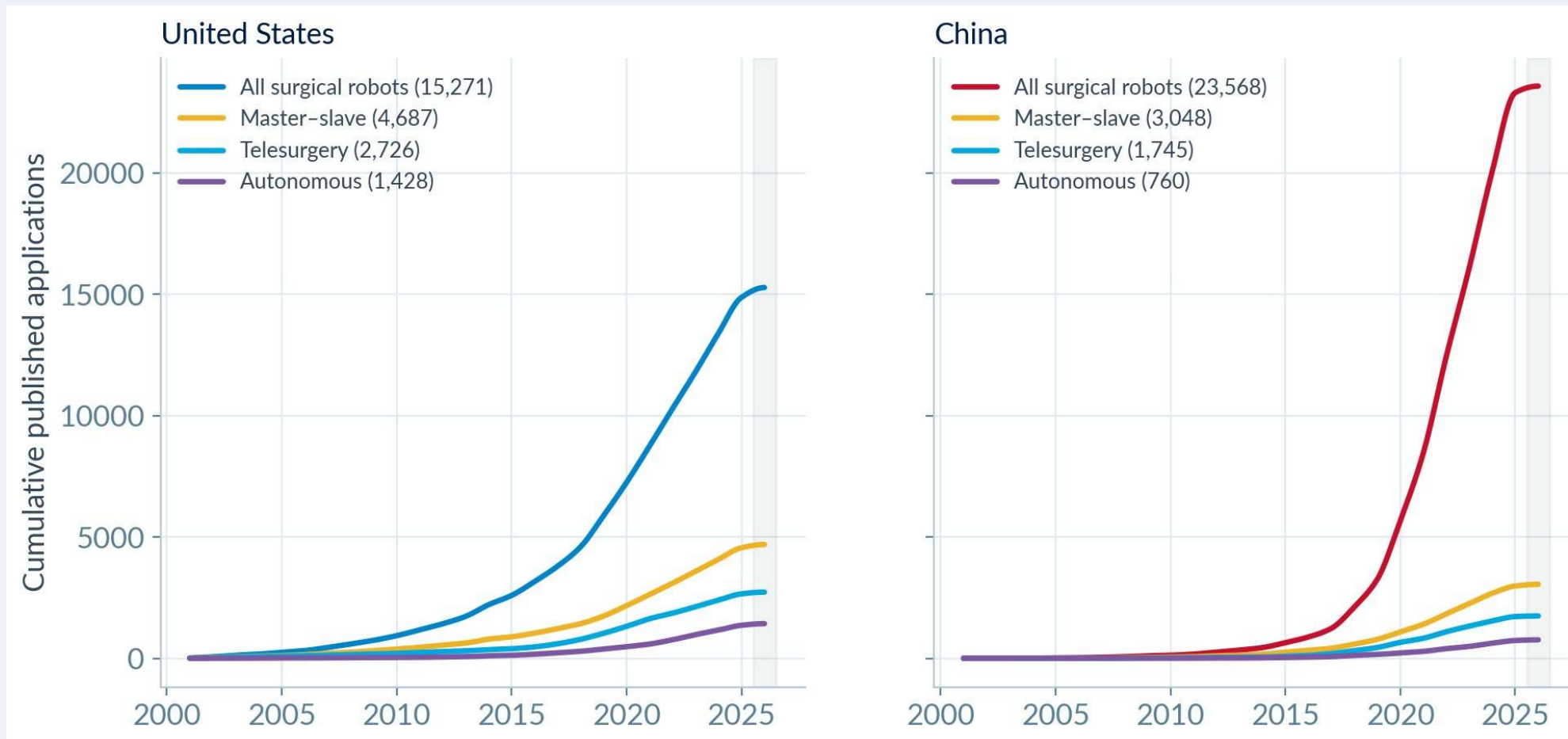
2023-2025 values are understated by the ~18-month publication lag; treat recent bars as provisional

Source: Google Patents counts, same query as the previous slide

Normalization anchors: US peak 1,595 published applications (2024); China peak 3,980 (2022). 2026 excluded (partial year).

What the filings cover: US and China by CPC subgroup

Cumulative published applications by CPC subgroup; both panels share the same vertical scale. Source: Google Patents result counts, $q=(A61B34/3x)$, applications only, by publication year; collected 7 Jul 2026



SAME CATEGORIES, DIFFERENT SCALE

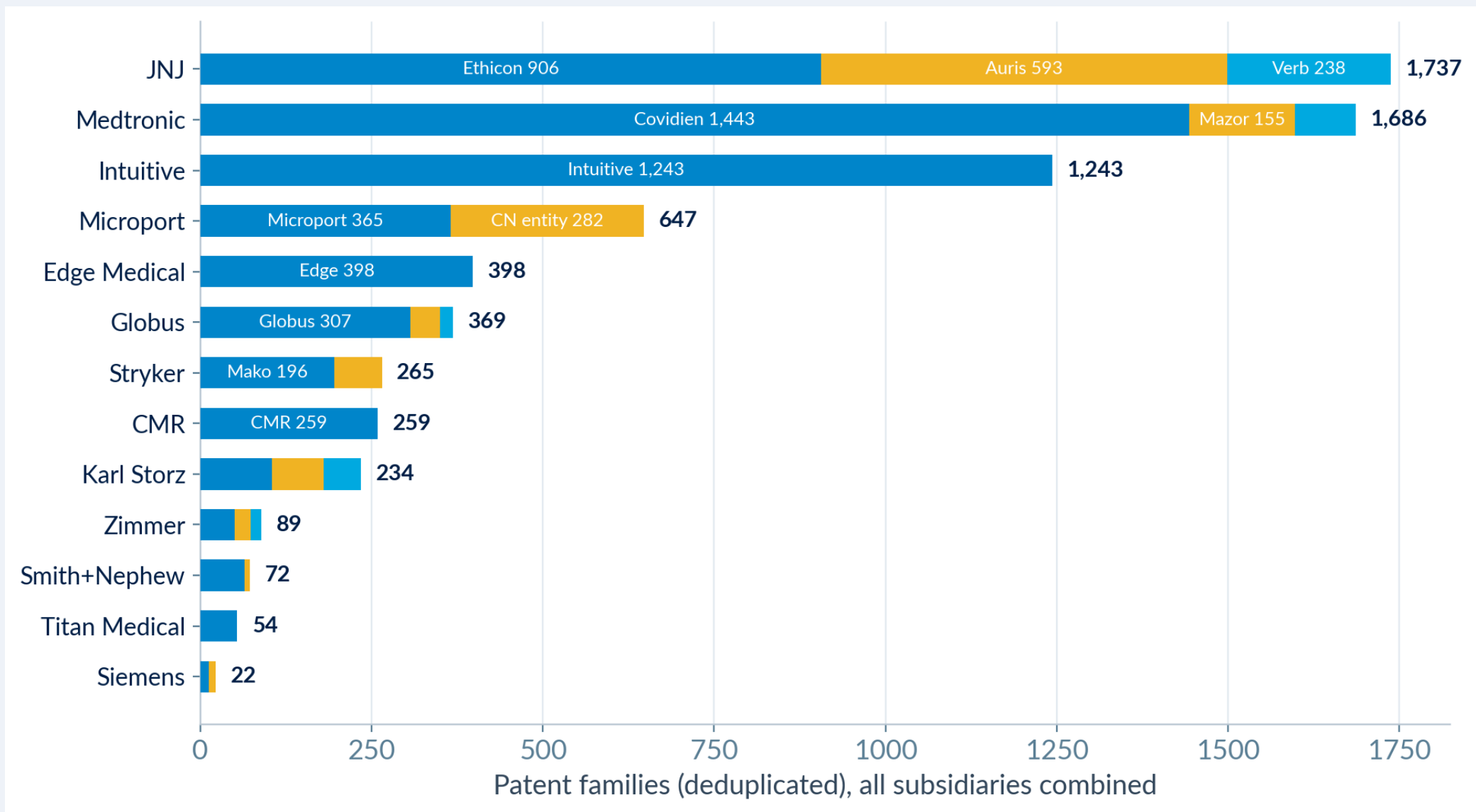
All surgical robots (34/30 incl. subgroups), master-slave, telesurgery, autonomous

China's curves accelerate the most after 2018

Source: Google Patents result counts, $q=(A61B34/3x)$ with country and status filters, by publication year; collected 7 Jul 2026; 2026 is first-half only

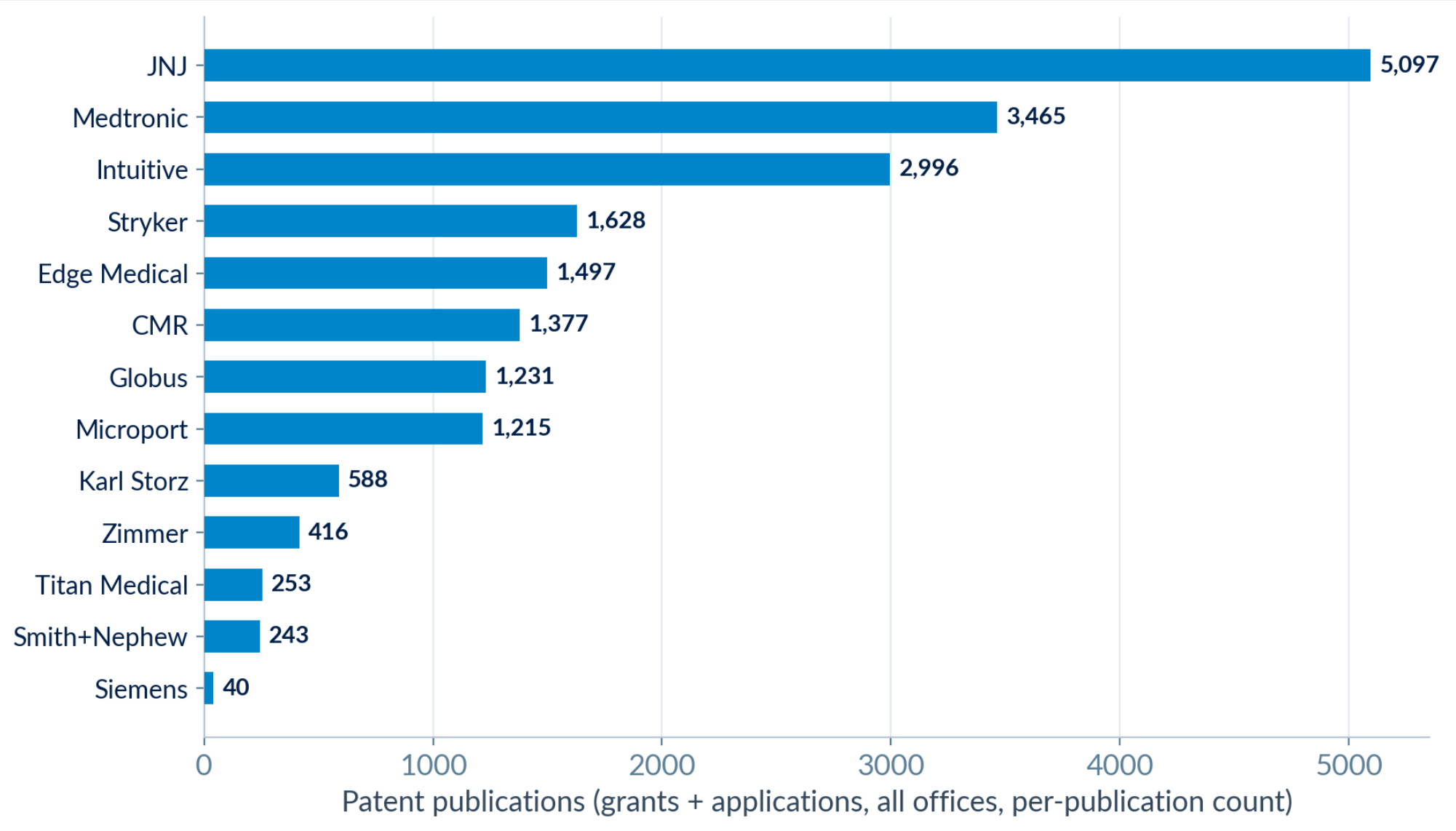
For IP, you need to count all the parts

Patent families by holder, subsidiaries stacked separately. Source: Google Patents result counts, TI/AB/CL=(surg* NEAR/3 robot*) per assignee, family-deduplicated; collected 12 Jul 2026



While there have been many patents published...

Publications (grants + applications, all offices) for the largest holders. Source: Google Patents result counts, per-publication mode; collected 12 Jul 2026



RAW VOLUME

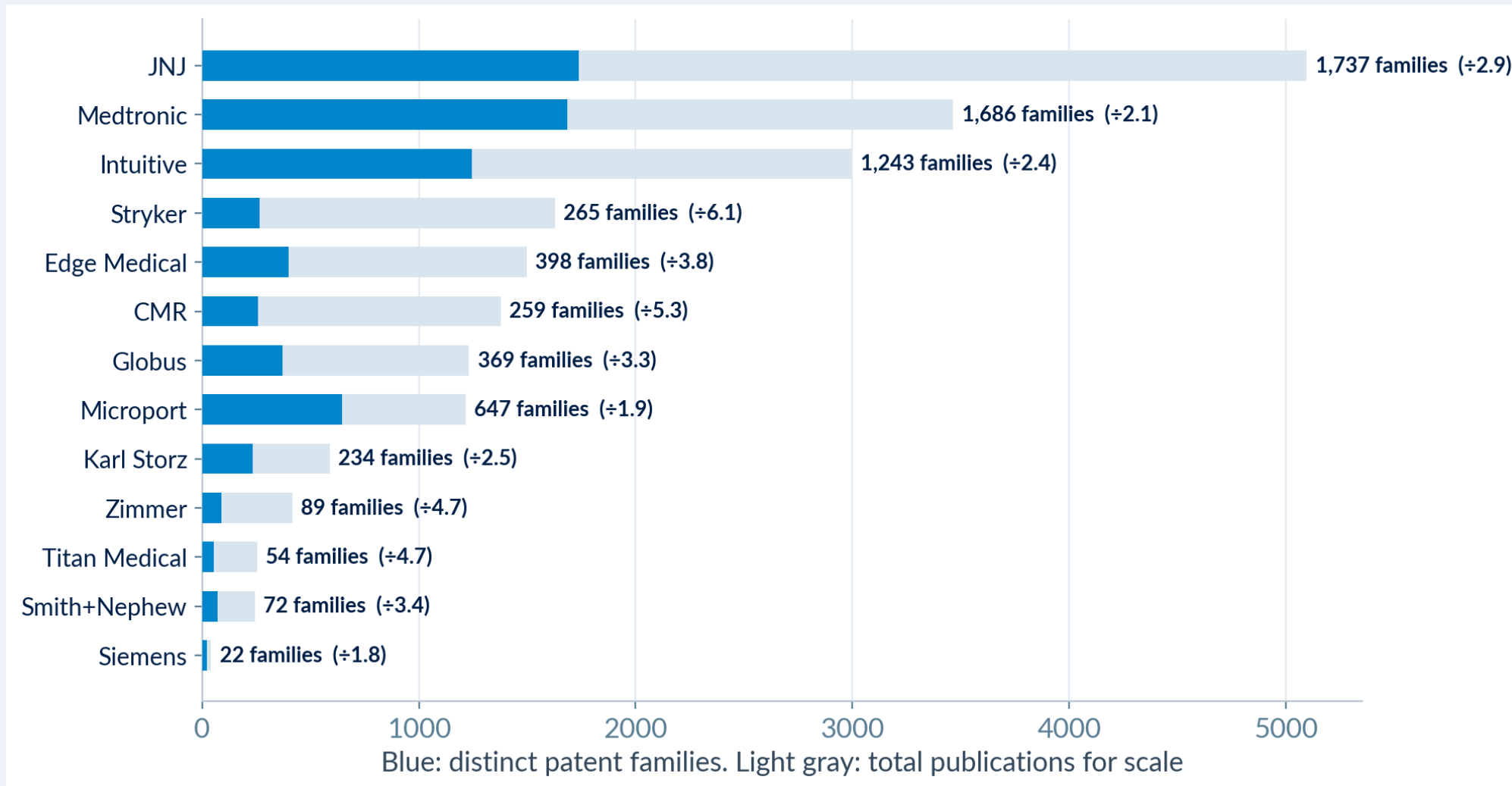
JNJ group (Ethicon + Auris + Verb): 5,097 publications; Intuitive alone: 2,996

Publication counts include every office and every continuation

Volume alone overstates novelty, next slide
Source: Google Patents, collected 12 Jul 2026

...many are extensions of existing IP

Distinct patent families vs total publications, same query. Source: Google Patents result counts, family-deduplicated vs per-publication; collected 12 Jul 2026



FAMILY-LEVEL VIEW

Families run 2.5x to 6x below publication counts (Stryker 6.1x, CMR 5.3x, Intuitive 2.4x)

JNJ group: 1,737 families across Ethicon, Auris, and Verb

For diligence, count families and claims, not publications

Source: Google Patents, collected 12 Jul 2026



Examples of surgical robots in different specialties

Pictures shown not remotely comprehensive: intentionally chosen to provide historical perspective
Note that DEAD classification refers to the robot, not necessarily the company

Abdominal / Thoracic

Representative examples



Abdominal / Thoracic

141 robots from 127 companies

34

ON MARKET

Agibot Medtech
AKTORMed
Applied Dexterity
Asahi Surgical Robo...
CMR Surgical
Cornerstone Robotics
Dextérité Surgical
Distalmotion
Edge Medical Roboti...
FreeHand Surgical
Genesis MedTech Gro...
HIWIN Technologies ...
Huger Medical Robot...
HumanTouch Surgical
Innolcon / 以诺康
Intuitive Surgical
JNJ MedTech
Levita Magnetix
LivsMed
Meere Company
Merai Newage
Moon Surgical
Parallel Robotics L...
Precision Robotics
Ronovo Surgical / 瑞...
Sagebot / 思哲睿

Sina Robotics and M...
SS Innovations
Tuebingen Scientifi...
Tuodao Medical
United Imaging Surg...
Virtual Incision Co...
Weigao Group / 威高集团
Wise King / 唯精医疗

52

UNDER DEV

Accrea Medical Robo...
All-Star Medical
Aopeng Medical / Op...
Apeiron Surgical / ...
Articulus Surgical
Asvel OÜ
B Braun New Venture...
Baining Yingchuang ...
Borns Medical Robot...
Canady Robotics
DEKA Research & Dev...
Denovo Bioinnovatio...
Doosan Robotics
Eabmed Science and ...
Erbe Elektromedizin...
Fulbright Medical
Gamania Digital Ent...
IMRobonix
Jinshan Science & T...
Kirubotics Surgical...
LapTics Surgical
Macheon AI
Maituo Medical
Mars Medical Robot
Meike Electronic Eq...
Micron Shiga / 株式会社...

MindAdvance Medical...
Mindray / 迈瑞医疗
Nikkotech
NISI
Noahtron Intelligen...
Nuclear Medical Rob...
Olympus Corporation...
Optosurgical, LLC
Panther Healthcare ...
Rainbow Robotics / ...
Revolve Surgical
Rob Surgical System...
Ruida Medical Devic...
Scichip Robotics
Shengzhi Medical / ...
Shukra Robotics Pvt...
Steerable Instrumen...
Symphera GmbH
Titan Medical / Con...
Tuge Healthcare
ValueBioTech S.R.L.
Vicente Medical Rob...
Viestar
VinSurgical
XSurgical Robotics
Yinuoda Medical / 易...

13

ACQUIRED

Asensus Surgical
Auris Health / JNJ
Computer Motion
Covidien
Endocontrol SA
Gomtec / ABB
Great Belief Intern...
Human Xtensions
JNJ Ethicon Endo-Su...
Medical Surgery Tec...
SOFAR S.p.A.
TransEnterix
Verb Surgical

11

UNCERTAIN

Assisted Surgical T...
B Braun
Ekymed
EndoRobotics, Inc.
Kexhixing Robot
Medsys SA
Modular Surgical
Movasu
Shuchuang Robotics
SRI International
Virtu Surgical

17

DEAD

Agile EndoSurgery
American GNC Corpor...
Avatera Medical
AVRA Medical Roboti...
Bio-Medical Enginee...
Human Robotics S.A....
Invivo Robotics
Lapara Surgical
LG Electronics
MDA
Omniboros
Panasonic Holdings ...
Roboscopy Medical L...
Samsung Electronics
Signature Robot Ltd
SPI Surgical, Inc.
Vicarious Surgical ...

Orthopedics

Representative examples



Orthopedics

88 robots from 77 companies

37

ON MARKET

Aimooe / 艾目易
Airs Inc
AK Medical
Amplitude Surgical
Chunli / 春立医疗
Corin Apollo / ApolloKnee
Curexo / 큐렉소
DePuy Synthes
DroidSurg Medical
Enovis
FUTURTEC Medical
Globus Medical
Gusheng Yuanhua Robot
Howmedica Osteonics Corp.
Hurwa / 和华瑞博
Jianjia Medical Technolo...
Kuangrui Intelligent Tec...
Lancet Robotics
Longwood Valley MedTech
McGinley Orthopedics
Medos
MedTech SA
Merai Newage
Meril Healthcare
MicroPort MedBot
Naton Medical Robotics

Rossum Robot Technology
Santa Medical Technology
Smith & Nephew plc
Stryker
Surgify Medical
THINK Surgical / Curexo
Tinavi Medical Technolog...
Tuodao Medical
Unik Orthopedics, Inc.
Weigao Group / 威高集团
Yidian Lingdong Technolo...

22

UNDER DEV

Aopeng Medical / Operati...
ArthroLase
Bozhi Bio
Connecteve
Convergence Medical
Dading Medical Technolog...
Duluth Medical Technolog...
Extremis Robotics
Ganymed Robotics
Great Robotics / 歌锐科技
Hangwei
Interventional Systems
Jieduo
Jimuu Intelligent Tech C...
Kyniska Robotics
Laishbo Medical Technolo...
Linkwah Technologies, In...
Medical Robotics i Stock...
Robossis, Inc.
Tianxing Medical Co.
Xingyun Guiyi Intelligen...
Xinkangyuan Minimally In...

9

ACQUIRED

Blue Belt Technologies
KAT Robotics
LinkX Robotics
Mako Surgical Corp.
Monogram Technologies
OMNIlife Science
OrthoSpin Ltd.
Orthotaxy SAS
Ostesys

2

UNCERTAIN

Seva Robotics
Shukang Medical Technolo...

7

DEAD

Acrobot / Stanmore
Advanced Osteotomy Tools
iin medical
Longhui Medical / 上海龙慧医疗
ortoMaquet GmbH / Maquet
Revision Robotics Surgic...
Sagitta Robotics Limited

Spine

Representative examples



Spine

46 robots from 45 companies

20

ON MARKET

ATEC
Bangjiexing Medical Technolo...
Curexo / 큐렉소
Cyber Surgery ALAYA
Dabo Medical / 大博医疗
eCential Robotics
LEM Surgical
MedTech SA
Medtronic
Meyer Optoelectronic Technol...
MinMaxMedical
Perlove Medical / 普爱医疗
Point Robotics MedTech / 炳碩生醫
Remex Medical Corp.
Sino-Europe MicroRobotics
SMAIO SA
SMTP Technology Co., Ltd.
Sylorus Robotics
Xinjunte Smart Medical Equip...
Zhuzheng Robot / 铸正机器人

14

UNDER DEV

8i Robotics
Carevature Robotics
Chunfeng Huayu Smart Medical
Deneb Medical
Dianhe Medical Technology
FoxEyes Corporation
Kato Medical / KatoMed
Koellner Medical Technologies
Linyan Medical / 上海霖晏医疗科技
Maestro Surgical Robotics Ltd.
Robotron Surgical Technologies
Sanyou Medical
Surgitec Robotics
Weigao Group / 威高集团

8

ACQUIRED

Cardan Robotics
Excelsius Surgical
Fusion Robotics / Accelus
KB Medical
Mazor Robotics
Mobius Imaging
Mobius Imaging / Stryker
Relievent Medsystems

3

UNCERTAIN

MI4Spine, LLC
Rubicon Spine, LLC
Teslake, Inc.

Endovascular

Representative examples



Corindus
A Siemens Healthineers Company



Robocath

Catheter Robotics



microbot
medical



hansen
MEDICAL



STEREOTAXIS

aeon scientific



Endovascular

57 robots from 56 companies

8

ON MARKET

Aibo Medical Robot
Artiria Medical
Inovatyvi Medicina
Microbot Medical
MicroPort MedBot
UnionStrong
WeMed / 唯迈医疗
Yidu Hebei Robot Technology

43

UNDER DEV

Angio8 / Shenzhen Tongyong T...
Aopeng Medical / Operation R...
Apeiron Surgical / 极限人工智能
Basecamp Vascular
Biomedical Research Center LLC
Biotronik AG
Calabrian High Tech
Curie Interventional Robotics
Dashì Technology
Dinova Neuroscience Technolo...
EndoWays / Ascendum
Flux Robotics
Great Robotics / 歌锐科技
Hanglok-Tech
Huada Zhizao Yunying Medical...
Huaxi Jingchuang Medical Tec...
InterMag
Jieruo Medical Technology
Jingge Medical Technology Co.
Koswire / 코스와이어
Langbokang Medical Technology
Langya Hechuang Medical Tech...
Magellan Biomedical Inc.
MagnebotiX
Nano4Imaging
New Vascular

Nimble Surgical
Perazah Inc. / 페라자
RainMed Medical
Raysight Medical
Remedy Robotics
ROBGENIX MEDICAL PTE. LTD.
Route 92 Medical
Shenganjie Medical Technology
Shengyi Technology
Sibo Huiyi Tech
Terumo Corporation
Vital Biomedical Technologies
White Bear Medical LLC
Wirescience Medical Technology
Yindatong / 盈达通
Zero Radiation Intervention
Zhongke Hongtai Medical Tech...

2

ACQUIRED

Corindus
RoboCath

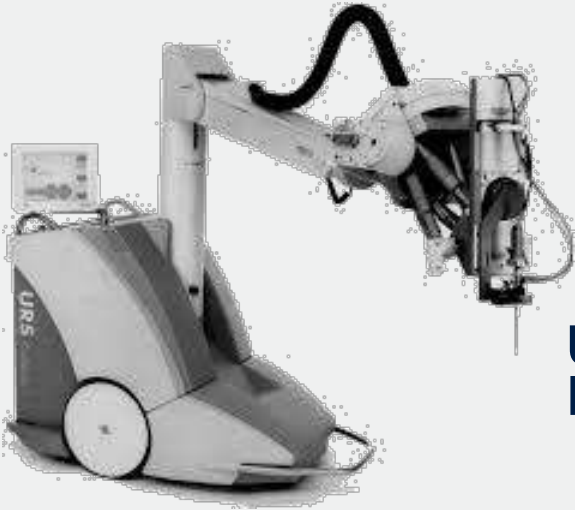
3

DEAD

Aeon Scientific
Catheter Precision, Inc.
Hansen Medical / JNJ

Neurosurgery

Representative examples



Universal
Robot Systems



Neurosurgery

63 robots from 61 companies

19

ON MARKET

ANT Neuro
Ariemedi / 艾瑞迈迪
Axilum Robotics
B Braun
Brain Navi Biotechnology
Brainlab
Elekta AB
HOZ Medical / 华志微创
IMRIS Imaging
Insightec
Koh Young Technology / 高...
MedTech SA
NovaSignal / Neural Anal...
Rapid Medical
Remebot / 柏惠维康
Renishaw plc
Sinovation Medical
Vas Medical
Zeta Surgical

29

UNDER DEV

AiM Medical Robotics
Bionaut Labs
ClearPoint Neuro
Epica International
Esspen GmbH
Ezmedibot
Genlight MedTech
HROCT LITT Medtech / 超光微
...
IMSystem / 아임시스템
Inetec Nero
Magnendo
Nanoflex Robotics
Navigantis
Neuralink
neuro42
Neurosputnik
NeuroXess
OrbSurgical Ltd.
Panda Surgical
Project 1985, LLC
Robeauté
Rogue Research
RONNA Medical
SceneRay / 景昱医疗
Siemens Healthineers End...
Telos Health

UNandUP
Weigao Group / 威高集团
XCath

3

ACQUIRED

ArteDrone
MDA
Medineering / Brainlab

2

UNCERTAIN

Signate Life Sciences
TheraSonic

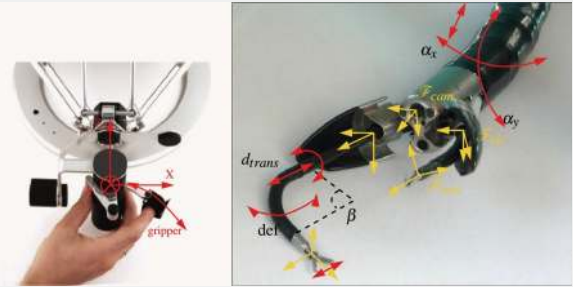
8

DEAD

Centauri Robotic Surgica...
CranioMedix Inc.
Euphrates Vascular
ISIS
MDA Space Ltd.
NeuroArm / SYMBIS
Siemens Healthineers End...
Synaptive Medical

GI Endoluminal

Representative examples



NeoGuide
Control your path.



endoVia



TRITON
MEDICAL ROBOTICS



ENDOQUEST
ROBOTICS



Endoluminal

43 robots from 41 companies

6

ON MARKET

Ankon Technologies
EndoRobotics Co., Ltd.
Endotics System
G.I. View Ltd
Jinshan Science & Technology
Nitinotes Surgical

28

UNDER DEV

Agilis Robotics
Aohua Endoscopy
Aopeng Medical / Operation R...
Atlas Endoscopy
Axtes / Aiketes
Baifu
Channel Robotics
EndoQuest Robotics
EndoR Surgical System
Ergami Endoscopy
Huiyue Medical
HumanTouch Surgical
INEN Robotics
InterMag
Inventor Technology
Keypoint Surgical
MedInTech
Neptune Medical
NISI
Radius Dynamics GmbH
Serpenta
Swan EndoSurgical, Inc.
Ultimage Health Technology C...
Vivo Surgical
W Endoluminal Robotics
Weihai Kefan Medical Device ...

Yunlijing'an Technology
Yuying Medical International...

2

UNCERTAIN

Boston Scientific
Fractyl Health

5

DEAD

Invendo Medical / Ambu
Medrobotics Corporation
MichelAngelo RobotScope
Motus GI Medical Technologies
NeoGuide Systems

Lung Endoluminal

Representative examples

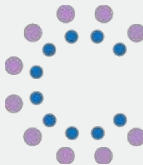


Intuitive Surgical logo

INTUITIVE



 GALAXY

 Noah Medical

AURIS
Johnson & Johnson
MedTech



MONARCH™ QUEST

SPIRO Robotics



Lung Endoluminal / Bronchial

20 robots from 20 companies

7

ON MARKET

Edge Medical Robotics / 精锋医疗
Intuitive Surgical
JNJ MedTech - Monarch
Langkai Medical
MicroPort MedBot
Noah Medical
Spiro Robotics

10

UNDER DEV

Anteeo Surgical / 北京跃维医疗科技
Apeio Health Co., Ltd.
Apreo Health
Broncus Medical / 堃博医疗
Hanglok-Tech
LungHealth Medtech
Magnisity
SyncRobotix, Inc.
Vine Medical, Inc.
Xuzhou Yintu Medical Researc...

1

ACQUIRED

Auris Health

1

UNCERTAIN

Sanovas, Inc.

1

DEAD

Borns Medical Robotics / 博恩思

Urology

Representative examples



Urology

33 robots from 28 companies

16

ON MARKET

BestMT / 拜斯特医疗科技
Biobot Surgical
ELMED Medical Systems
FocalTherics / EDAP TMS
Innomedicus / ARTEMIS
Intuitive Surgical
Jiehang Robot / 上海介航机器人
JNJ MedTech - Monarch
Medicaroid Corporation
Medtronic
MicroPort MedBot
PROCEPT BioRobotics
Profound Medical
ROEN Surgical / 로엔서지컬
Sterlab
Surgerii Robotics

9

UNDER DEV

Andromeda Surgical
Healinno Tech
Insight Medbotics
LARC Robotics
Needleye Robotics Srl
Promaxo, Inc.
Richard Wolf GmbH
Sagebot / 思哲睿
Virtuoso Surgical

1

UNCERTAIN

Continuum Therapeutics

2

DEAD

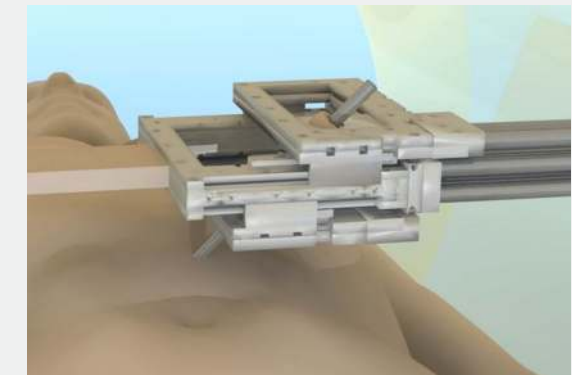
Comau SpA
Polymer Robotics Inc.

Percutaneous

Representative examples



MEND^AERA



GUIDABOT, LLC



Percutaneous

54 robots from 51 companies

20

ON MARKET

CAScination
Ganaivi Medical / 浙江伽奈维医疗
HistoSonics
Insight Medbotics
Insightec
Interventional Systems
LifeTech-Quantum Medical Tec...
Longdianjing Intelligent Tec...
MASMEC Biomed
Mendaera
NDR Medical Technology
Perfint Healthcare Pvt Ltd
Praxis Holding LLC
Quantum Surgical
Ruitouch Technology / 上海睿触科技
Soteria Medical
Tuodao Medical
Weide Precision Medical
Zhenjiankang Medical / TrueH...
Zhongrui Funing / 中瑞福宁

23

UNDER DEV

AIR Surgical
AIRS Medical
Aoda Zhisheng Medical Techno...
Apodibot Medical
Baird Medical
BEC / Guidoo
Cosmic M.E.
Cure-in
DEMCON Medical Robotics
Edda Technology
FlexPerc Medical
Hanglok-Tech
Hengrui Hongyuan Medical Tec...
Libang Surgical Technologies...
LUKE Robotics
Medical Devices Corner / MDC
Miaoweishi Technology
Nawei Medical / 奈维医疗
Puncture Robotic / 磅策医疗
Shengdankang Medical Technol...
Xianyang Robot Co.
Yida Health Medical Technolo...
Yingtai Li'ankang

1

ACQUIRED

Innomedic / Synthes / JNJ

1

UNCERTAIN

RobotX Medical

6

DEAD

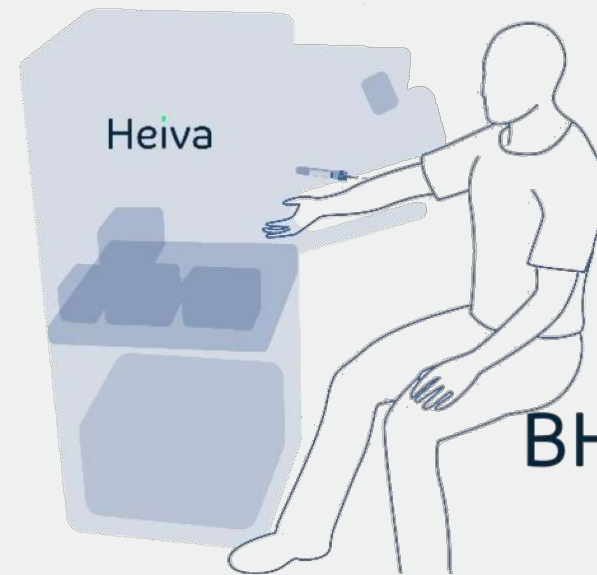
GuidaBot LLC
Robopsy
Seiko Epson
Starpax Biopharma
XACT Robotics Ltd.
Yikangtai Medical Technology

Vascular Access

Representative examples



VITESTRO



BHealthCare



VEEBOT SYSTEMS

Vascular Access

24 robots from 23 companies

2

ON MARKET

MagicNurse / 迈纳士
Vitestro

18

UNDER DEV

AutonomUS Medical Technologies
BHealthCare
Bracco Imaging
Cobionix
Create LLC
Faction Imaging
Fresenius
Fuxi Jiuzhen Intelligent Tec...
Grifols Worldwide Operations...
Hyperion Surgical
Kairui Medical / 凯瑞医疗
Nigale Biomedical / 四川南格尔生物科技
Obvius Robotics
Puncture Robotic / 磅策医疗
Takeda Pharmaceutical / 武田薬品
Triton Systems
VascuLogic, LLC
X9, Inc.

3

UNCERTAIN

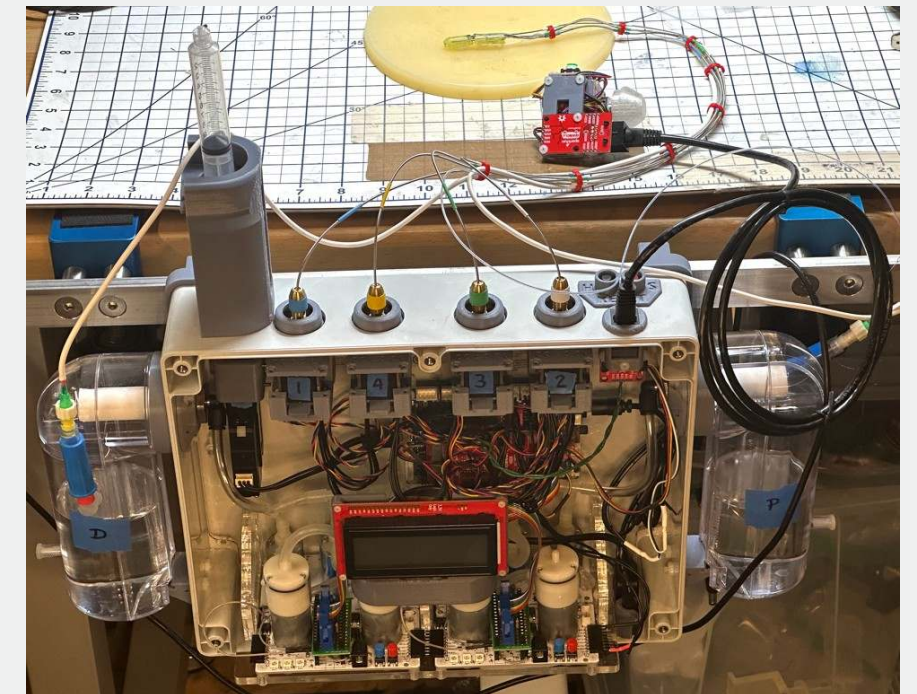
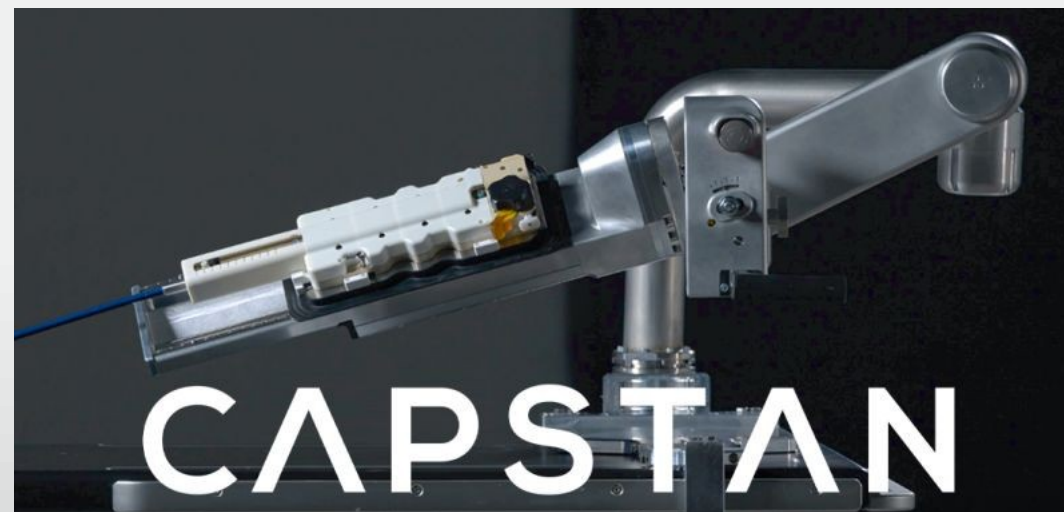
Gliatech SL
Sheba Impact
Veebot Systems, Inc.

Cardiac

Representative examples



**CARANX
MEDICAL**



HeartLander™
Surgical Inc

Cardiac

32 robots from 32 companies

5

ON MARKET

Cardiawave
LN Robotics
Mayo Cardiomagnetics / Meio ...
Stereotaxis, Inc.
Transmural Systems

19

UNDER DEV

Biosense Webster
Capstan Medical
Conform Medical
Denuo Electrophysiology Medi...
DigiSurge
Edwards Lifesciences
EndoSurge
Indian Wells Medical
Jenscare Scientific
Laza Medical
Neuro-Kinesis Corp.
Peijia Medical / 沛嘉医疗
Pnemed Technology Limited
ROB'E GmbH
Shifamed Holdings
Surlogic / SurgiPulse Robotics
Symphony Robotics
UNandUP
Zhicheng Medical / 智成医疗

3

ACQUIRED

Caranx Medical
CyberHeart / Varian
VytronUS, Inc.

2

UNCERTAIN

CardiaTouch Control Systems
HeartLander

3

DEAD

Hansen Medical / JNJ
Moray Medical
St. Jude Robotic Catheter

Microsurgery

Representative examples



 **MMI**®



SONY




GALEN ROBOTICS



microsure
robot assisted microsurgery 

Microsurgery

11 robots from 11 companies

4

ON MARKET

BHS Technologies
Lydus Medical
Medical Microinstruments
Microsure

5

UNDER DEV

Deepsurgery Medical Instrument
F.MED / F . M E D 株式会社
Gibbon Medical
KouTech / 昂泰微精
Sony

1

ACQUIRED

True Digital Surgery

1

UNCERTAIN

Elytra Technologies

Ophthalmic

Representative examples



PRECEYES

Acusurgical



FORSIGHT
ROBOTICS



HORIZON
SURGICAL SYSTEMS

Ophthalmic

26 robots from 26 companies

5

ON MARKET

Belkin Vision
Beyeonics
LENSAR
PRECEYES Medical Robotics
Riverfield Inc.

19

UNDER DEV

Acusurgical
Alcon
Dessight Biomedical
ForSight Robotics
Horizon Surgical Systems, Inc.
Impel IP LLC
J&J Surgical Vision
Keranova
Mingche Biotechnology / 明澈生物科技
Mynutia
Ocutrx Vision Technologies
Ophthorobotics AG
Optorobotics S.r.l.
RIMSCIENCE Co., Ltd.
Robotrak
Suroviz
TIROMU / 瞳沐医疗
Weimou Medical / 微眸医疗
Xianwei Medical Technology

2

DEAD

Medical Robotic Technologies...
NSK Ltd. / 日本精工

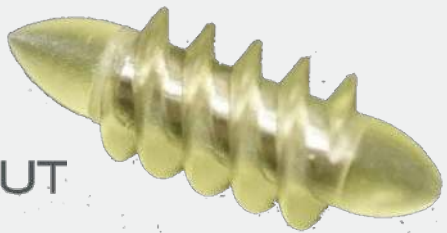
Micro / Nano Bots

Representative examples



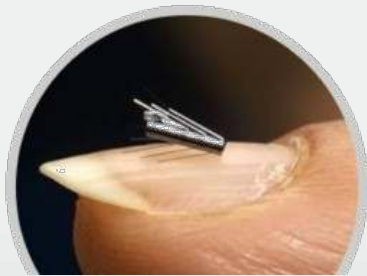
 ARTEDRONE

 BIONAUT
LABS

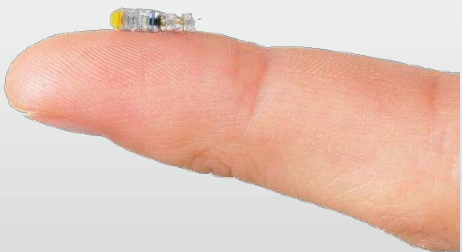


 microbot
medical

 ViRob
Life in motion



 ROBEAUTE



Micro / Nano

12 robots from 11 companies

10

UNDER DEV

Bionaut Labs
IMSystem / 아임시스템
InterMag
Interventional Systems
Koswire / 코스와이어
Macheon AI
MagnebotiX
Robeauté
Symphony Robotics
ValueBioTech S.R.L.

1

ACQUIRED

ArteDrone

Otolaryngology

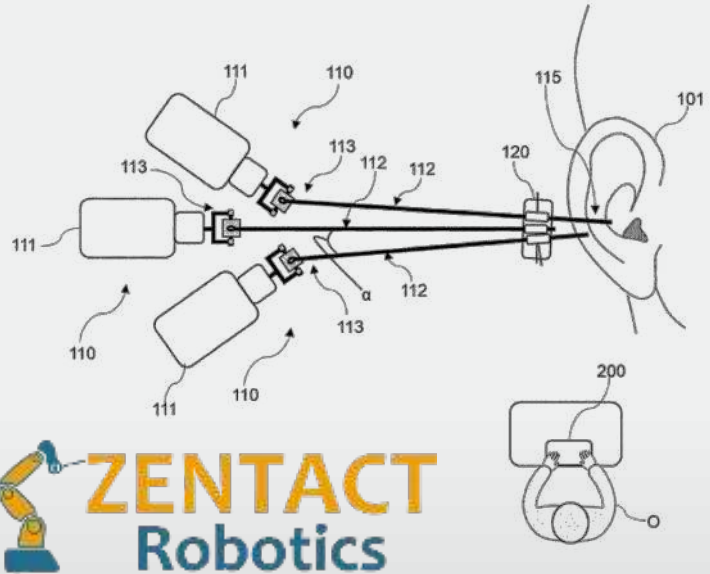
Representative examples



 **Medrobotics**



iota



 **ZENTACT**
Robotics



 **Amal**
TECHNOLOGIES



 **思哲睿医疗**
SAGEBOT MEDICAL

Otolaryngology

18 robots from 17 companies

4

ON MARKET

Collin Medical
Galen Robotics
iotaMotion
MED-EL / CAscination

10

UNDER DEV

Amarob Technologies
Borns Medical Robotics / 博恩思
Cochlear Limited
NavLab Inc.
Sagebot / 思哲睿
Tamar Robotics Ltd.
Taurean Surgical, Inc.
Tianchen Medical
Weigao Group / 威高集团
Zentact Robotics

3

DEAD

Brain Navi Biotechnology
InnovoTone LLC
URS



Exits, failures, and the money

Who was acquired · who died · who buys · exit economics · SPACs · what changed in 2026 · where the money sits

Robots or companies whose status changed: acquired

44 companies (45 robot rows) carry Acquired status, Computer Motion (2003) to Robocath (2026)

A - C

ArteDrone · Asensus Surgical · Auris Health · Auris Health / JNJ · Blue Belt Technologies · Caranx Medical · Cardan Robotics · Computer Motion · Corindus / Siemens Healthineers · Covidien · CyberHeart / Varian

D - K

Denso Corporation · Endocontrol SA · Excelsius Surgical / Globus Medical · Fusion Robotics / Accelus · Gomtec / ABB · Great Belief International Limited / GBIL · Human Xtensions / Human Extensions Ltd. · Innomedic / Synthes / JNJ · JNJ Ethicon Endo-Surgery RAD program · KAT Robotics · KB Medical

L - O

LinkX Robotics · Mako Surgical Corp. · Mazor Robotics · MDA · Medical Surgery Technologies · Medineering / Brainlab · Mobius Imaging / Stryker · Mobius Imaging / Stryker - Mako Spine · Monogram Technologies · OMNIlife Science / Orthopedic Synergy Inc. · OrthoSpin Ltd.

O - V

Orthotaxy SAS · Ostesys · Relievent Medsystems · RoboCath · Ruby Robotics · Sensus Healthcare, Inc. · SOFAR S.p.A. · TransEnterix · True Digital Surgery · Verb Surgical · VytronUS, Inc.

Robots or companies whose status changed: dead

63 dead companies/programs (65 robot rows), up from 48 in January, several parents remain active elsewhere

A - C

Acrobot / Stanmore · Advanced Osteotomy Tools · Aeon Scientific · Agile EndoSurgery · American GNC Corporation · Avatera Medical · AVRA Medical Robotics · Bio-Medical Engineering · Borns Medical Robotics / 博恩思 · Boston Scientific · Brachium · Brain Navi Biotechnology / 钛隼生物科技 · Catheter Precision, Inc. · Centauri Robotic Surgical Systems · Comau SpA

C - L

CranioMedix Inc. · Cyber-Implants LLC · Euphrates Vascular / Pulse Therapeutics · FocalTherics / EDAP TMS · GuidaBot LLC · Hansen Medical / JNJ · Human Robotics S.A. de C.V. · iin medical · InnovoTone LLC · Intuitive Surgical · Invendo Medical / Ambu · Invivo Robotics · ISIS · Lapara Surgical · LG Electronics · Longhui Medical / 上海龙慧医疗

M - R

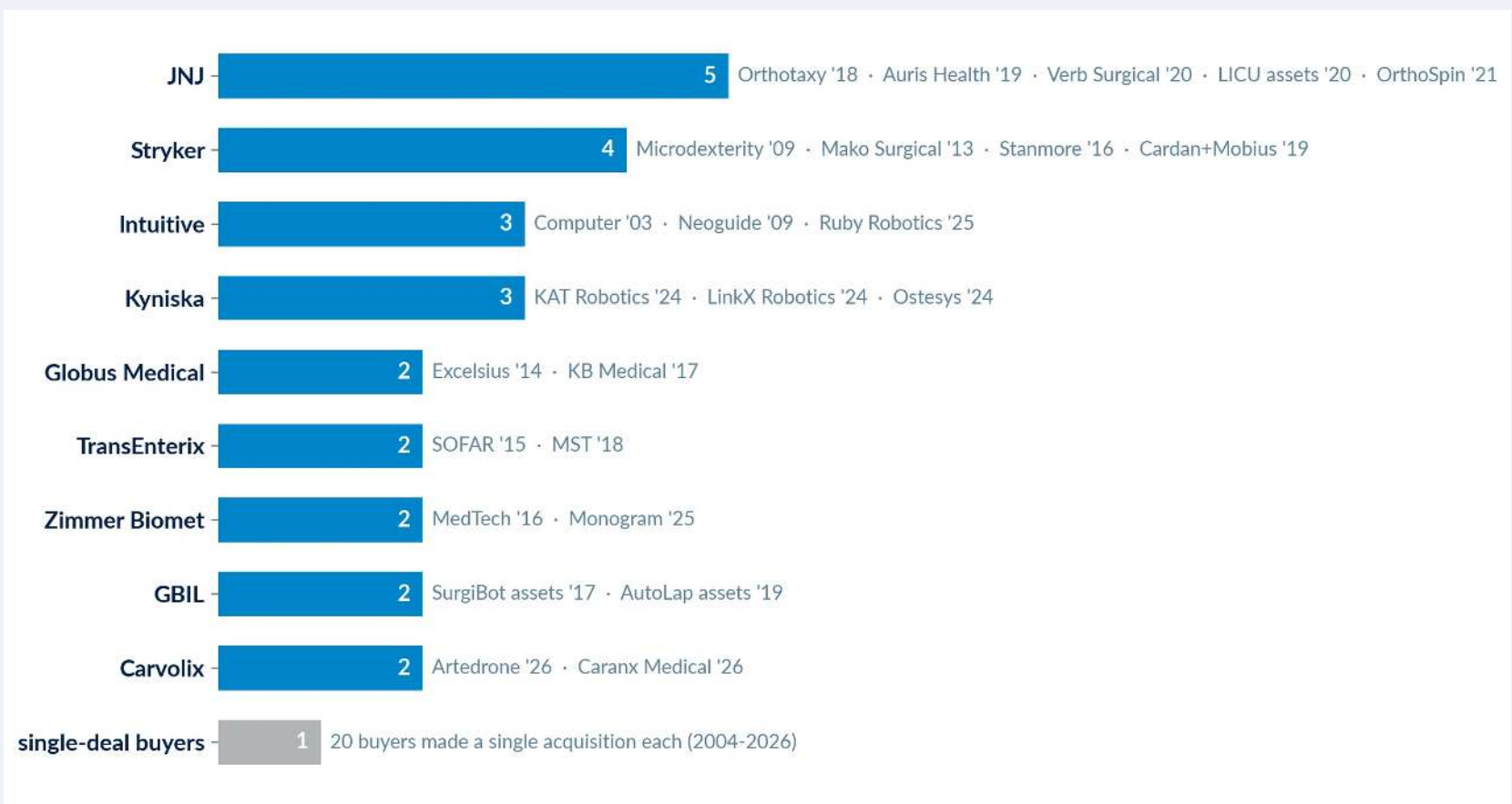
MDA · MDA Space Ltd. · Medical Robotic Technologies B.V. · Medrobotics Corporation · MichelAngelo RobotScope · Moray Medical · Motus GI Medical Technologies · National Semiconductor · NeoGuide Systems · NeuroArm / SYMBIS · NSK Ltd. / 日本精工 · Omniboros · ortoMaquet GmbH / Maquet · Panasonic Holdings / パナソニック · Polymer Robotics Inc. · Revision Robotics Surgical Innovations, LLC

R - Y

Robopsy · Roboscopy Medical Ltd. · Sagitta Robotics Limited · Samsung Electronics · Seiko Epson · Siemens Healthineers Endovascular Robotics · Signature Robot Ltd · SPI Surgical, Inc. · St. Jude Robotic Catheter · Starpax Biopharma · Synaptive Medical · Telehealthrobotics · URS · Vicarious Surgical Inc. · XACT Robotics Ltd. · Yikangtai Medical Technology

Exits concentrate in a few repeat buyers

Acquisitions per buyer with targets and deal years; single-deal buyers aggregated. Sources: deal press releases and SEC filings; collected 8 Jul 2026



45 RESEARCHED DEALS

9 repeat buyers account for 25 of 45 acquisitions

Busiest: JNJ, Stryker, Intuitive, Kyniska

Repeat buying concentrates in orthopedics/spine and soft tissue

Acquisition typically takes about a decade

Age at acquisition vs deal year. Sources: press releases and SEC filings; current as of 8 Jul 2026



MEDIAN AGE AT EXIT: 9 YEARS

45 acquisitions with researched terms, 2003 to 2026

Disclosed prices span \$5M to \$3.4B; billion-dollar deals labeled

Gray dots: undisclosed price. Asset deals and mergers carry * in the table

Exit economics: the full record (1 of 2)

Raise-to-exit economics, UD = undisclosed, * = special aspects; maintained in the deck data file; current as of 8 Jul 2026

COMPANIES	FOCUS AREA	COUNTRY	INVESTMENT(\$M)	# ROUNDS	ACQ PRICE (\$M)	ACQ YEAR	AGE	# INVESTORS	ACQUIRER
ACROBOT	orthopedic	UK	5	1	UD	2010	~5	3	Stanmore
ARTEDRONE*	neurovascular	France	~23	UD	~12.5	2026	9	1	Carvolix
ASENSUS	abdominal/thoracic	US	484	18	95	2024	18	12	Storz
AURIS HEALTH*	abdominal/thoracic	US	733	8	3400	2019	12	13	JNJ
AVATERA MEDICAL*	abdominal/thoracic	Germany	~270	UD	UD	2023	9	1	Tennor International AG
BLUE BELT TECHNOLOGIES*	orthopedic	US	45	2	275	2015	12	4	Smith&Nephew
CARANX MEDICAL*	cardiovascular	France	~25 + 5 grants	UD	~18	2026	8	2+	Carvolix
CARDAN ROBOTICS + MOBIUS IMAGING*	spine	US	45 + ~82	2	500	2019	11	1	Stryker
COMPUTER MOTION*	abdominal/thoracic	US	37(IPO) + 22+ post-IPO	?	~150	2003	14	?	Intuitive
CORINDUS	endovascular	US	134	7	1100	2019	18	4	Siemens
CYBERHEART	cardiac	US	24	4	UD	2019	13	3	Varian
DENSO / IARMS*	surgeon arm-support robot	Japan	n/a	n/a	UD	2018	n/a	n/a	Toho Technology
ENDOCONTROL	abdominal/thoracic	France	6	1	UD	2019	13	2	Canady Robotics
ENDOVIA MEDICAL	abdominal/thoracic	US	12	4	5	2004	6	3?	Hansen Medical
EXCELSIUS SURGICAL*	spine	US	5.5	1	UD	2014	3	?	Globus
FUSION ROBOTICS / ACCELUS / REMI ASSETS*	spine	USA	UD	UD	55	2023	4	UD	ATEC
GOMTEC*	abdominal/thoracic	Germany	UD	UD	UD	2015	7	UD	ABB
HANSEN MEDICAL	endovascular	US	116	5	240(IPO) + 80	2016	13	5	Auris
INNOMEDIC*	orthopedic	Germany	?	?	UD	2008	~8	?	Synthes
KAT ROBOTICS*	orthopedic	France	~0.5	1	UD	2024	2	1	Kyniska Robotics
KB MEDICAL*	spine	Switzerland	7	4	~31.5 + 4.9 contingent	2017	5	8	Globus
LINKX ROBOTICS*	orthopedic	France	~0.5	1	UD	2024	3	1	Kyniska Robotics
MAKO SURGICAL*	orthopedic	US	95	5	51(IPO) + 1700	2013	9	7	Stryker

WHAT THE RECORD SHOWS

24 of 45 deals disclose a price; median \$79M

4 deals of \$1B+ sit atop a long tail: most exits are under \$100M

20 undisclosed deals cluster in the early years and small tuck-ins

7 asset-level deals (SurgiBot, AutoLap, REMI, Sculptura) show IP outliving its company

Spine and orthopedics account for the largest share of exits

UD = undisclosed · * = special aspects (see data file) · IPO = initial public offering · CVR = contingent value right

Exit economics: the full record (2 of 2)

Raise-to-exit economics, UD = undisclosed, * = special aspects; maintained in the deck data file; current as of 8 Jul 2026

COMPANIES	FOCUS AREA	COUNTRY	INVESTMENT(\$M)	# ROUNDS	ACQ PRICE (\$M)	ACQ YEAR	AGE	# INVESTORS	ACQUIRER
MAZOR SURGICAL TECH	spine	Israel	70	3	1700	2018	17	6	Medtronic
MEDICAL SURGERY TECH*	abdominal/thoracic	Israel	14	2	~31	2018	13	6	Transenterix
MEDINEERING*	neuro	Germany	UD	2	UD	2019	5	4	Brainlab
MEDTECH	neuro & spine	France	2	1	188	2016	14	1	Zimmer
MICRODEXTERITY*	orthopedic	US	UD	?	UD	2009	17	?	Stryker
MONOGRAM TECHNOLOGIES*	orthopedic	USA	~75 + 30(IPO) + post-IPO	10	177 + CVR	2025	9	crowd + Pro-Dex	Zimmer Biomet
NEOGUIDE	gastroenterology	US	39	2	UD	2009	9	9	Intuitive
OMNILIFE SCIENCE	orthopedic	US	32	3	UD	2019	20	2	Corin Group
ORTHOSPIN*	orthopedic	Israel	8	~3	79.5	2021	7	2	DePuy Synthes
ORTHOTAXY*	orthopedic	France	?	?	UD	2018	9	?	JNJ
OSTESYS*	orthopedic	France	UD	UD	UD	2024	15	2	Kyniska Robotics
RESTORATION ROBOTICS*	hair	US	129	9	25(IPO) + stock	2019	17	5	Venus Concepts
ROBOCATH*	vascular intervention	France	~88	6	20 + 25 earnout	2026	17	10+	Stereotaxis
RUBY ROBOTICS*	autonomous point-of-care biopsy robotics + tissue- adequacy AI	USA	5.6	~2	UD	2025	4	4	Intuitive Surgical
SENSUS HEALTHCARE / SCULPTURA ASSETS*	robotic IORT / brachytherapy radiation oncology	USA	n/a	n/a	15	2022	n/a	n/a	Empyrean Medical Systems
SO FAR*	abdominal/thoracic	Italy	UD	?	100	2015	~7	1	Transenterix
STANMORE IMPLANTS*	orthopedic	UK	34	?	52	2016	6 / 68	?	Stryker
TRANSENTERIX / AUTOLAP ASSETS*	abdominal	USA	n/a	n/a	47	2019	n/a	n/a	GBIL
TRANSENTERIX / SURGIBOT ASSETS*	abdominal	USA	n/a	n/a	29	2017	n/a	n/a	GBIL
TRUE DIGITAL SURGERY*	digital surgical microscopy robotics	USA	~49	UD	UD	2025	7	5	B. Braun
VERB SURGICAL *	abdominal/thoracic	US	~500	1	UD	2020	5	2	JNJ
VYTRONUS / LICU ASSETS*	cardiac EP	US	~115	7	UD	2020	14	5	JNJ

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7 asset-level deals (SurgiBot, AutoLap, REMI, Sculptura) show IP outliving its company

Spine and orthopedics account for the largest share of exits

UD = undisclosed · * = special aspects (see data file) · IPO = initial public offering · CVR = contingent value right

Special Purpose Acquisition Corporations (SPACs)

The SPAC cohort, and how it went: Memic SPAC failed, re-emerged as Momentis; Vicarious delisted Mar 2026, board dissolution vote set



debut on Wall Street on Monday. The company closed its previously announced business combination with D8 Holdings Corp. last week, gathering \$220 million in gross proceeds. The deal, announced this past April, valued the combined company at an enterprise value of approximately \$1.1 billion.



Israel medical device company **Memic Innovative Surgery Ltd.** today announced the signing of a definitive agreement for a SPAC merger with MedTech Acquisition Corporation (Nasdaq: MTAC). The merged company will have \$360 million cash and an equity value of more than \$1 billion.

Robots or companies whose status changed in 2026

Exits validate the category; the flameouts show that approval $\neq$ commercialization

EXITS & WINS

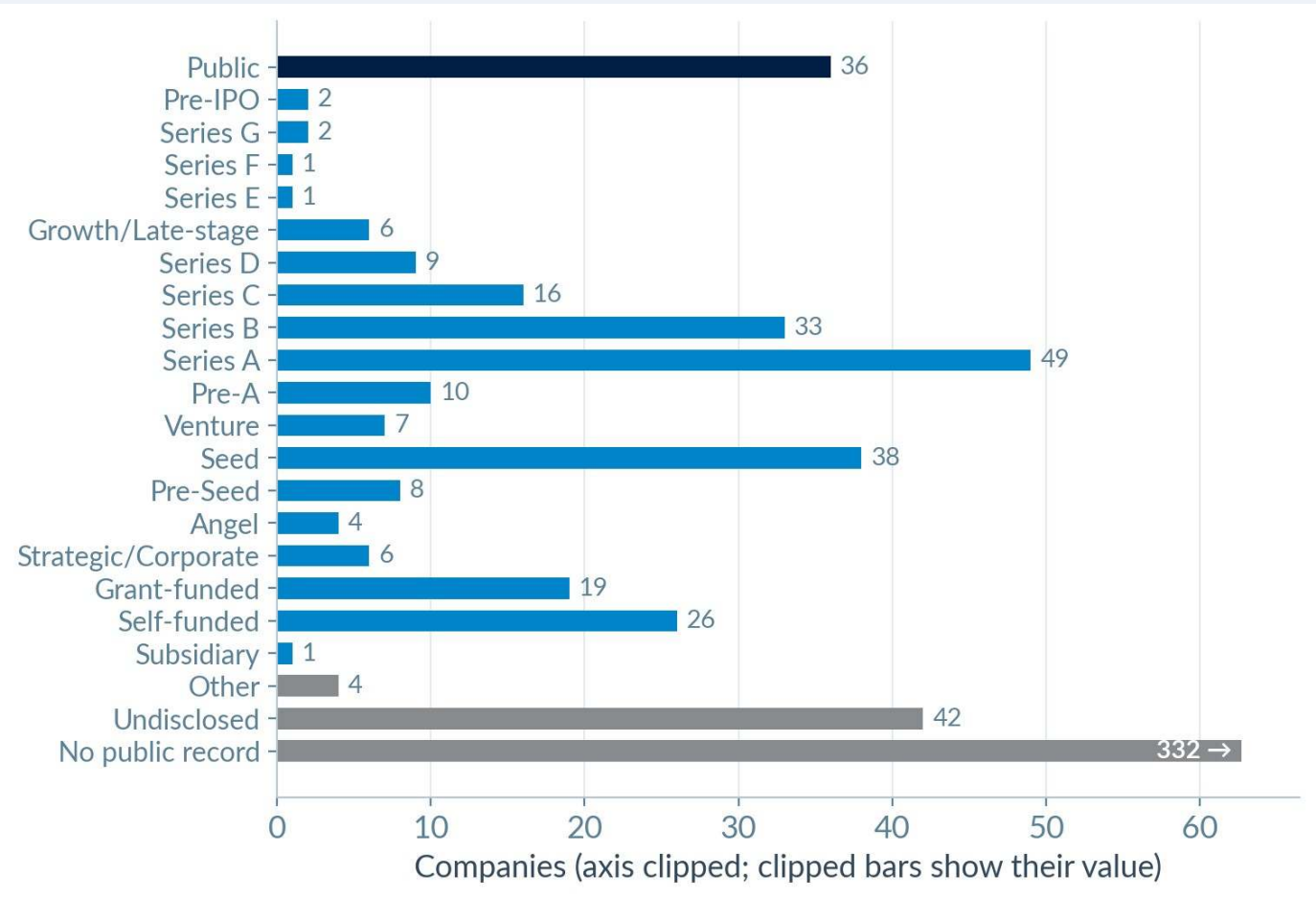
- **TrueHealth / 真健康 → HKEX IPO (Jun 30)**
+217% day one, ~HK\$14.3B cap, ~1,800× oversubscribed, capital is concentrating on the category leader
- **Edge Medical / 精锋 → Hang Seng Composite**
Index inclusion Jun 8; FY2025 revenue RMB 456M (+185%); overseas installs now exceed domestic
- **Stereotaxis × Robocath**
Endovascular consolidation (Apr 2026)
- **Ruichu Robotics → HKEX A1 filed (May 27)**
Pre-revenue lung-puncture robot chasing the TrueHealth window

WOUND DOWN / DELISTED

- **Vicarious Surgical (US)**
NYSE delisting Mar 3 (cap <\$15M) → OTC as RBOT; first 2026 Western flameout; dissolved 21 Jul 2026 (board-approved liquidation)
- **Asensus / Senhance + Luna (US/DE)**
Karl Storz discontinues both robots and retires the brand, a ~20-year program ends (strategic wind-down, not bankruptcy)
- **Longhui Medical / 龙慧 (China)**
NMPA approval Sep 2024 → bankruptcy Jan 2026: approval $\neq$ commercialization
- **Microya / 微亚 (China)**
Entire IP + assets auctioned from ~RMB 1.29M starting bid

Over half the field has no public funding story

Funding stage per company (normalized), 652 active companies; 11 acquired companies excluded (covered in the exits section)



332 NO PUBLIC FUNDING RECORD

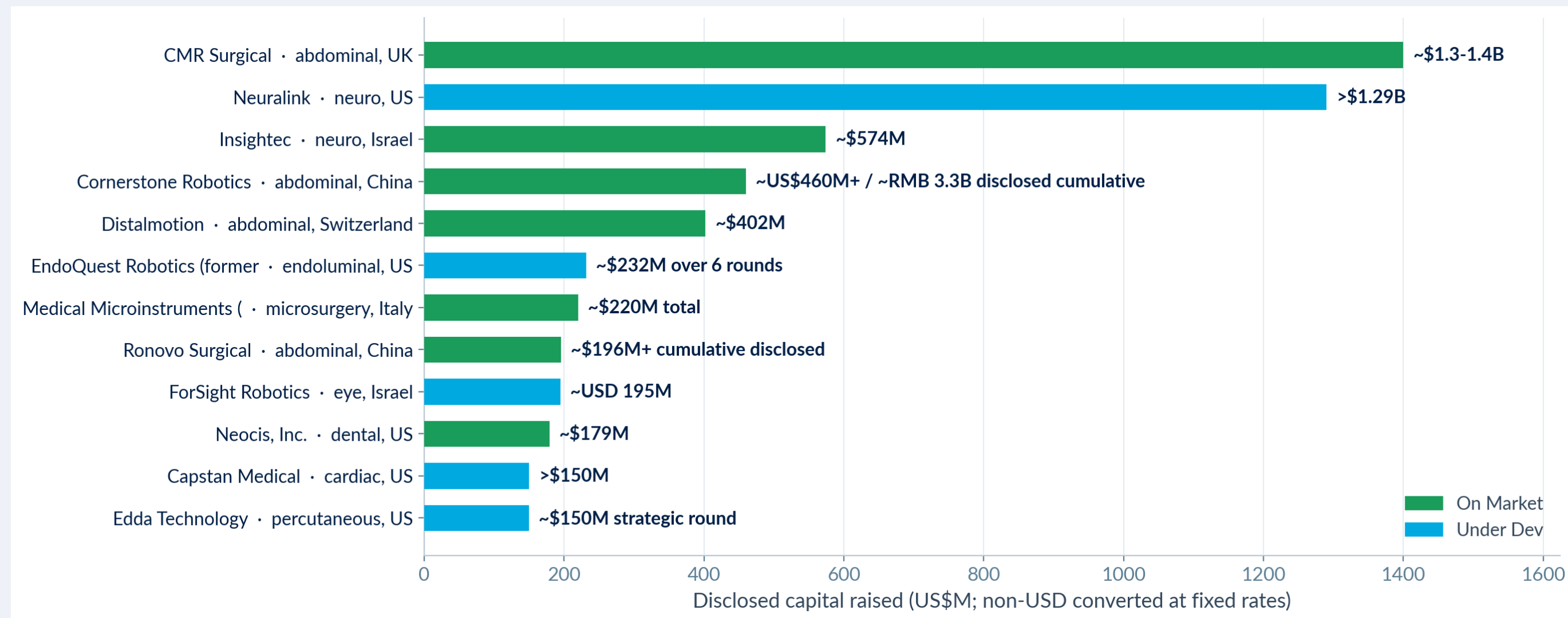
50% of companies; mostly Chinese patent-only finds, institutes, and quiet SMEs

36 public companies bookend the other extreme

161 companies disclose a raise amount; Seed-to-B dominates the private tail

Best-funded private players

Ranked by disclosed capital raised (July 2026), per the master roster



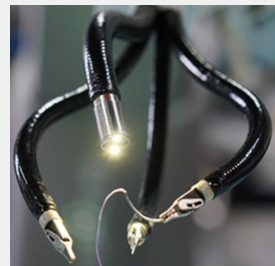


Examples of insights from assessing a range of commercial efforts

What the collection teaches: form factors, topologies, consoles, controls

Abdominal/thoracic form factors

Representative examples, single-port remains the exception

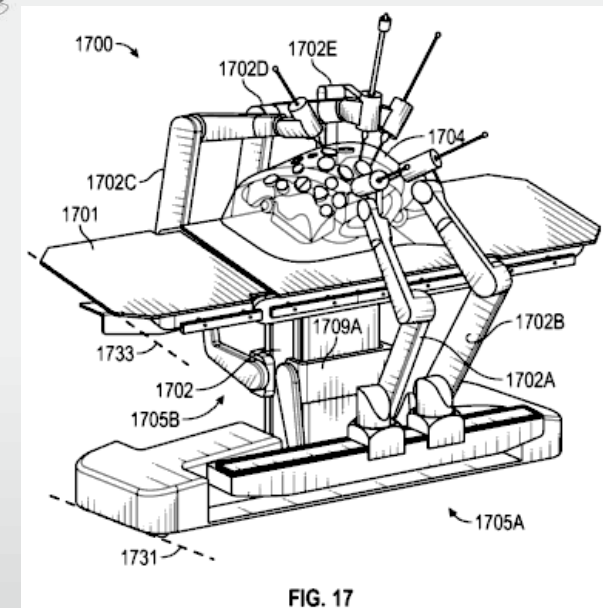
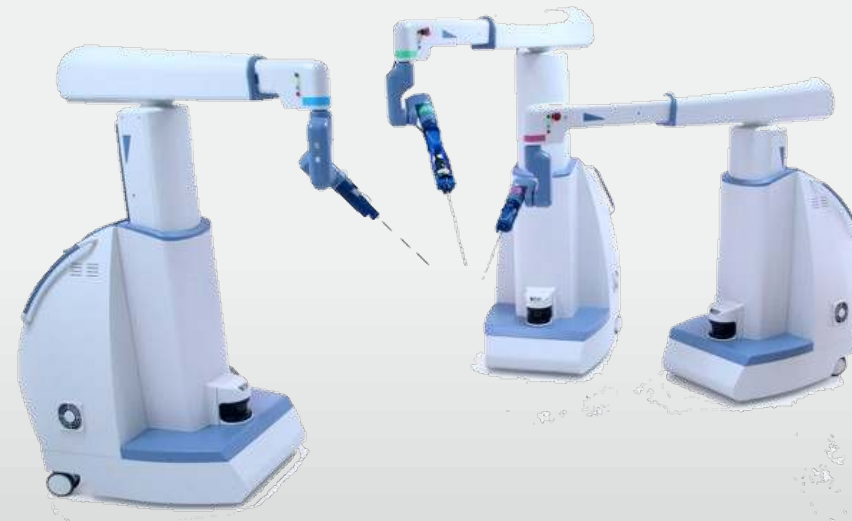
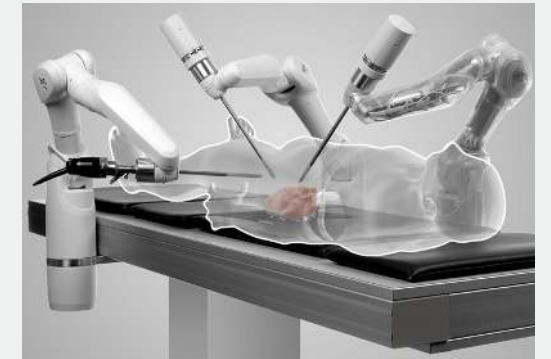


15 Single port

116 Multi port

Varying topologies

Representative examples



Varying consoles

Representative examples



INTUITIVE



CMR
SURGICAL



revo[™]
surgical solution



TITAN MEDICAL



AESENSUS
SURGICAL



MicroPort

SS INNOVATIONS



Medtronic



Medicaroid



Distalmotion



avatera



Varying hand and foot controls

Representative examples



INTUITIVE



CMR
SURGICAL



Medtronic



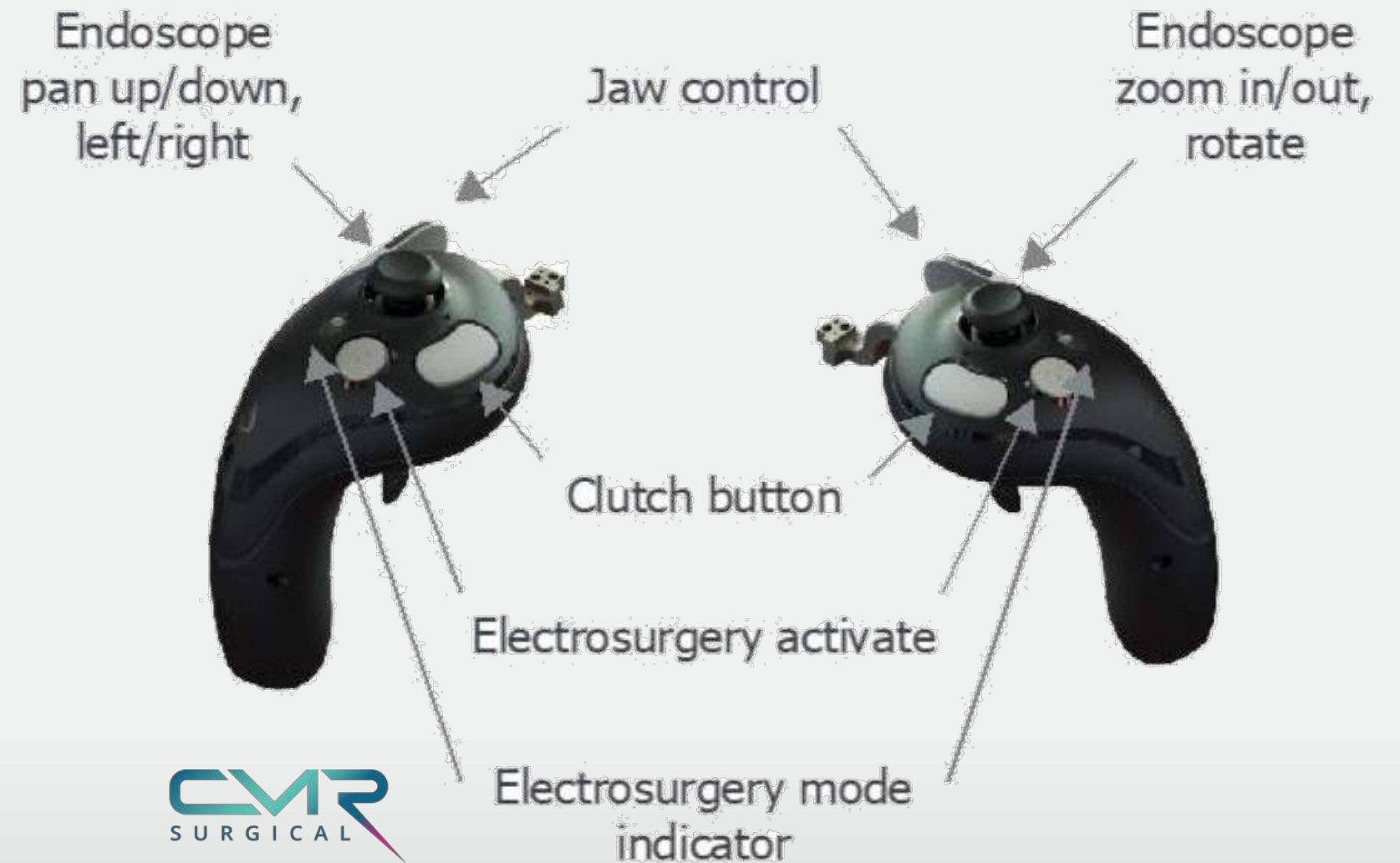
TITAN MEDICAL



Distalmotion

Simple squeeze vs complex handle

Those missing controls from the squeeze handle live somewhere...



Novel approaches

Representative examples



Major trends

Where the field is stuck, and where it should go next

- **Still too many robots in the same specialties**
...with similar approaches, and still too many full-platform solutions
- **Control-interface variety is a problem**
Physical and visual control interfaces differ widely from platform to platform
- **Just roboticizing what is done by hand is not enough**
First autonomous execution of a procedure phase supports this (Science Robotics, 2025)

GOING FORWARD

Opportunity for existing platform enhancement

- Operate in smaller and/or lower-resourced facilities
- Pay-per-use rather than capital + tool/drape purchases
- Lower capital cost · smaller footprints
- Wear-based rather than number-of-uses-based tool replacement
- Higher-power-density small actuators will change device configurations
- Judicious use of soft actuators as well as live hinges
- Legal frameworks and monetization of telesurgery

Machine learning

Everywhere, expected, penalized if absent; marketing still runs ahead of reality

- **The barrier to entry keeps dropping**

Technical and data-availability thresholds continue to fall; foundation models increasingly sit beneath specialist data

- **Most applications will be under the hood**

Optimizing the robot itself; more small, inexpensive sensors coupled with ML/AI video

- **Simulation for training content**

There is a strong case for simulation in creating training data and content

LEVELING OUTCOMES ACROSS LOCATION & SURGEON

Enhanced surgical-site situational awareness

- Contextualization relative to best practices
- Ready availability of ad-hoc mentorship
- Subtask enhancement / automation
- Removing the need for technicians to run things

- Autonomous cholecystectomy phase demonstrated ex vivo, 8/8 (Kim et al., Science Robotics 2025)

Tools like Claude Code are accelerating and broadening use cases, but will need to be thorough in verification: they very quickly make things that look great but have unclear provenance

Surgical Robotics Watch, a live companion dashboard

An updating web version of the data underlying this deck, search, filter, sort, and drill into any company

Surgical Robotics Watch

The full surgical-robotics roster — companies and the robotic systems they build, with configuration, control mode, funding, founding year, status and provenance. Companion to the Surgical AI Watch. Tap any company for full detail.

648 companies745 robots264 on market330 under dev216 US · 223 China · 46 France

WHAT'S CHANGED · 36 UPDATES

▶ 2026-07-06 — 1 changed (745 total)

▶ Earlier updates (35)

Search company, robot, invesAll FocusAll ConfigurationAll ControlAll StatusAll CountryAll Funding stageReset

745 of 745

COMPANY	FOCUS	CONTROL	STATUS	COUNTRY	FOUNDED	FUNDING
▶ 8i Robotics Three-arm spine surgery robot (imaging head, ultrasonic cutter, screwdriver) with EM navigation; founded by ex...	spine	teleop	Under Dev	Canada	2022	Undisclosed
▶ Accrea Medical Robotics AVROS-P: scope-holder robot for abdominal/thoracic MIS; part of the AVROS surgical-robot family; early...	abdominal/thoracic	teleop	Under Dev	Poland	2007	Grant-funded
▶ Accuray CyberKnife S7: robotic-arm-mounted linear accelerator delivering image-guided stereotactic...	radiation	preplanned	On Market	US	1990	Public
▶ Accuray Helix: CT-guided helical radiation-therapy system (gantry-based) aimed at emerging markets	radiation	preplanned	On Market	US	1990	Public
▶ Accuray Radixact/SynC: helical TomoTherapy radiation-delivery platform; SynC adds adaptive radiotherapy	radiation	preplanned	On Market	US	1990	Public
▶ Accuray Tomo C: helical radiation-therapy system tailored to China and other emerging markets	radiation	preplanned	On Market	US	1990	Public
▶ Accuthera Inc. / 株式会社アキュセラ CygneX I: CyberKnife-style robotic-arm radiotherapy system carrying a compact X-band linac	radiation	preplanned	Uncertain	Japan	2005	
▶ Acrobot / Stanmore Sculptor: early 'active-constraint' hands-on knee surgery robot; assets absorbed into MAKO/Stryker	orthopedic	teleop	DEAD	UK	1999	
▶ Actuated Medical GripTract-GI: single-use motorized endoscope-cap 'third-hand' that manipulates tissue during GI...	gastroenterology	teleop	On Market	US	2006	Grant-funded
▶ Acusurgical Luca: bi-manual teleoperated robot for vitreoretinal eye	eye	teleop	Under Dev	France	2020	Series A

LIVE AT
dmeglan.github.io/surgical-robot-companies-dashboard



WHAT IT IS

A self-contained, mobile-responsive dashboard generated from the same master spreadsheet behind this deck

WHAT YOU CAN DO

- Full-text search across company, robot, investor, milestone
- Filter by focus area, configuration, control, status, country, funding stage
- Sortable table; tap any company for full detail with milestones and provenance
- STAYS CURRENT

Rebuilt with every roster refresh (twice-weekly watch); a "what changed" panel accompanies every update



Questions / Discussion?