

The New Reality of US-China Cross Border Startup Interactions and Implications : A Med-Tech Entrepreneur's Perspective

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Disclaimer

All opinions expressed in this talk are solely personal views from the speaker and do not reflect the opinions of the event host nor any organizations that the speaker is currently and previously associated with.

Solving World's Biggest Problems Through Entrepreneurship

We entrepreneurs play a sizable a role in helping restore order with a number of global issues.

The New Global Reality

- COVID pandemic
- Real wars
- Trade wars
- Stock-market roller coaster
- Global fight for diseases (COVID, cancer, diabetes, etc)
- Climate change
- Income inequality, racial and social unrest

World's Biggest Problems – UN's 17 Goals 2030 Agenda



US-China Relationship Situation Since the Trade War

The two nation's political relationship at lowest in decades, direct investments at lowest in last five years

Since the start of trade war in August, 2018, US and China actions such as various tariffs and expanded entity list as well as new CFIUS* rules on technology M&A and investment make it increasingly harder and more complex for US and China companies to navigate cross-border business and investment relationship.

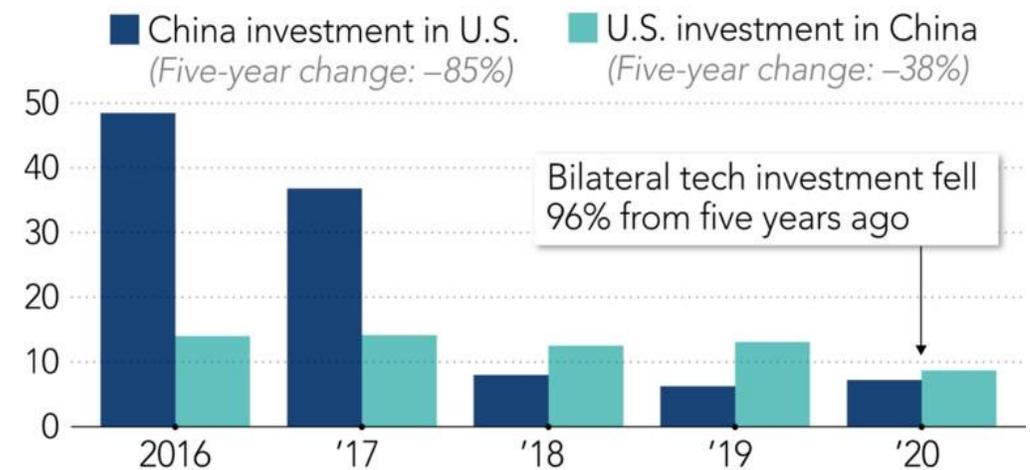
US trade deficit hit a record in 2021 as China gap widens

Feb. 8, 2022, New York Times

U.S. goods exports to China did grow substantially in 2021 from the previous year, **rising 21.4 percent** to \$151.1 billion in 2021, including a record volume of agricultural goods. But American demand for imports from China also surged, and the U.S. deficit with China **widened 14.5 percent** from the previous year to reach \$355.3 billion.

Direct investment between U.S. and China plunges

(Foreign direct investment, in billions of dollars)



Source: The US-China Investment Hub, Bain & Co., Nikkei Asia analysis

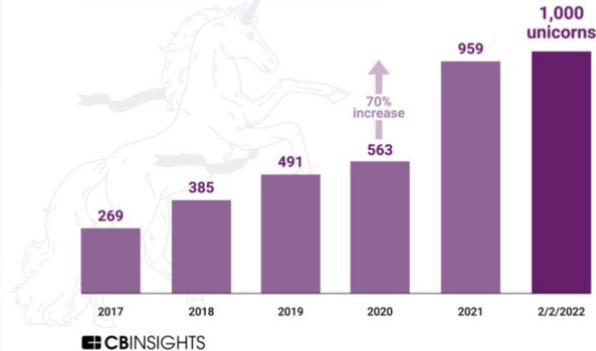
* Committee on Foreign Investment in the United States

The Startup Boom and the Rise of Global Entrepreneurs

Long live the unicorn!

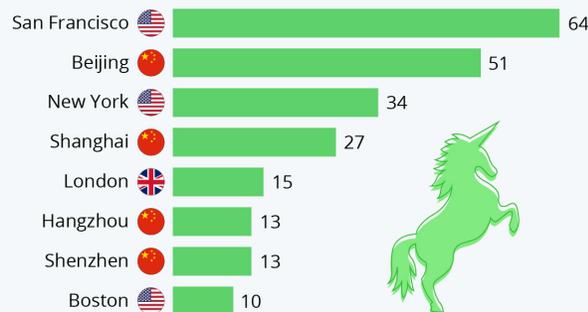
The world's billion-dollar companies crack 1,000

Global unicorn count, 2017 – 2022 YTD (2/2/2022)



The Cities Home to Most Unicorn Companies

Cities where most startups with valuations of \$1 billion or more are headquartered



As of June 2020
Source: CB Insights



statista

The Rise of Global Tech Entrepreneurs

More tech startups are going global earlier:

- High-speed land & mobile internet
- High-quality and low-cost voice & video communication services
- The need for better access to technology, customers, talents, and funding
- More global accelerators, incubators, investors
- Entrepreneurship growths widely adopted by many countries as part of national strategy
- Significantly increased number of multinational corporations partner and invest in early-stage tech startups
- Tele-work became the new way of working since the start of COVID pandemic

Ways to be better global entrepreneurs:

- Culture is key
- Think global
- Identify global needs
- More diverse funding

Six IEEE Spectrum interview articles on advices to engineering/tech founders

1. Four Actions Engineers Can Take to Ensure Their Startup Succeeds, July 29, 2019

<https://spectrum.ieee.org/the-institute/ieee-member-news/four-actions-engineers-can-take-to-ensure-their-startup-succeeds>

2. Six Options for Financing Your Startup, September 19, 2019

<https://spectrum.ieee.org/the-institute/ieee-member-news/6-options-for-financing-your-startup>

3. Five Things That Can Sabotage a Startup and How to Avoid Them, October 31, 2019

<https://spectrum.ieee.org/the-institute/ieee-member-news/5-things-that-can-sabotage-a-startup-and-how-to-avoid-them>

4. Five Survival Tips for Startups Working With Large Companies, February 20, 2020

<https://spectrum.ieee.org/the-institute/ieee-member-news/5-survival-tips-for-startups-working-with-large-companies>

5. Six Tips to Help Your Startup Survive the Coronavirus Pandemic, May 8, 2020

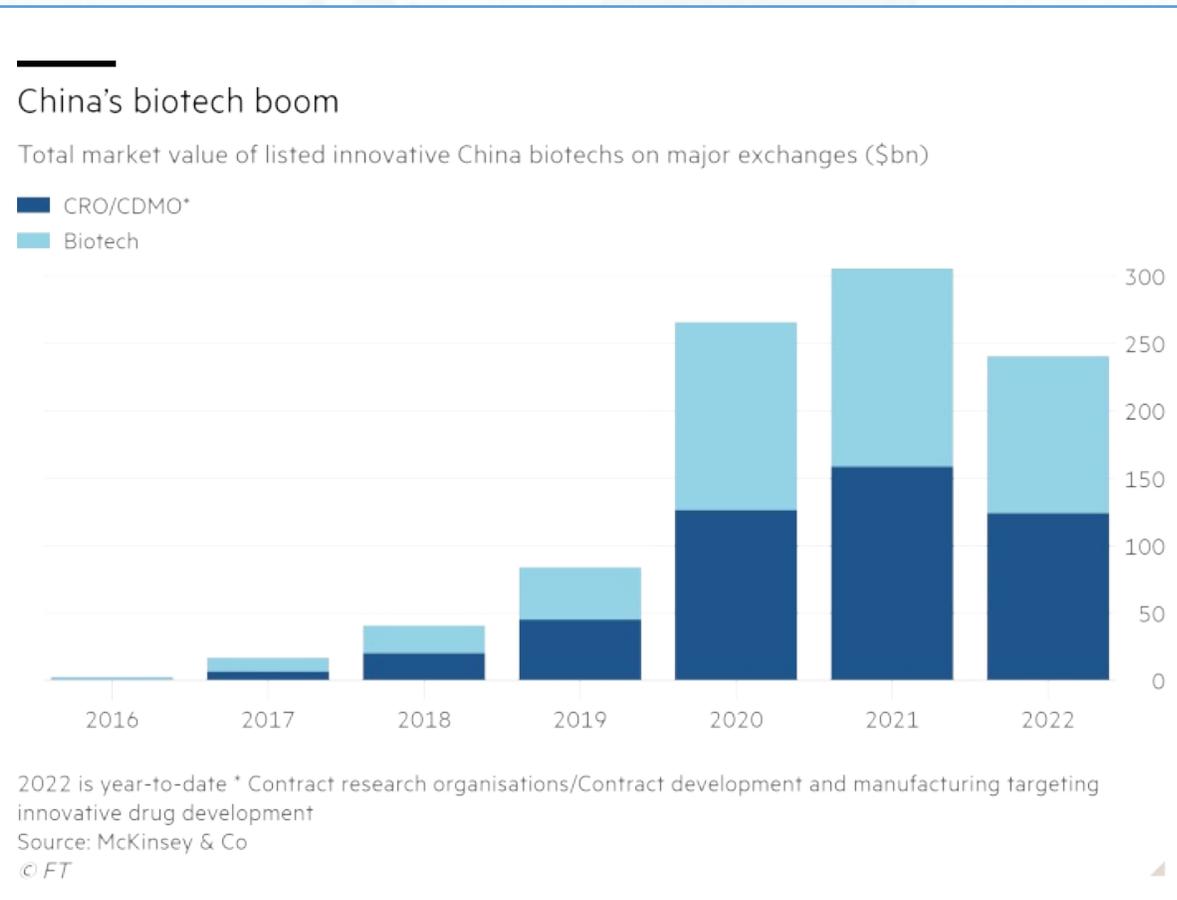
<https://spectrum.ieee.org/news-from-around-ieee/the-institute/ieee-products-services/6-tips-to-help-your-startup-survive-the-coronavirus-pandemic>

6. Want to be a Global Entrepreneur? Here's How You Can Do It, November 23, 2020

<https://spectrum.ieee.org/the-institute/ieee-member-news/want-to-be-a-global-entrepreneur-heres-how-you-can-do-it>

Why Should US and China Still Collaborate?

A Perspective from the Global Fight for Cancers



The market value of listed biopharma groups from China on the Hong Kong, Shanghai and Nasdaq exchanges has surged from \$3bn in 2016 to \$240bn today, despite a sharp correction in global biotech stocks in 2021 according to McKinsey

US Tapping China for Cancer Innovations*

Reported by Financial Times, March 6, 2022

- **J&J targets more Chinese biotech deals** after its successful collaboration with Chinese-founded Legend Biotech resulted in U.S. FDA approval for a CAR-T cancer therapy.
- Several other large US pharma groups, including **Eli Lilly, AbbVie and Amgen have clinched similar agreements** over the past two years and to sell in other markets.
- Western drugmakers clinched a dozen major licensing deals with Chinese biotechs carrying **a median deal value of \$900mn** between July 2020 and July 2021, according to McKinsey
- Peter Lebowitz, head of J&J's global oncology division, told the Financial Times that "before 2015, in the early days", Chinese biotech companies were focused on formulating "slightly better versions of existing" drugs, adding: **"Now though, in China there is true innovation."**
- Nature: "Clinical trials [on new cancer drugs] that **typically take 10 to 15 years can be sped up to 2 to 3 years, with China's participation,**" says Bob Li, Memorial Sloan Kettering Cancer Center, New York**
- US News: U.S.-China Cancer Study Offers **New Hope for the treatment of a rare deadly childhood leukemia** may have implications for afflicted children around the world. (Jan. 2020)

* Financial Times, www.ft.com/content/bbd79e8e-8eea-4852-a6dd-ff61946b8fac

** Nature: www.nature.com/articles/d41586-022-00570-0



Cancer – A Global Challenge

10 million people worldwide are estimated to have died from cancer in 2020, compares to the 6.15 million total deaths from COVID* for over 2 years. Cancer is the 2nd leading cause of death just behind cardiovascular disease.

World Health Organization (WHO)'s research show cancer costs global Economy \$895 billion amounts to **1.5% of the global GDP**

Cumulative cancer deaths globally from 2020 to 2040 will reach **> 200 million**. China will reach more than 60 million deaths (or >3 million annually) and 30% of world total deaths, whereas US will reach cumulatively ~10 million deaths (or about half million deaths on average annually) and 5% of world total deaths

* Source: WHO and JAMA network Open

PVmed Case: A Journey To Deploy Machine Learning to Fight Cancer

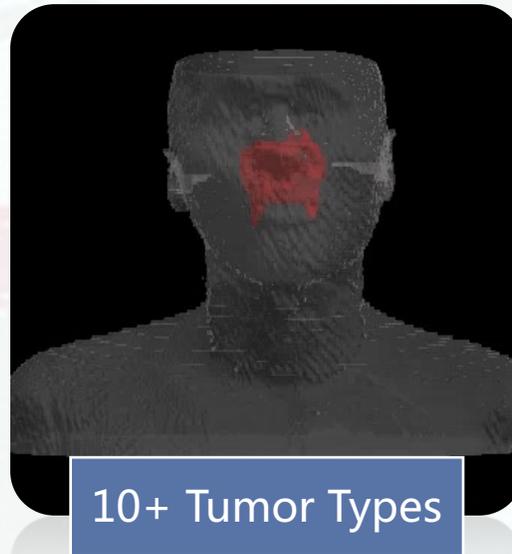
Mission: To strive for a world that no longer fears cancer

Founded in 2017 by Prof. Yao Lu, Sun Yat-Sen University and its affiliated Cancer Center together with his college classmate Dr. Shuo Shen. The company now has presences in Guangzhou, Hongkong, Singapore, US, Germany, and Kenya

Organs at Risk (OARs)



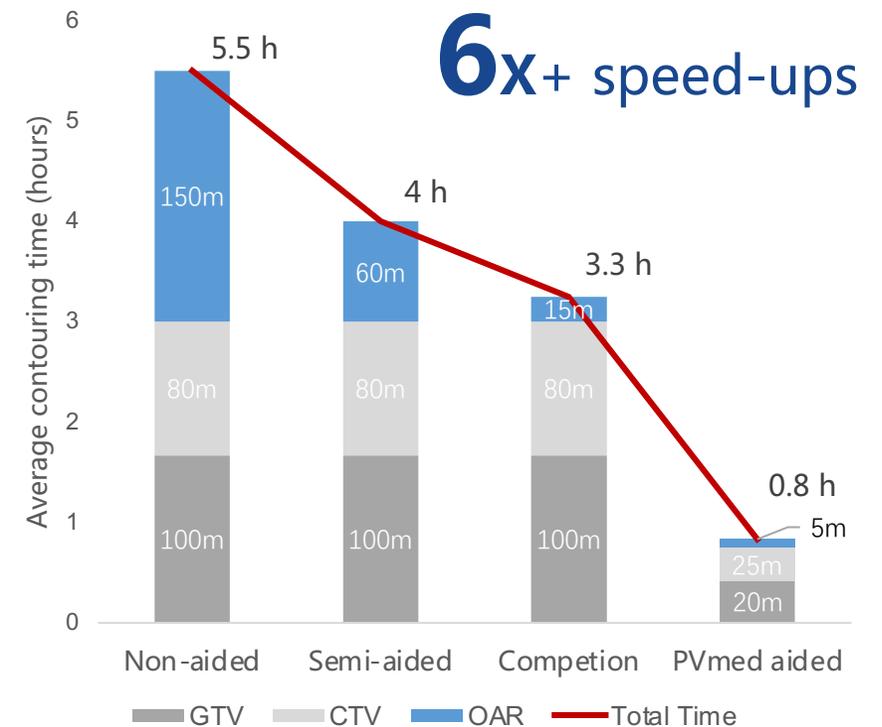
Tumor Targets



- Personalized
- Accurate
- Fast
- Scalable

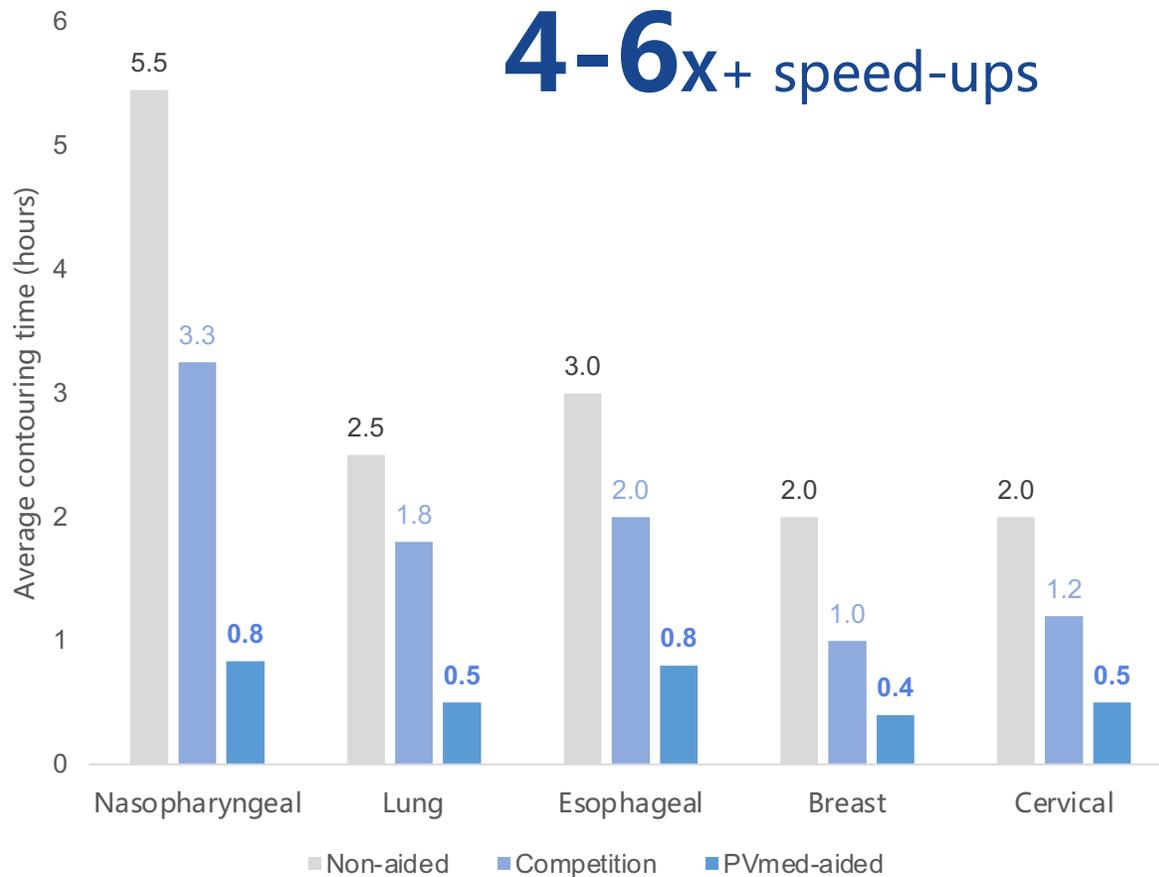
Drastically Improved Efficiency

(e.g., nasopharyngeal cancer average contouring time shown in the chart below)



PVmed Case: A Journey To Deploy Machine Learning to Fight Cancer

Improved Performance Across Multiple Cancer Types



Results to Date

Greater China

- Received 2 NMPA (CFDA) Class III Approvals
- Cover 10+ types of caners
- Deployed in >100 hospitals
- Aided treatment of >120,000 patients in 2 years

US

- Received FDA 510k approval
- Commercialization through technology licensing to US medical device manufacturers

Rest of World

- **Europe:** equity investment from Philips and research collaboration with leading institute
- **Southeast Asia:** clinical research collaboration with National University Cancer Institute Singapore
- **Africa:** collaboration with Kenya's University of Nairobi-Cherami Cancer Institute

➤ **Goals: To aid treatment of 1 million cancer patients worldwide by 2026 and 10 million by 2031**

U.S.-China Cancer Collaboration Could Open Door For New “Ping-Pong Diplomacy”



August 28, 2021, by Kevin Rudd*, former Prime Minister of Australia and currently CEO of the New York-headquartered Asia Society, on the topic of “Advance the Global Fight Against Cancer and Achieve a Moonshot in the Post-Pandemic Era”

“Given all that’s going wrong in the U.S.-China relationship, **we should turn cancer collaboration between China and the United States into the ping-ping diplomacy of the 21st century,**”

“If those guys could play ping-ping to bring the U.S.-China relationship in from the cold back in the early 1970s, then I think **we can do something similar now if we put our mind to it.**”

Rudd was hopeful about collaboration between the two countries because the fight against cancer **“cuts right across political and ideological divides into people’s lives.”**

“The great thing about the United States is that normally when politicians that are Republicans and Democrats don’t talk to each other anymore, they did talk to each other about this,” he said. “That is really important. The idea of actually being able to have a bipartisan project in the United States on **cancer treatment and cancer drug research and a bilateral initiative between China and the United States** — because **it transcends politics at home and abroad** – I think is an exceptionally exciting thing.”

November 2021, Global drugmakers, regulatory officials and scientists are teaming up to launch the **Bloomberg New Economy International Cancer Coalition** in Singapore with the aim to **push the US and China to co-operate** on research to speed up the process of developing new cancer drugs. This newly created body through will help facilitate the two countries to collaborate, despite recriminations and division between the superpowers during the pandemic. **

* www.forbes.com/sites/russellflannery/2021/08/28/us-china-cancer-collaboration-could-open-door-for-new-ping-pong-diplomacy-kevin-rudd

** www.ft.com/content/86ec9f20-c2b0-4ffa-99ec-7a7ce7bce547

“When everything seems to be going against you, remember that the airplane takes off against the wind, not with it.”

- *Henry Ford*





Fireside Chat

Prof. Richard
Dasher and
Chenyang Xu



Thanks for listening!



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