

Innovation China 2015

Venture Capital in Hard Technologies

Can we find a path?

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China Materialia LLC

Silicon Valley VC model

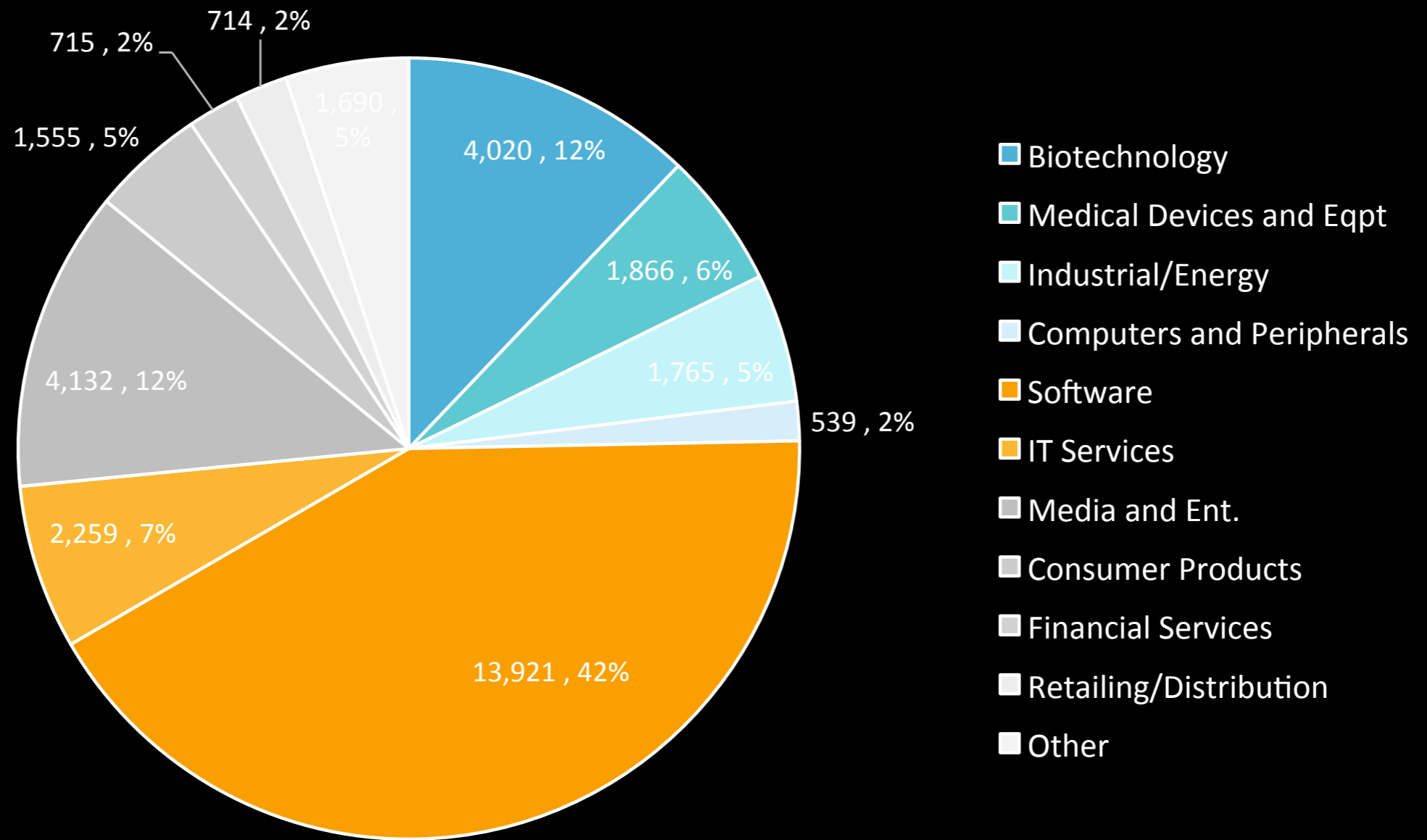
- Ten times better, faster or cheaper
- Network effect, platform effect - aim for monopoly
- Avoid red sea, avoid competition
- Economy of scale drives up profit: marginal cost of zero
- Team of free-spirited nerds + adult supervision

Adapted from <<Zero to One>>

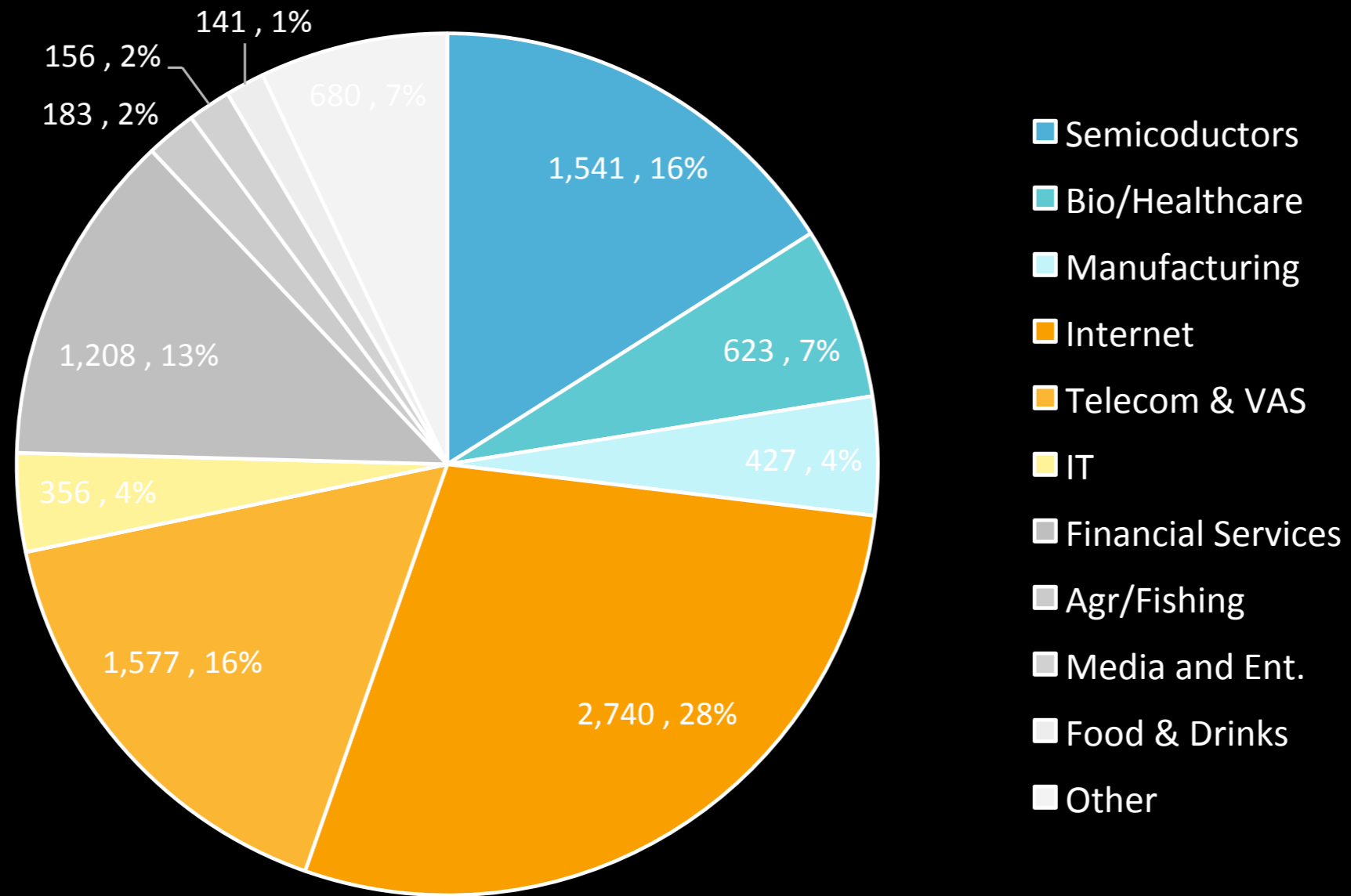
China VC Model

- Better for China market
- Mass, mass, mass
- Standout in red sea - everywhere is fierce competition
- Thin profits - scale comes before economy of scale
- Superman (superwoman) is the entrepreneur

US VC Investment Amount by Q3 2014, US\$M



China VC Investment Amount by Q3 2014, US\$M



Why?

	Software start-ups	Biotech start-ups	Materials/Semi/ other hard tech
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Subject	Perfectly determinate code	Uncontrollable organisms	Atoms and moleculars
Environment	Well-understood, artificial	Poorly understood, natural	Complex, hostile
Approach	Definite, engineering	Indefinite, random	Semi-definite
Regulation	Basically unregulated	Heavily regulated	Some regulation
R&D Cost	Cheap (a little seed money)	Expensive (> \$1 B per drug)	\$ 10 - \$100 M
Team	Committed entrepreneurial	High-salaried, unaligned lab drones	Multidisciplinary engineering
Manufacturing	Easy	Easy	Big headache
Market	Uniform, large	Uniform, large	Islands

Fit with Silicon Valley VC?

- ~~Ten times better, faster or cheaper~~
- ~~Network effect, platform effect – aim for monopoly~~
- ~~Avoid red sea, avoid competition~~
- ~~Economy of scale drives up profit: marginal cost of zero~~
- ~~Team of free-spirited nerds + adult supervision~~

Its ... hard

Lots of \$\$\$

Collaborative efforts of scientists

Manufacturing scale-up

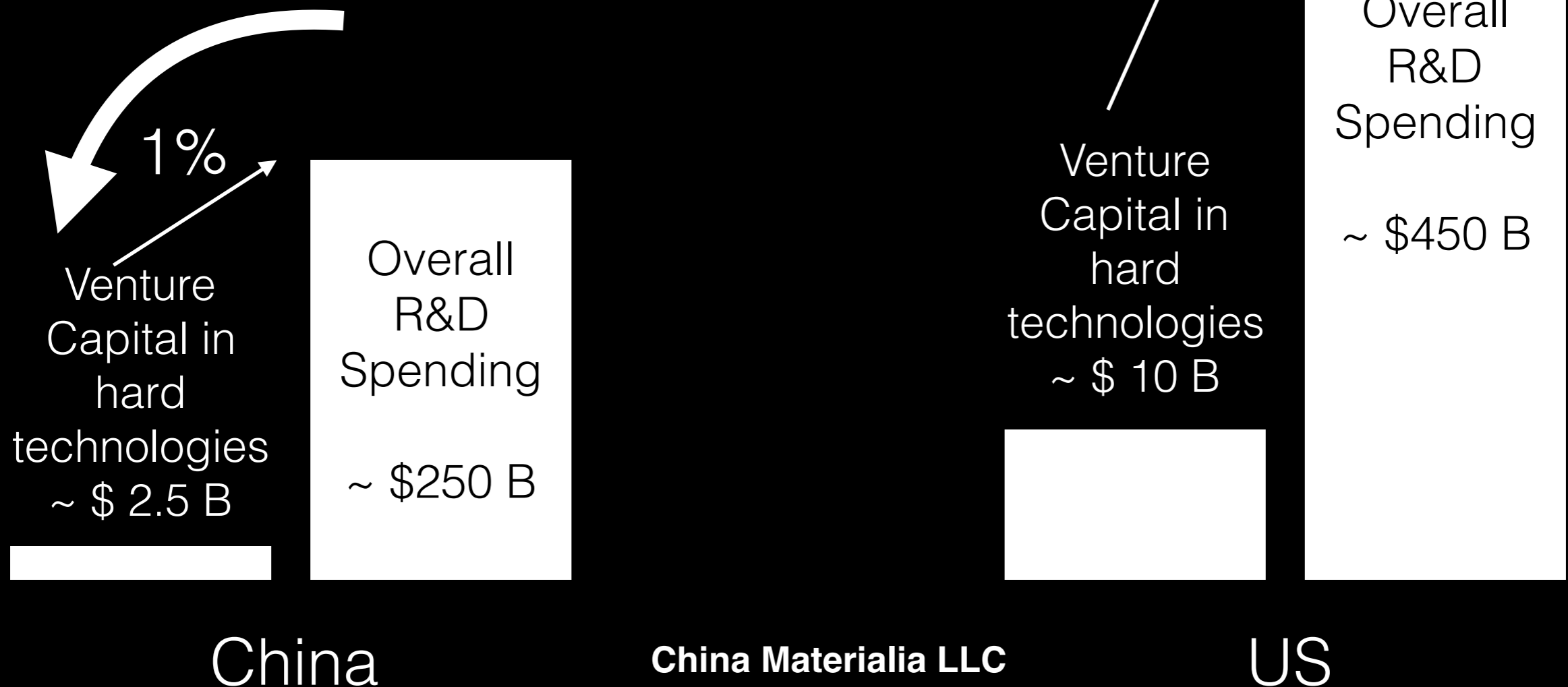
Fierce competition

“It’s a different game”

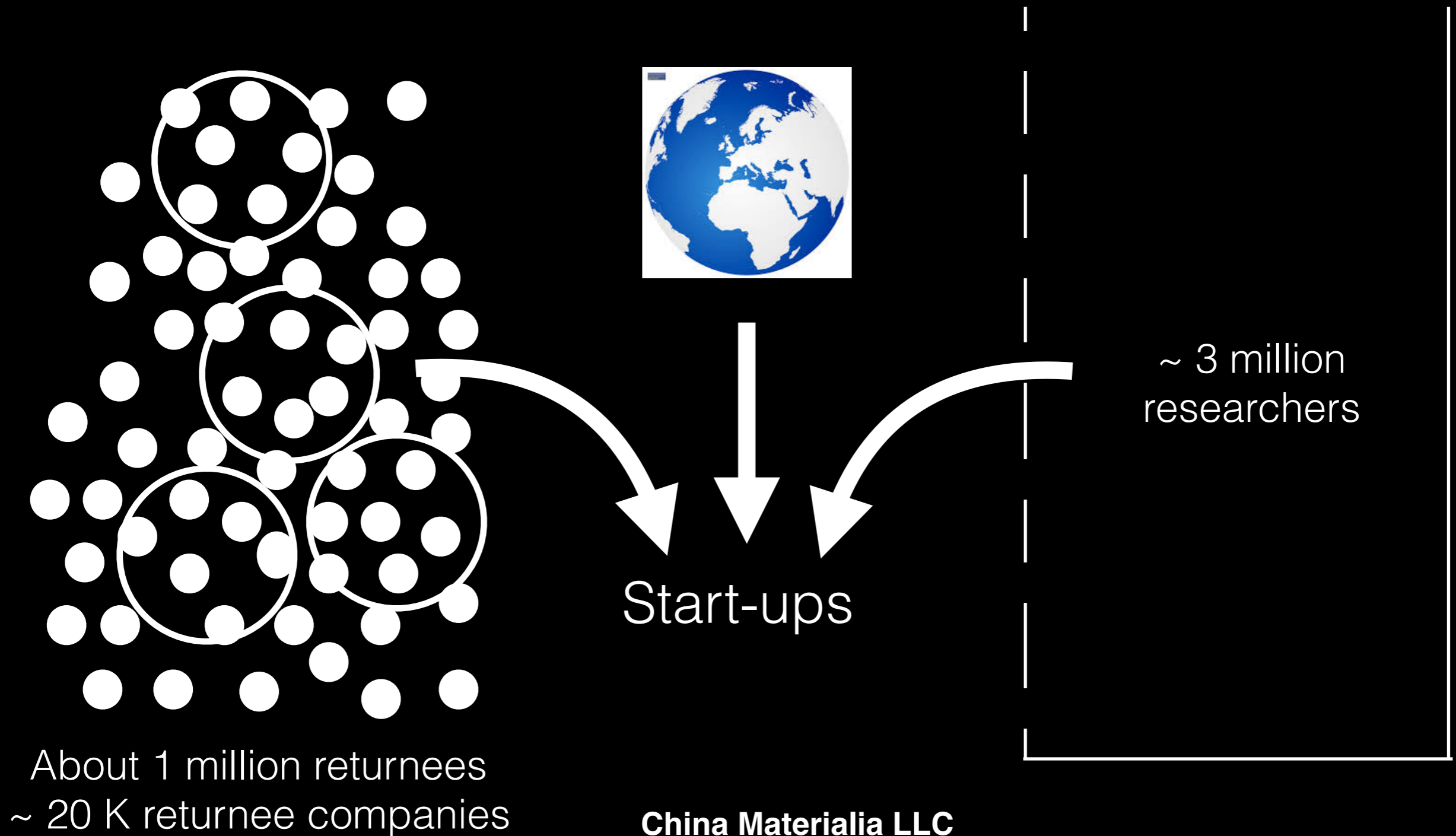
So what do we do with a messy and challenging odd-ball?

Lots of \$\$\$

- Current government push to convert some grants to fund will enhance efficiency and increase flow of capital to start-ups
- The new National VC FOF of \$6.5 B will multiply into \$100 B scale, adding tremendous capital to the VC pool

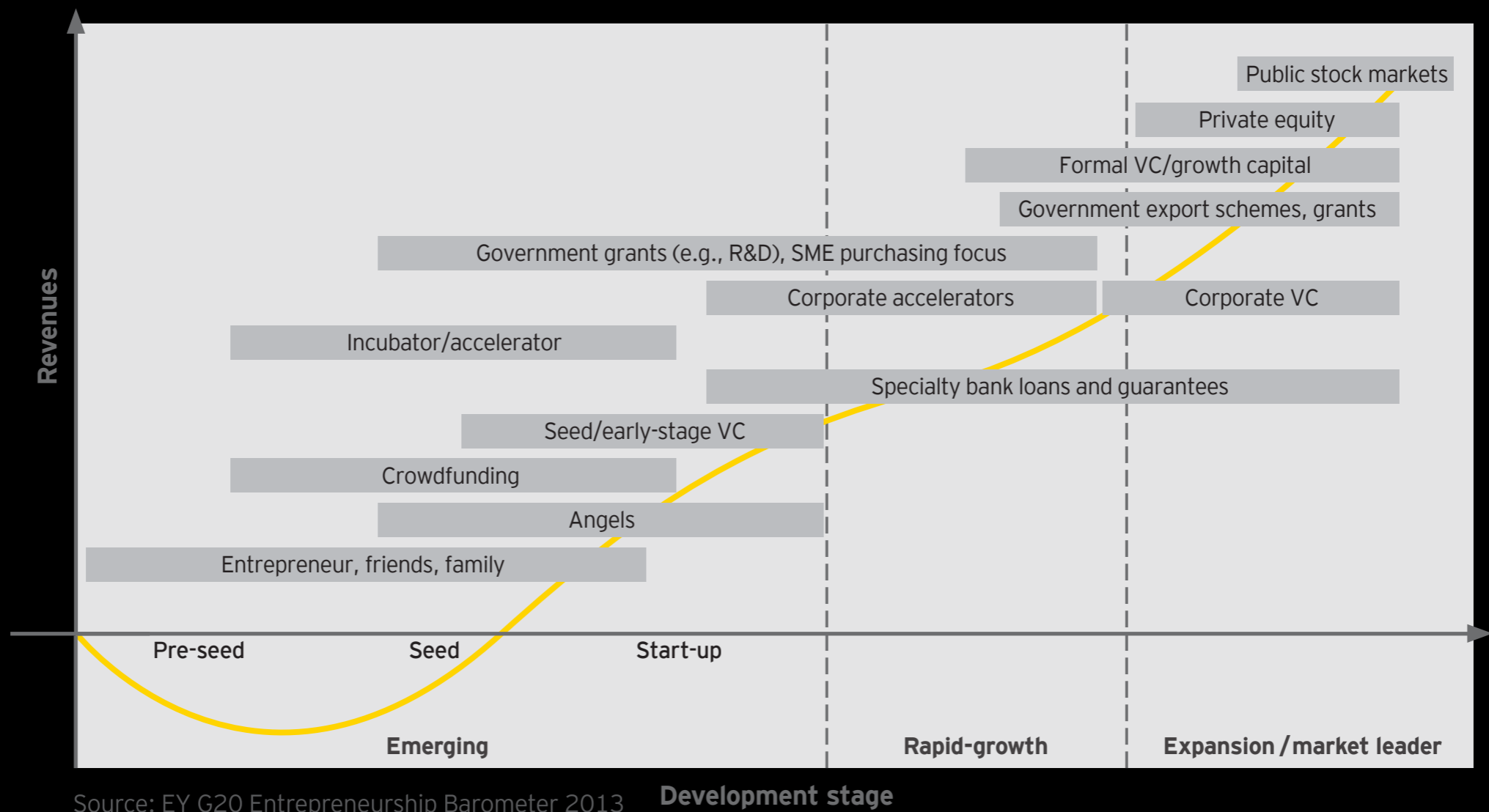


Getting talents together

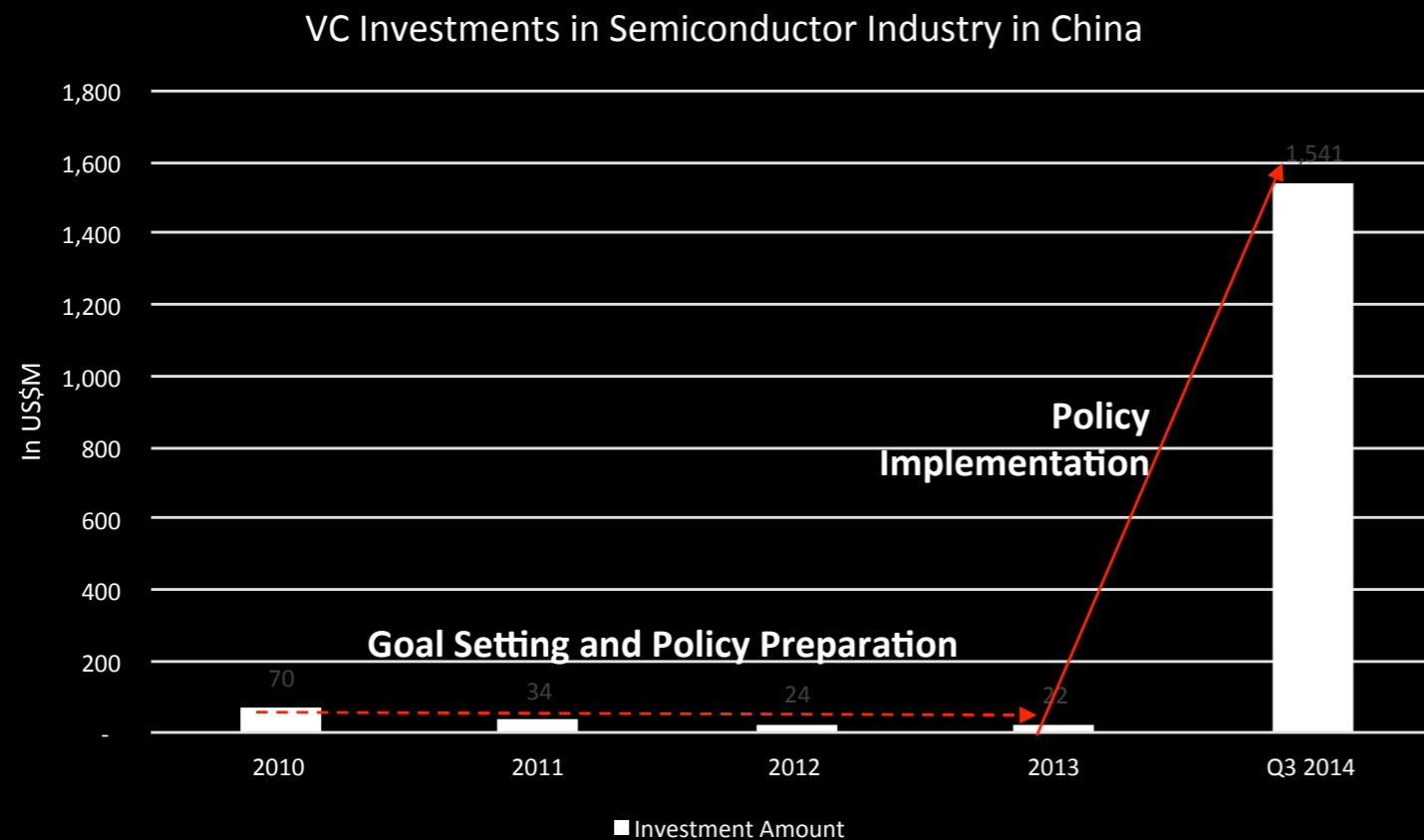


Manufacturing scale-up

- Its China's strength
- Work with MNC companies for scale up and leverage many years of expertise



Market and policy drive



Source: Zero2IPO, CM

- *National Program to Promote IC Industry Development* was released in June, 2014 by MIIT:

- National IC Industry Fund was founded. Phase I Fund has 125 billion RMB in size, contributed by Financial Allocation, Social Security Fund, and others led by China Development Bank.
- 40% of the fund will be invested in IC manufacturing and 30% in IC design;
- Further promotion will be implemented including tax cut;
- The goal is that by 2015, the industrial revenue exceeds 350 billion RMB.

Hard technology investing takes...

Lots of \$\$\$

Lots of scientists

Large scale manufacturing capabilities

Large market

Powerful policy drive

China needs to:

More efficient allocation of capital - getting more grants and more government fund to the right start-ups

Build platform for talents to get together rather than solo entrepreneurship

Bridge start-ups and big corporates

Strong policy drive that creates and protects markets

Only China
has all the right elements
and here lies
the golden opportunity
for

China

and

for hard technology investing