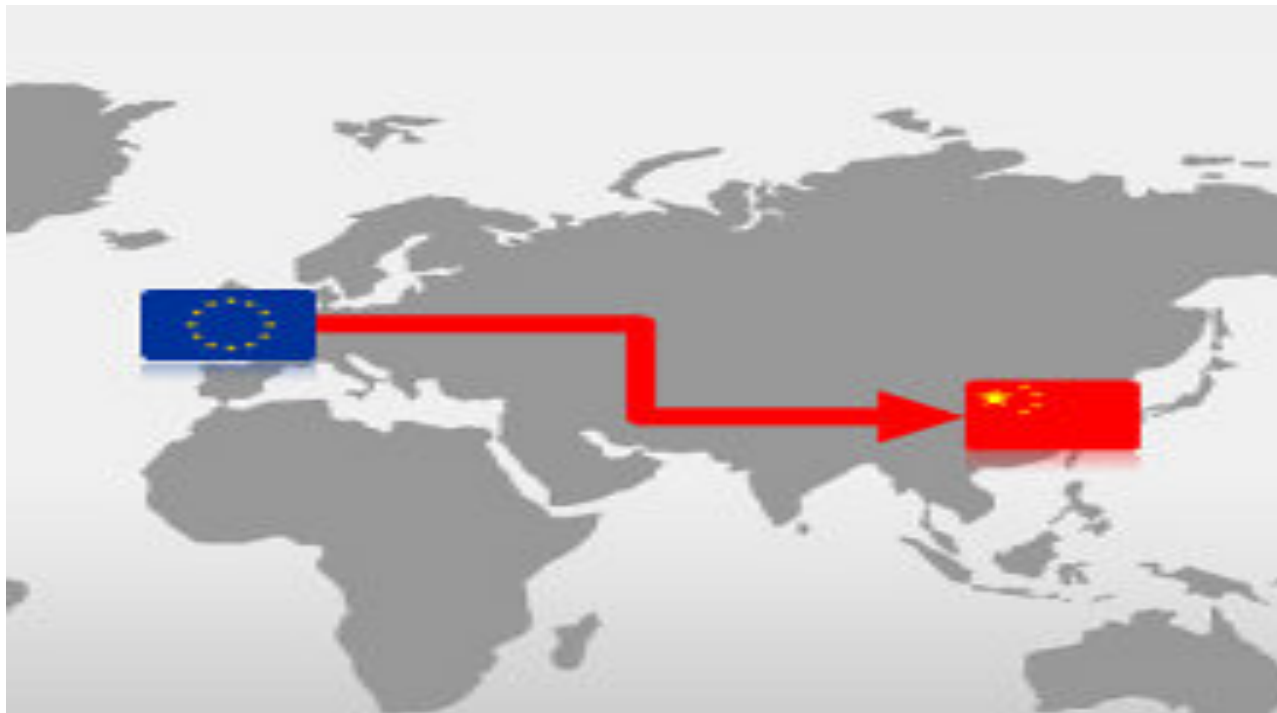


Sino–Euro Bio-Bridge



Dr. Rong Hui Gao
M.D. MBA
G-Med Consulting

Sino–Euro Bio-Bridge



(I) Industry Overview

(II) Cultural Difference

(III) Opportunities



Sino–Euro Bio-Bridge



- **Industry Overview**
 - **Pharmaceutical**
 - **Medical Device**
 - **Diagnostic**
 - **Medical Reform**



Industry Overview

Pharmaceutical (1)

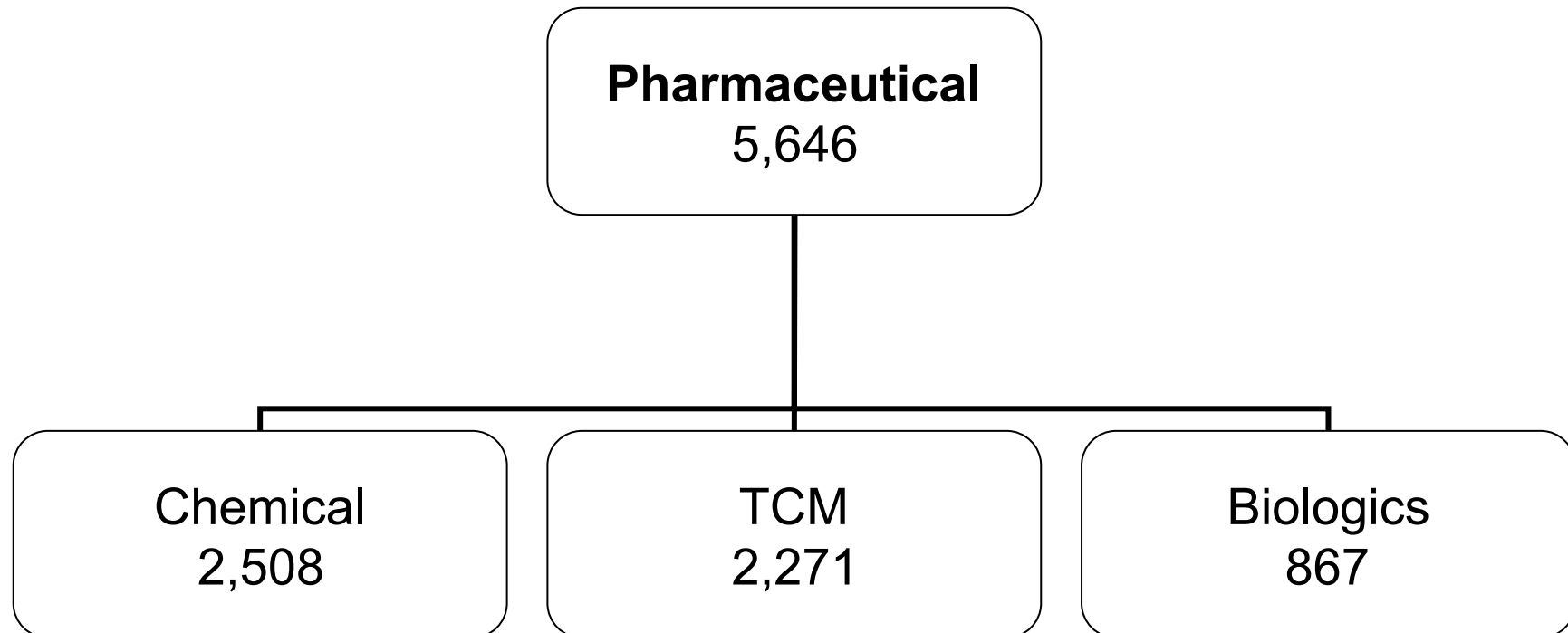
Bio-Medical industry – 7,782 companies in total

- Pharmaceutical: 5,646
- Medical device: 1,168
- Pharmaceutical machinery: 163
- Healthcare materials: 677

Sino-Euro Bio-Bridge



Pharmaceutical (2)



Source: CPA



Industry Overview

Pharmaceutical (3)

- 817,000 tons chemical API;
- 533.18 billion tablets;
- 129.43 billion capsules;
- 28.34 billion injections;
- 11.7 billion infusion solution;
- 16.24 billion powder injections;
- 3rd drug consumption market globally

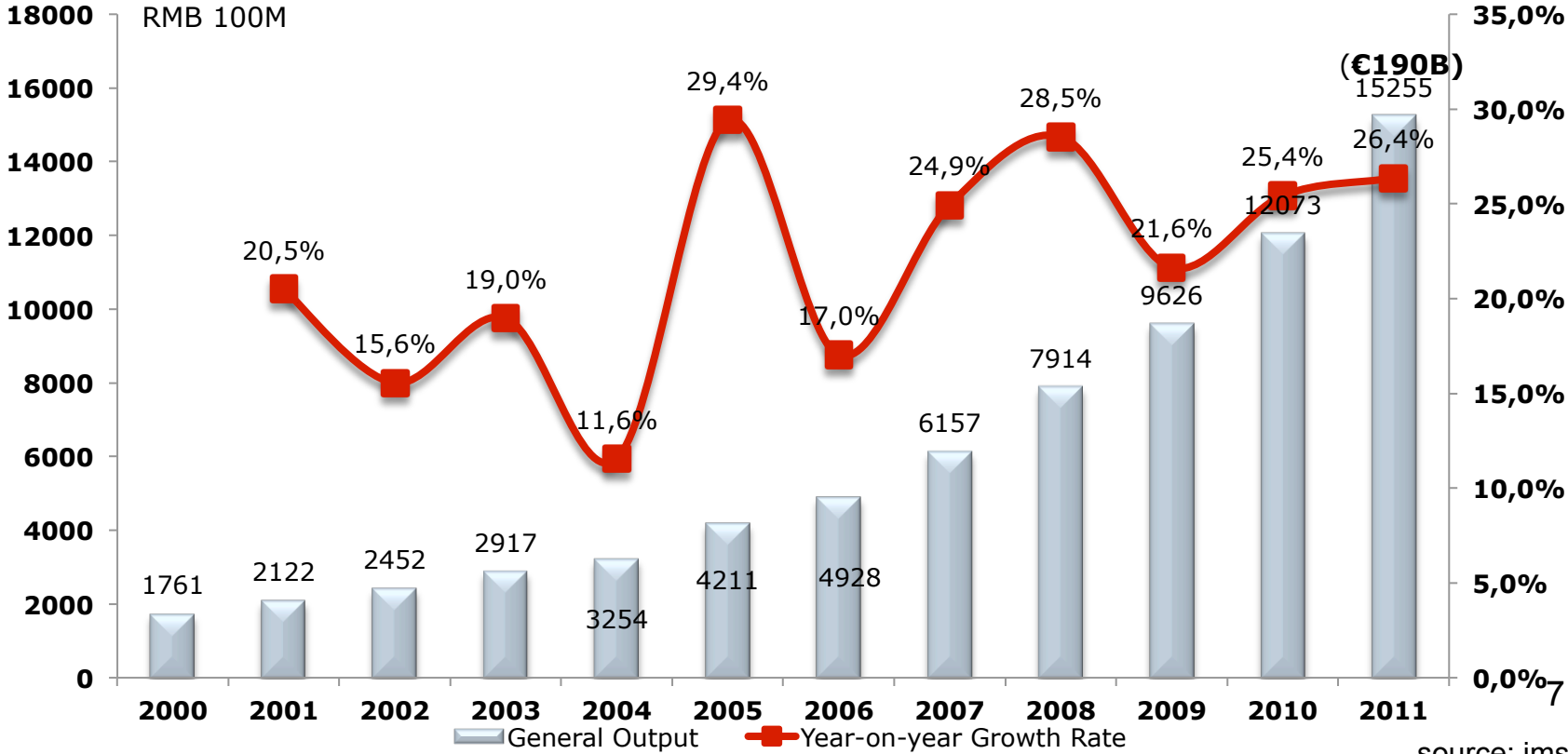
Fast market growth (24% annual growth for past 10 years)

Industry Overview



Pharmaceutical (4)

Healthcare Industry Output 2000 to 2011

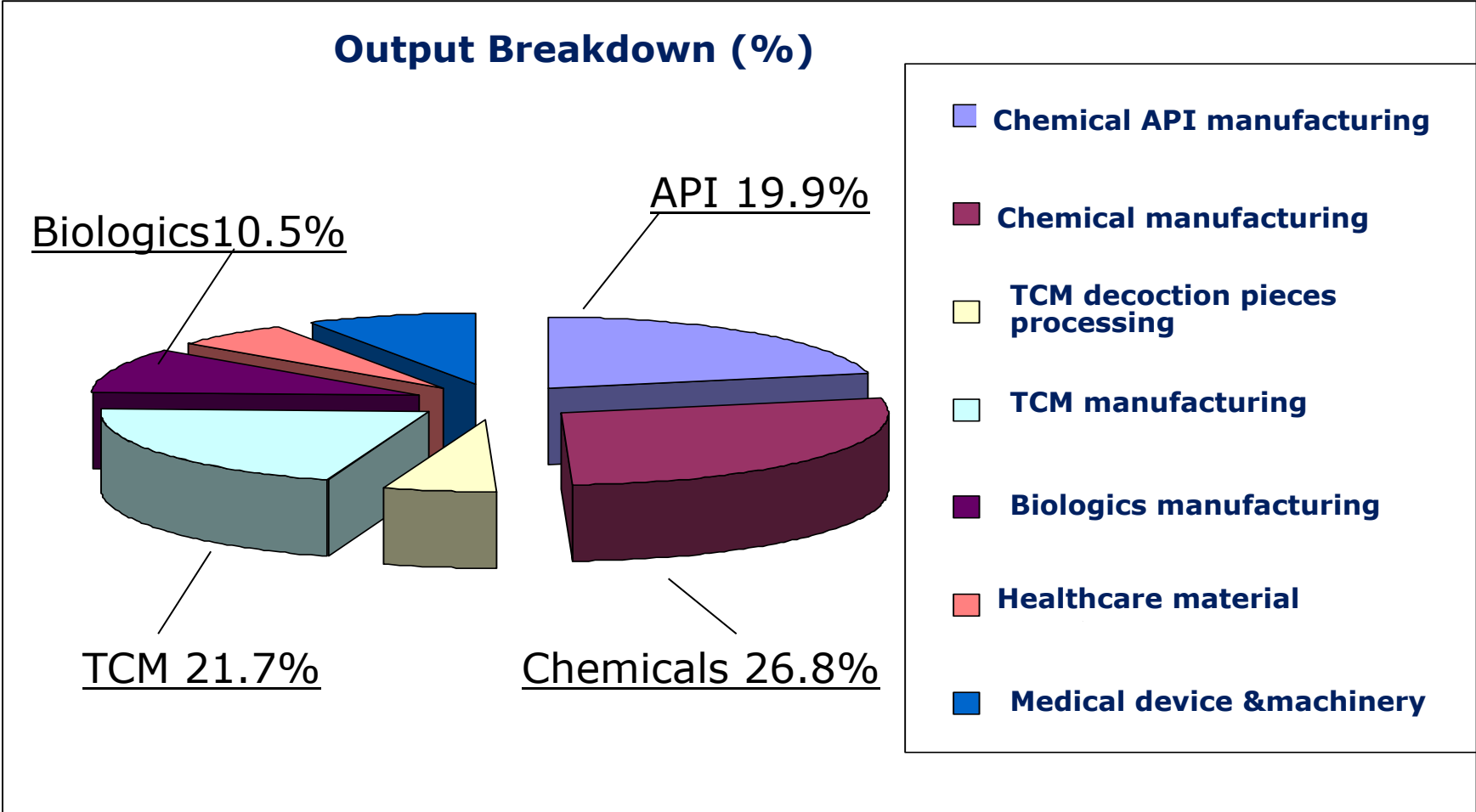


source: ims

Industry Overview



Pharmaceutical (5)



source: ims

Industry Overview



Pharmaceutical (6)

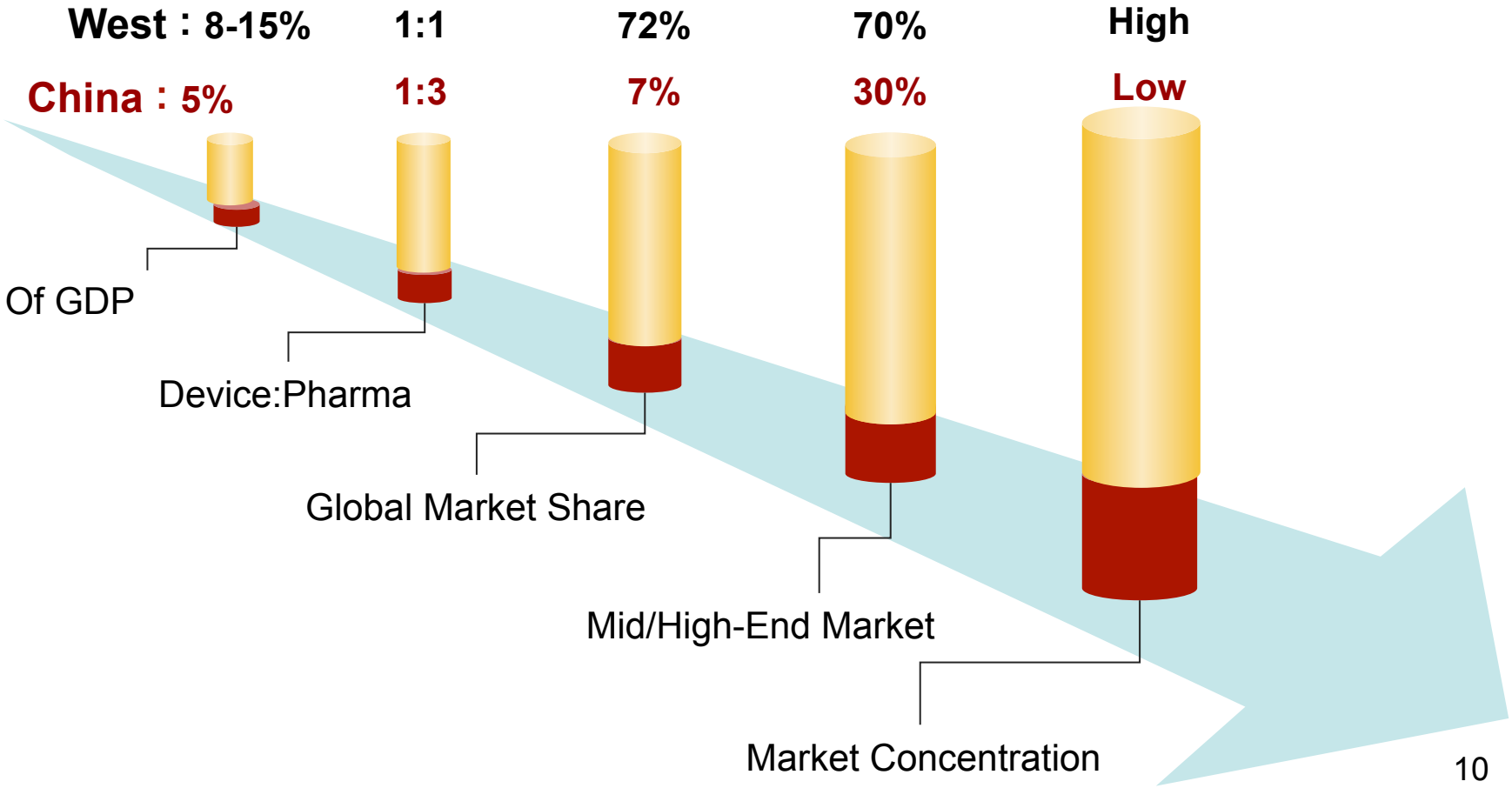
- 5,646 manufacturers, 13,000 distributors and 390,000 pharmacies in China
- Accounts for ¼ of international chemical API trading volume
- Fast market growth, but a long way to go to catch up with leading countries.

A big man, not a strong man

Industry Overview



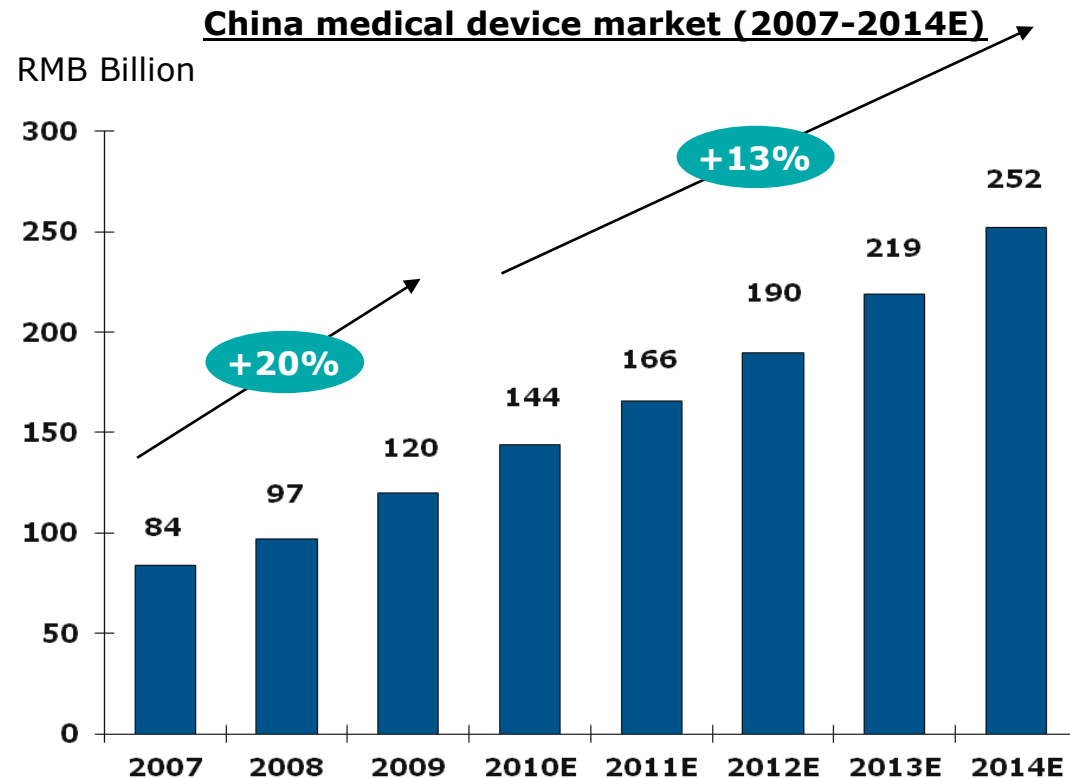
Medical Device (1)



Industry Overview



Medical Device (2)



Comments

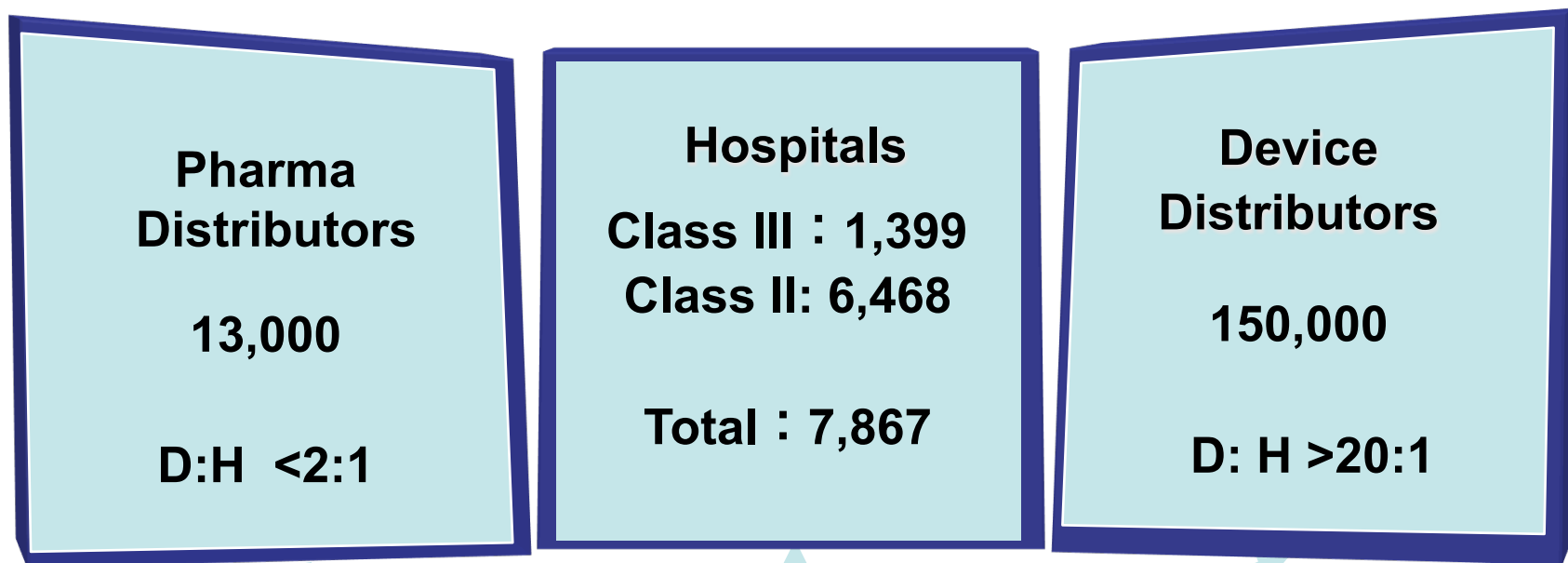
- China medical device market grew to RMB 120 bn (EUR 15bn) in 2009, taking over Japan as the 2nd largest market in the world
- High-end market will grow at 10% per year
- Mid to low end market will grow at ~30% per year
- Every 8-12 years, large equipment need to be replaced, a significant driver for the market

Source: National Statistics Bureau; China Mechanic and electrical data online

Industry Overview



Medical Device (3)



Total purchase value: RMB 500bn (EUR 62bn) in 2011
Average sales: less than RMB 4M (EUR 50K) / distributor

Industry Overview

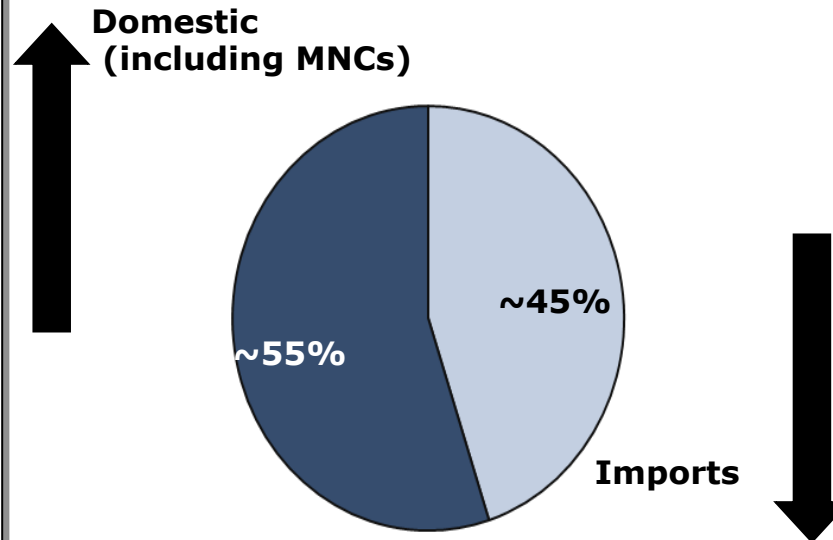


Medical Device (4)

Imports vs. Domestically med devices

Domestic production (more MNCs)

- All large MNCs have at least one JV with a local Chinese firm
- Need for a strong distribution/sales network compels MNC companies to produce domestically
- Hospital purchase contracts favor locally produced products



Imports (slowing trend)

- Many MNCs are shifting manufacturing to China
- Local Chinese companies are investing more in R&D to compete with MNCs; RMB 62 bn (EUR 800M) stimulus package from Chinese government

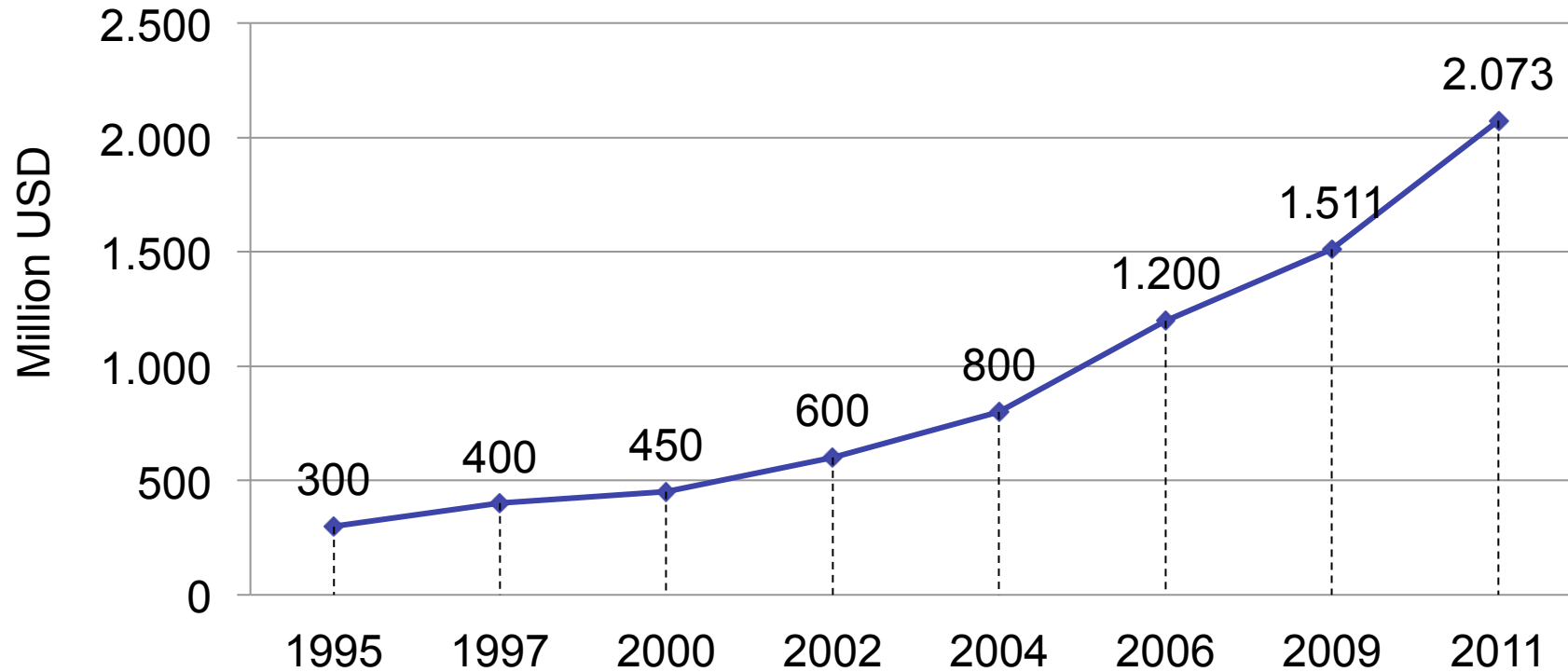
Source: China Market Research Group, Espicom China Medical Device Market Q42010

Industry Overview



Diagnostic (1)

IVD Market Trends in China (\$mm)

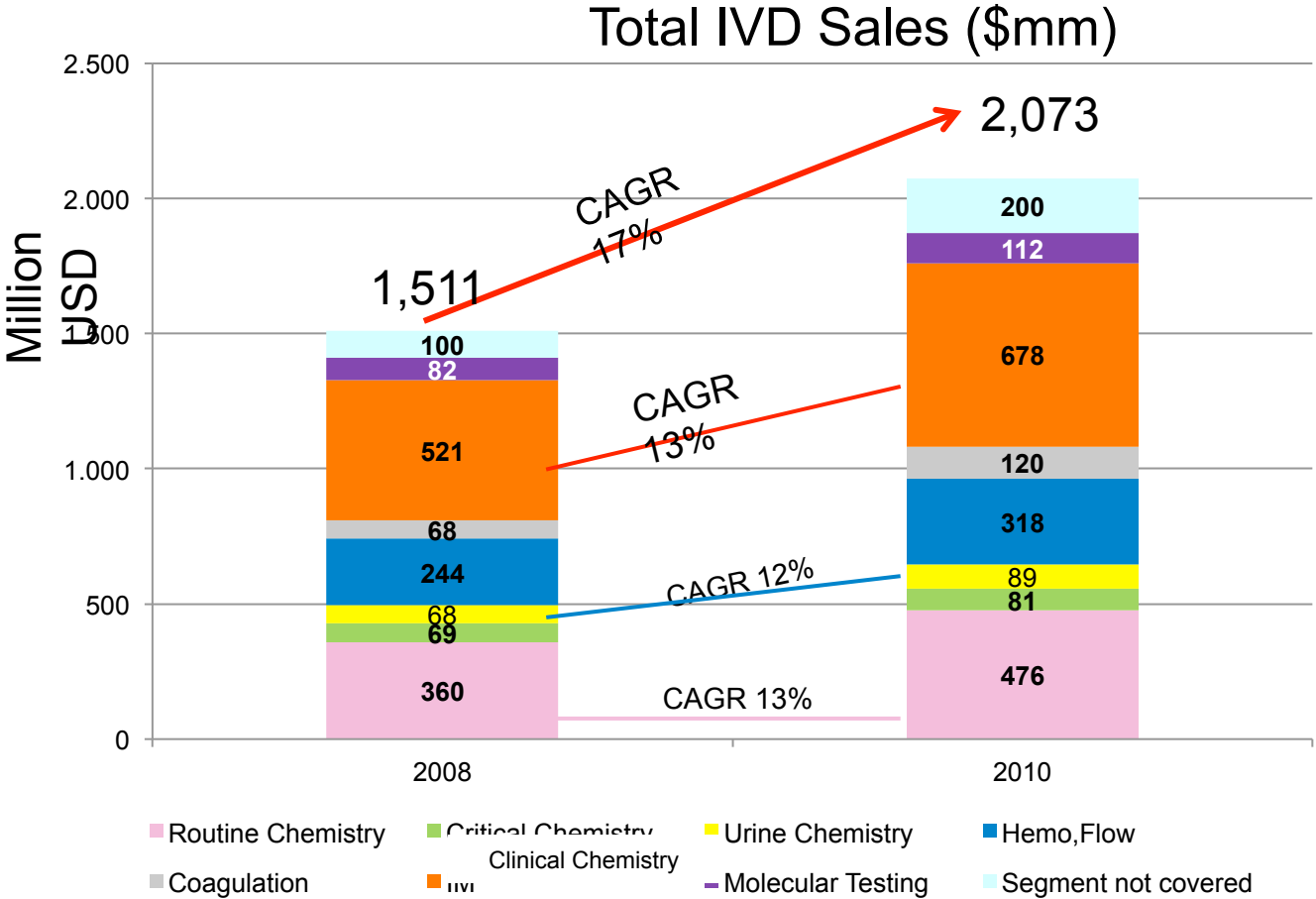


Source: McEvoy & Farmer

Industry Overview



Diagnostic (2)



Segment not covered:
microbiology,
clinical pathology,
cytology

Molecular Testing:
Infection Disease
Florescent in situ
hybridization,
microarrays,
oncology, etc.

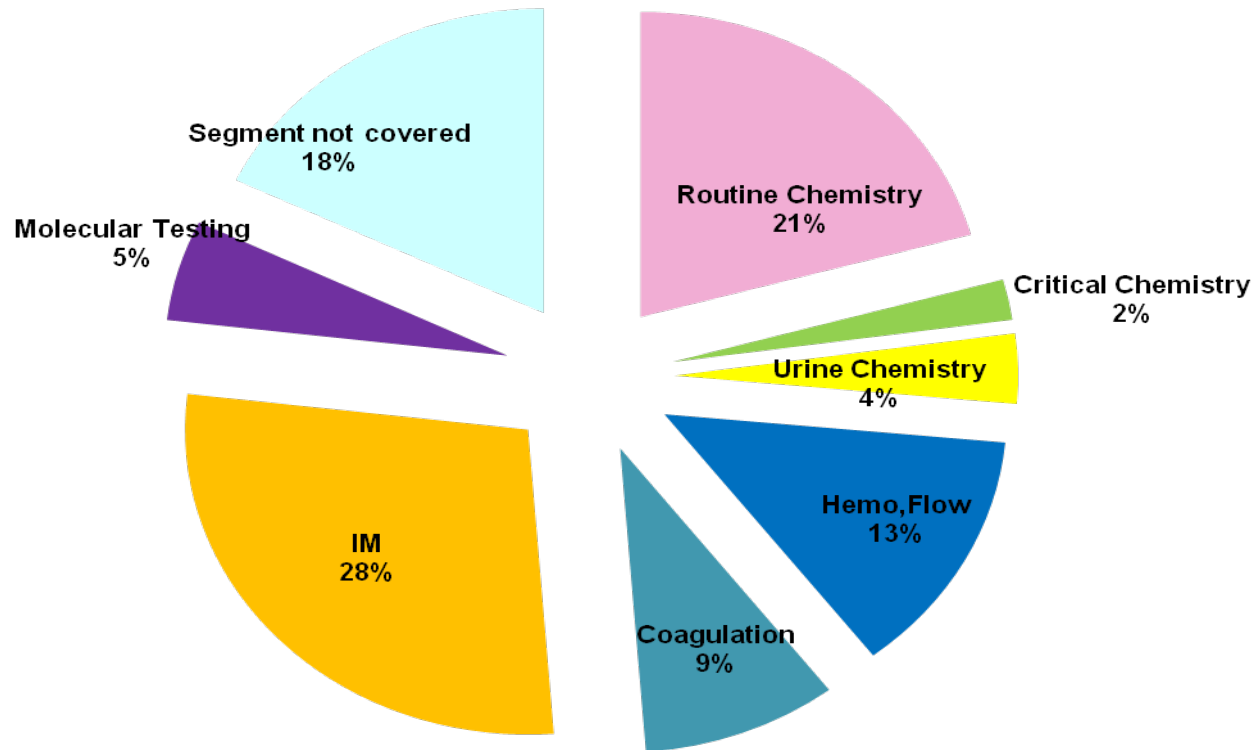
Source: McEvoy & Farmer

Industry Overview



Diagnostic (3)

Contribution of Each Market Segment



Source: McEvoy & Farmer

Industry Overview



Medical Reform (1)

- Government spending over RMB 1240 bn (EUR 155bn),

Four of the five tasks have developed rapidly

- Healthcare insurance
- Grass-roots medical service system
- Public health
- Essential drug
- Hospital reform has not been implemented



Industry Overview



Medical Reform (2)

Universal reimbursement coverage system

- New Rural Cooperative Medical System
- Medical Insurance System of Unemployed Urban Residents
- .Medical Insurance System of Employed Urban Residents
- Complementary Medical Insurance System
- Commercial Medical Insurance for Public Servants

Industry Overview



Medical Reform (3)

Government continues to increase investment

- By 2015, Government's subsidies to rural residents' medical insurance will be further increased by 50% from the level in 2012
- Reimbursement rate will increase to 75%
- Reimbursement cap will increase up to RMB 80,000 (EUR 10,000) per person p.a.

Fact Sheets (1)



- Population 1.35bn by 2010
- Chinese people aged 60 or above stood at 118.85 million in 2010, accounting for 13.26 percent of the total population
- Life expectancy: 74.84 years, male: 72.82 years female: 77.11 years, 2012E (source NBS)
- 300M emerging middle class
- Urbanization 45% vs. 55% 2010

- New cancer patients 3.12M p.a.; 2.7M patients died of cancer p.a.
- 90m diabetics; 160m hypertensive population
- Obesity rate less than 5% country wide, but more than 20% in some cities
- 80% adults do not exercise regularly

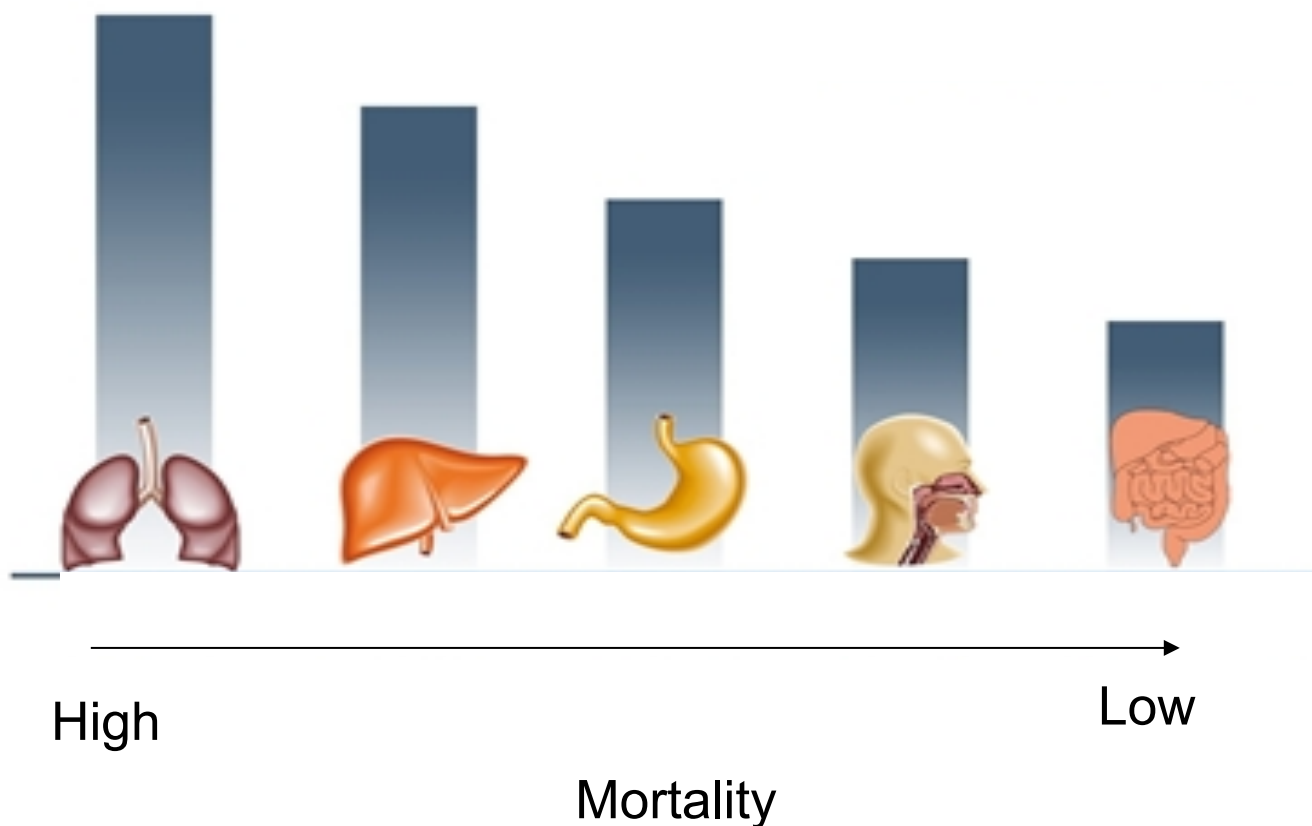
- Lifestyle:
 - Changing eating habits of Chinese population, more fast food and sweet drinks
 - 60% male adults smoke



Fact Sheets (2)

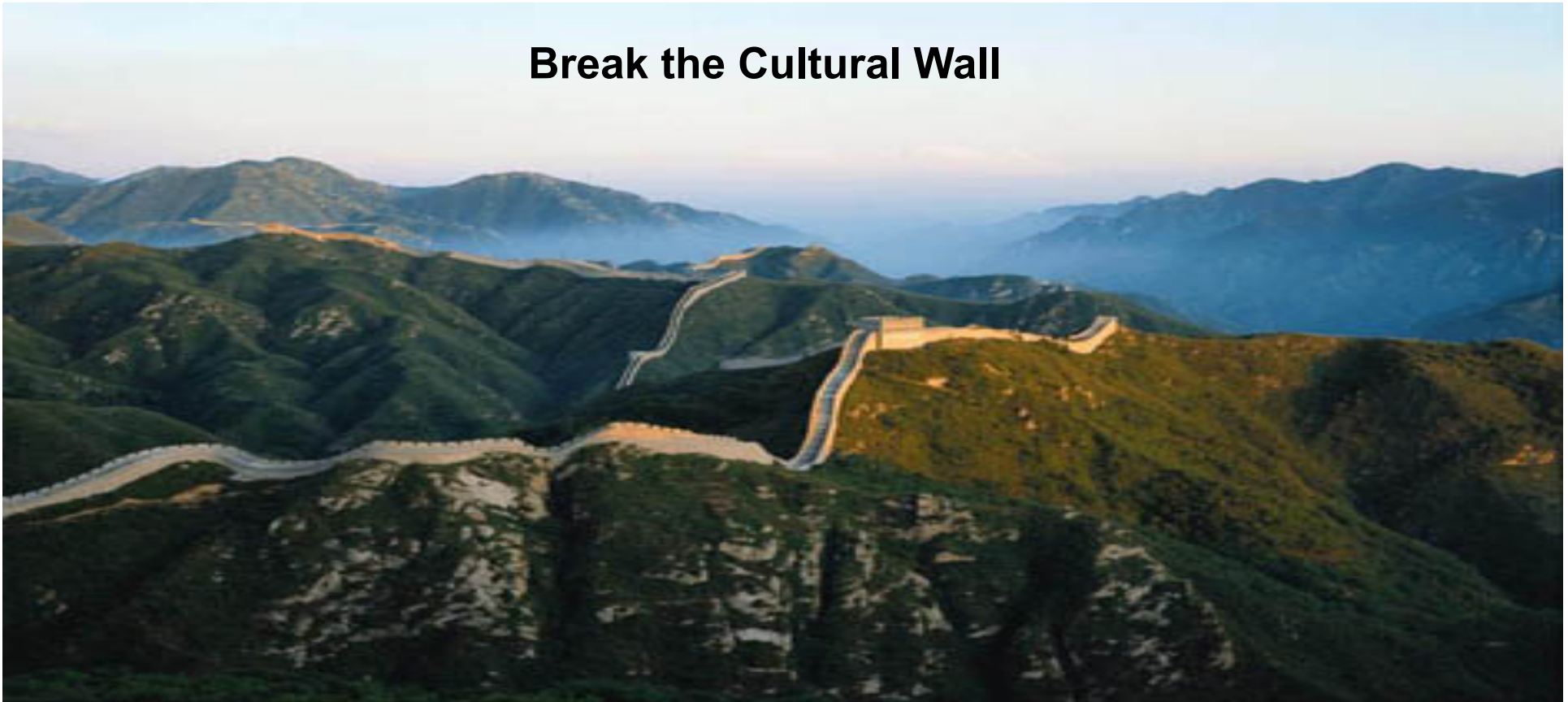


Six people are diagnosed with cancer every single minute in China



Cultural Difference

Break the Cultural Wall



Cultural Difference



Culture Matters



谦恭
Modesty



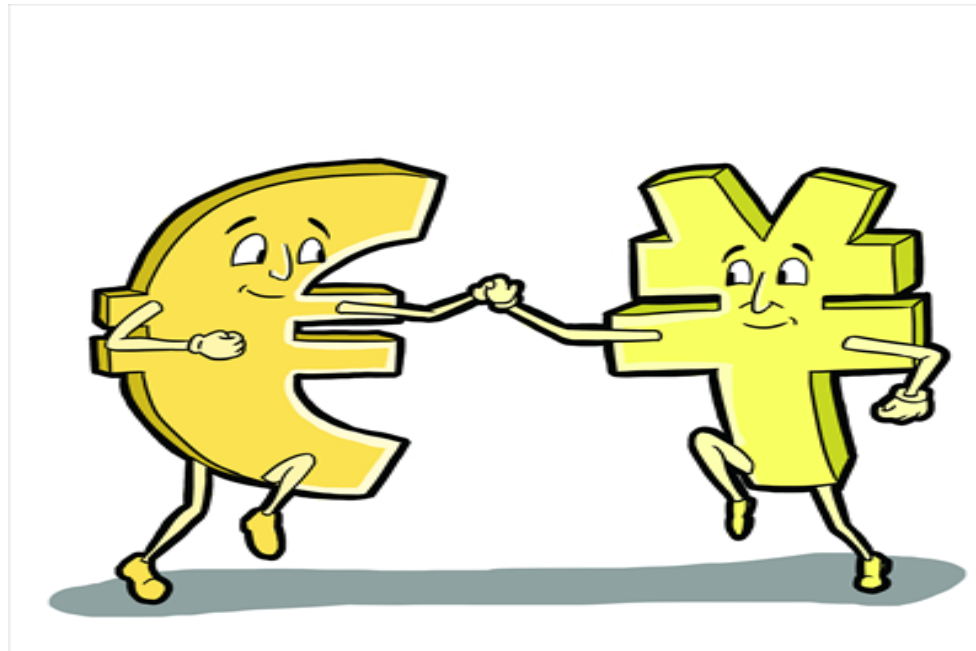
个性
Personality

Cultural Difference

Face - Truth
Introvert - Extrovert
Follower - Creativity
Practical - Interest
Relationship - Credibility
Work - Life



Opportunities



Opportunities



Government continues to increase investment

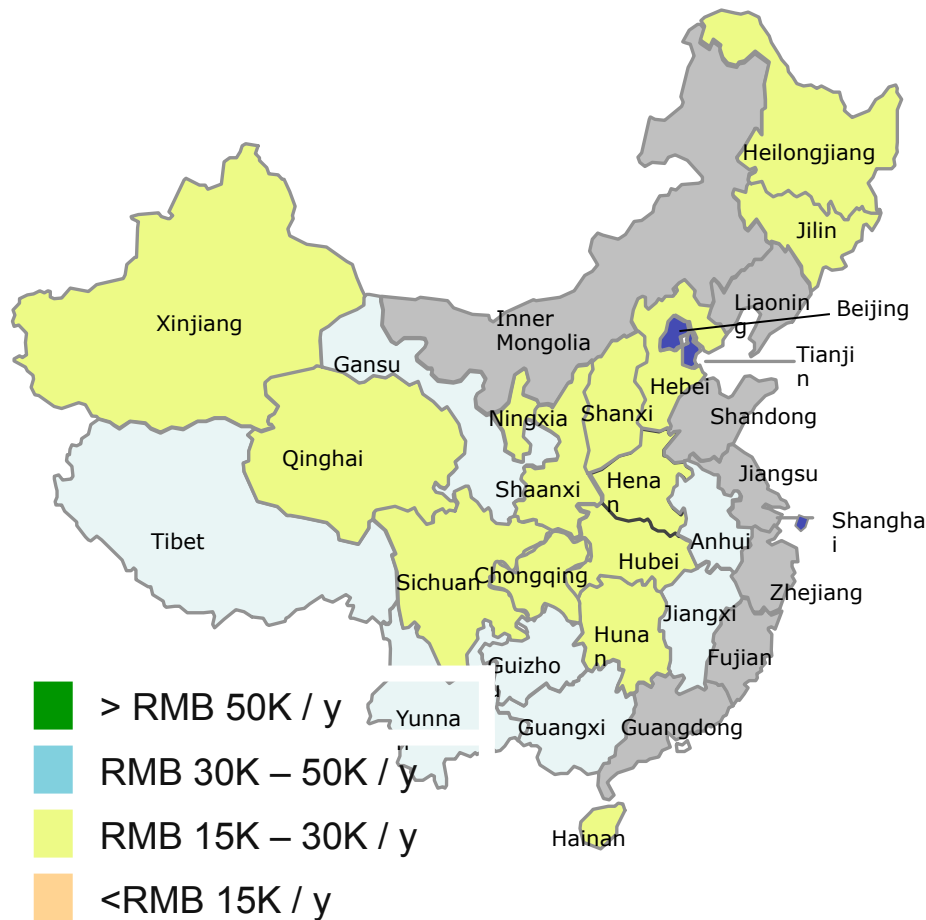
- China's pharmaceutical market is expected to experience 24% of CAGR during 2011-2015.
- Fast growth disease area: anti-oncology and anti-diabetes and immunopotentiator
- Fast growth pharma sectors: bio-similar, modernized TCM
- Large scale primary care medicine
- Strong demand for high-end devices in large cities and hospitals; basic needs increase for low end products

High income market for best-in-class products

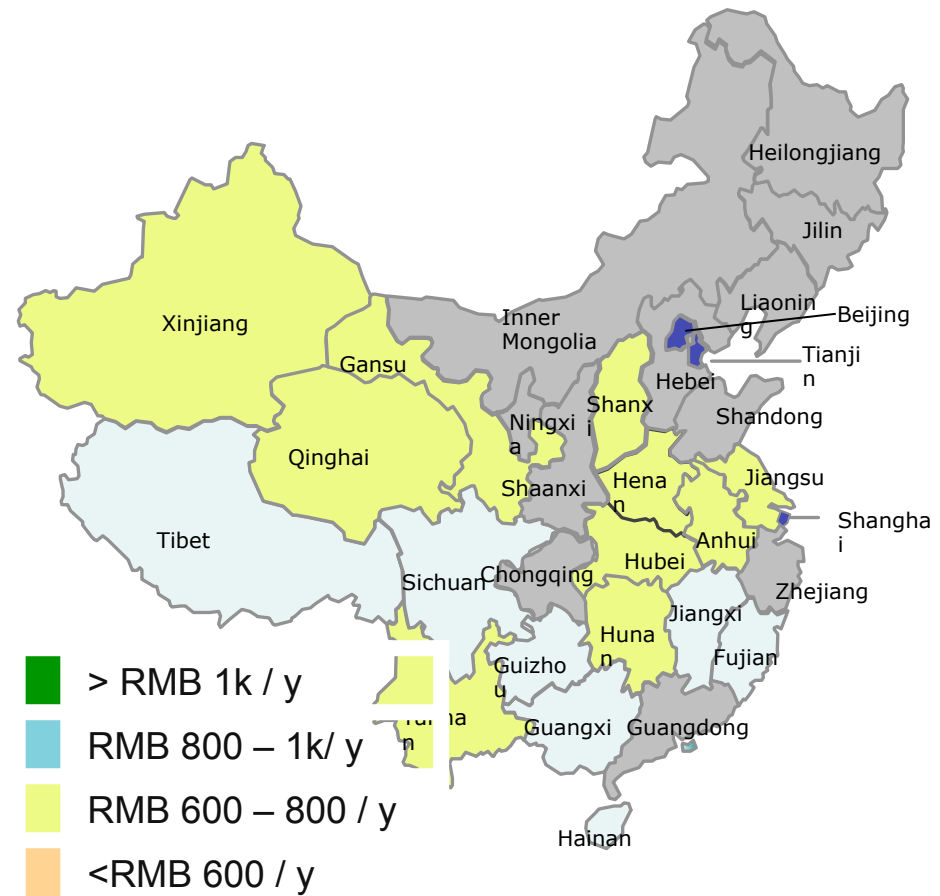
Low income market for basic needs



2008 GDP per capita by province



2008 exp. per capita on healthcare (urban) by province

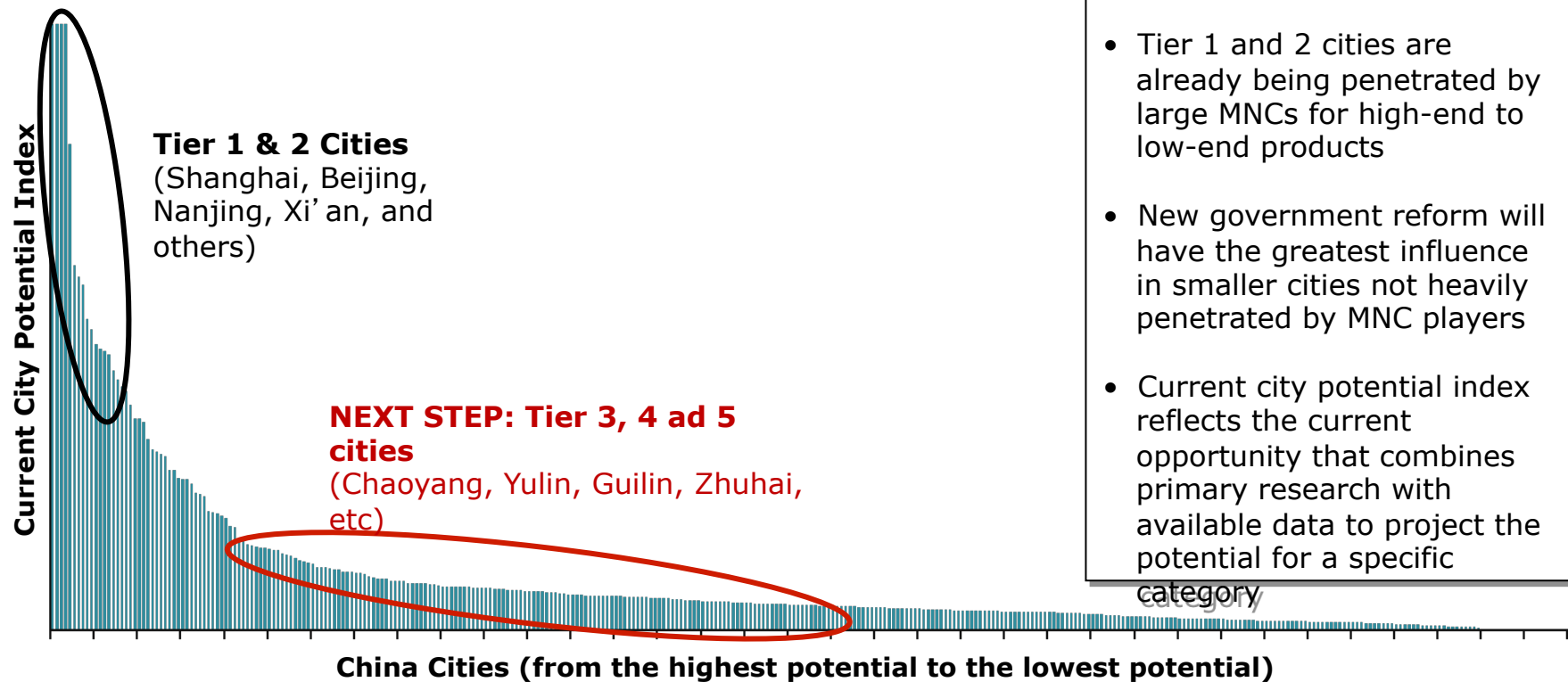


Source: National Statistics Bureau

Opportunities

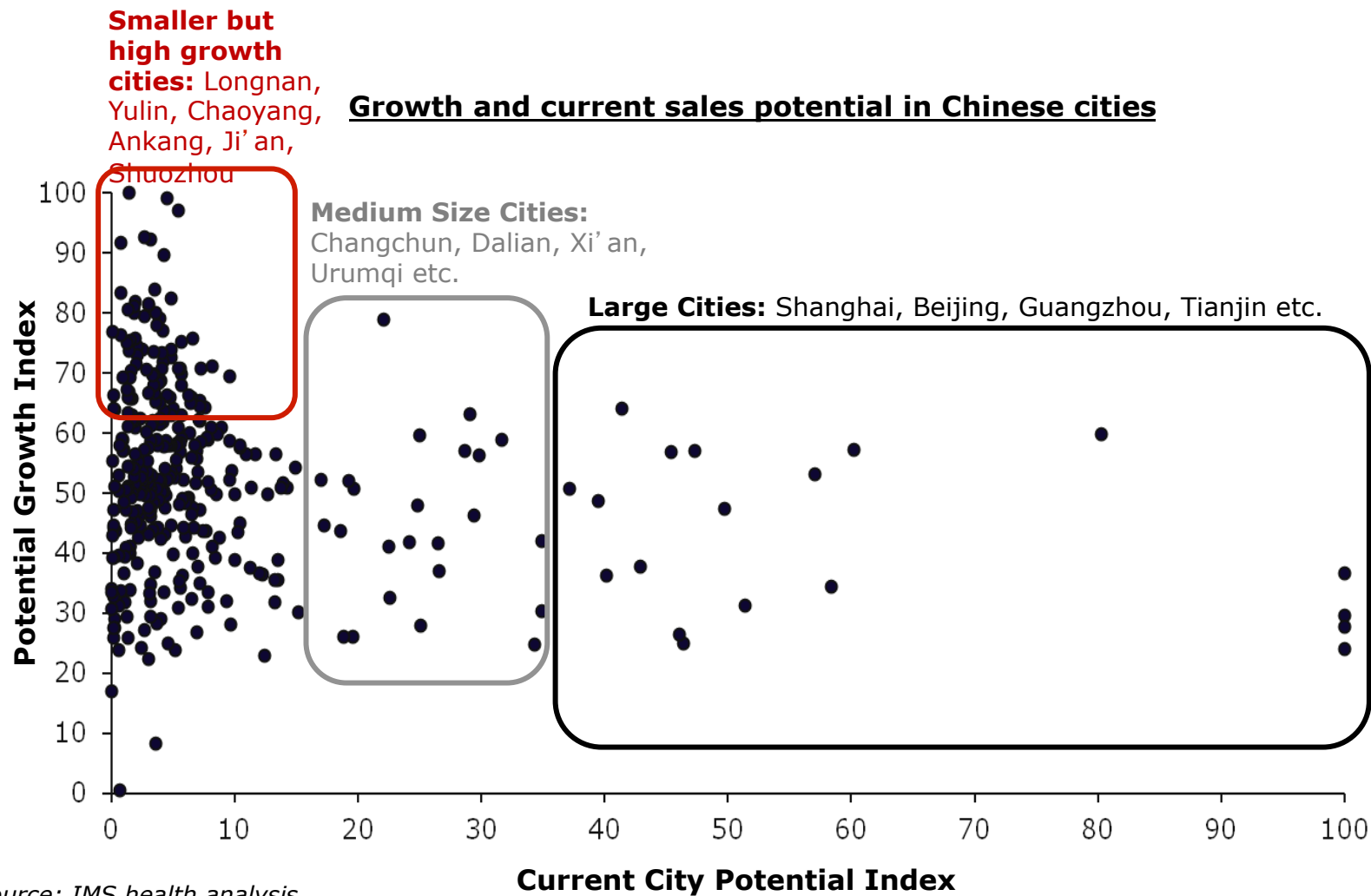


Concentration of cities based on *current city potential*



Source: IMS health analysis

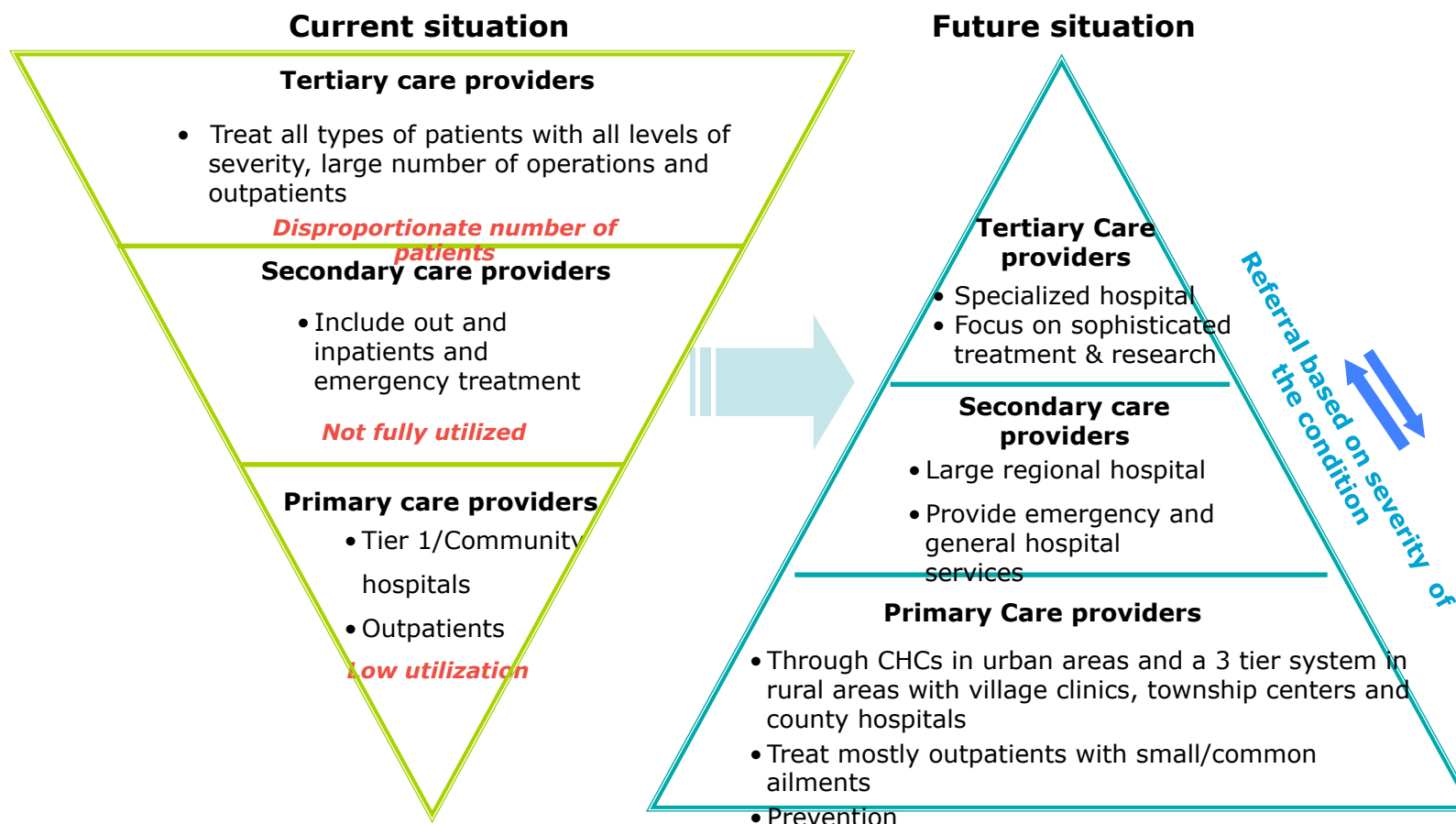
Opportunities



Source: IMS health analysis

Opportunities

Evolution of the healthcare provision system



Opportunities



Sector 1. BioPharmaceuticals

BioPharmaceutical sector is a strategic focus in 12th Five Year Plan for the Chinese central government, 15/25 funded projects are biopharm projects. (including vaccine).

- **Key players:**
 - **Bio-similar:** CP Guojian, Biomab, Simcere, and Sansheng etc.
 - **CMO:** BI, CP Guojian, Genor AutekBio
 - **Development:** T-Mab, CP Guojian, BioMab etc.
- **Potential collaboration areas:**
 - Product development (clinical stage)
 - Process development (productivity and cost)
 - Quality and engineering process
 - TA: onco, autoimmune, diabetes, liver disease

Opportunities



Sector 2. Vaccine

The current Chinese vaccine market is about 1.2bn US dollar, with 25% growth rate. More than 40 manufacturers produce over 30 products.

- **Class I:** HBV, BCG, polio, DPT, MMR, DPT, HAV, meningitis, Japanese encephalitis, areas of focus groups hemorrhagic fever vaccine, anthrax vaccine and leptospirosis vaccine. (covered by national immunization program)
- **Class II:** Influenza, chickenpox, influenza B, Haemophilus, oral rotavirus, pneumonia, rabies (self paid)
- **Key local players:** China National Biotech Group, Sinovac, Bio Tech Pharma, Walvax, Innovax and Cansino
- **Potential collaboration areas:**
 - R&D capability improvement (tech platform)
 - Product development on new products
 - Manufacturing process upgrade
 - Capacity

Opportunities



Sector 2. Vaccine

Vaccine engineer center in CMC, 46,000M², including R&D labs:
Pre-clinical, clinical trial, Lab BL2+ for bac. and virus,
Information system in large, sera and strains pool for trials



Industry Overview



Sector 3. Diagnostic

- National 12th Five-Year Plan
 - Improve R&D capability and encourage development of innovative instruments and reagents
 - Enhance international footprint
 - Support transformation of leading local companies
- Market continues to grow at 15-20% annually.
 - Cost \$1.5/person VS \$25 to \$30/person in developed countries
- Independent Clinical Labs becomes part of IVD market.

Key players: KingMed, Da An, Adicon, D. A. Diagnostics and Lawke (Local IVD manufacturing is booming, 87 in 2004, 137 in 2010).

Potential Collaboration area: POCT

Source: McEvoy & Farmer

Opportunities



Sector 4. Stem Cell

Unit: 100M RMB (12.5M EUR)



Stem cell technology development in China

- Large population, can provide abundant resources for stem cells. For example, more than 17 new borns are born in China each year
- The process of approval for clinical use of stem cells is much shorter. For example, the period from animal experiments to clinical phase I is less than 18months, whereas USA needs about 6-8 years.

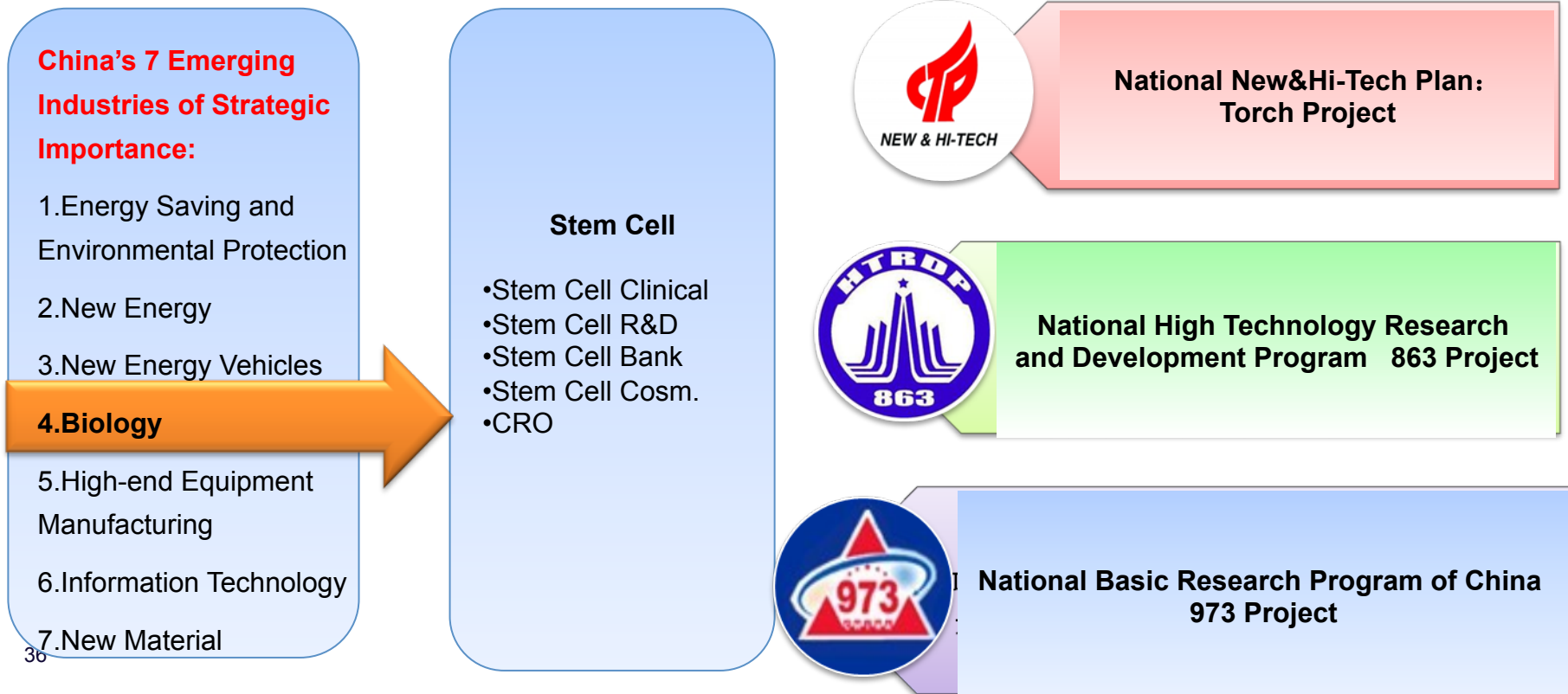
Data Source: The world stem cell market data issued by SelectBiosciences

Opportunities



Sector 4. Stem Cell

Strategic Government Initiative to develop Stem Cell technology



Opportunities

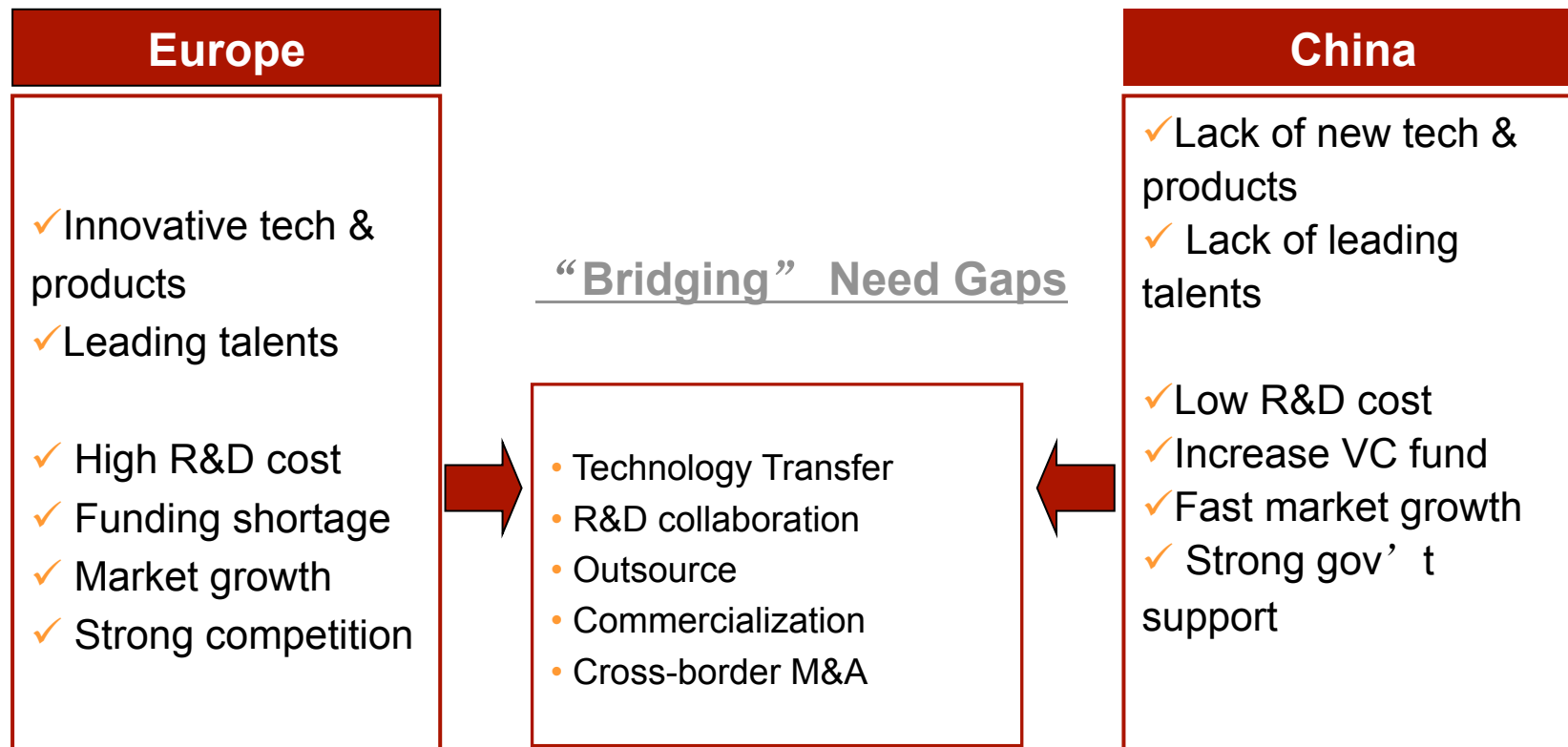


Sector 4. Stem Cell

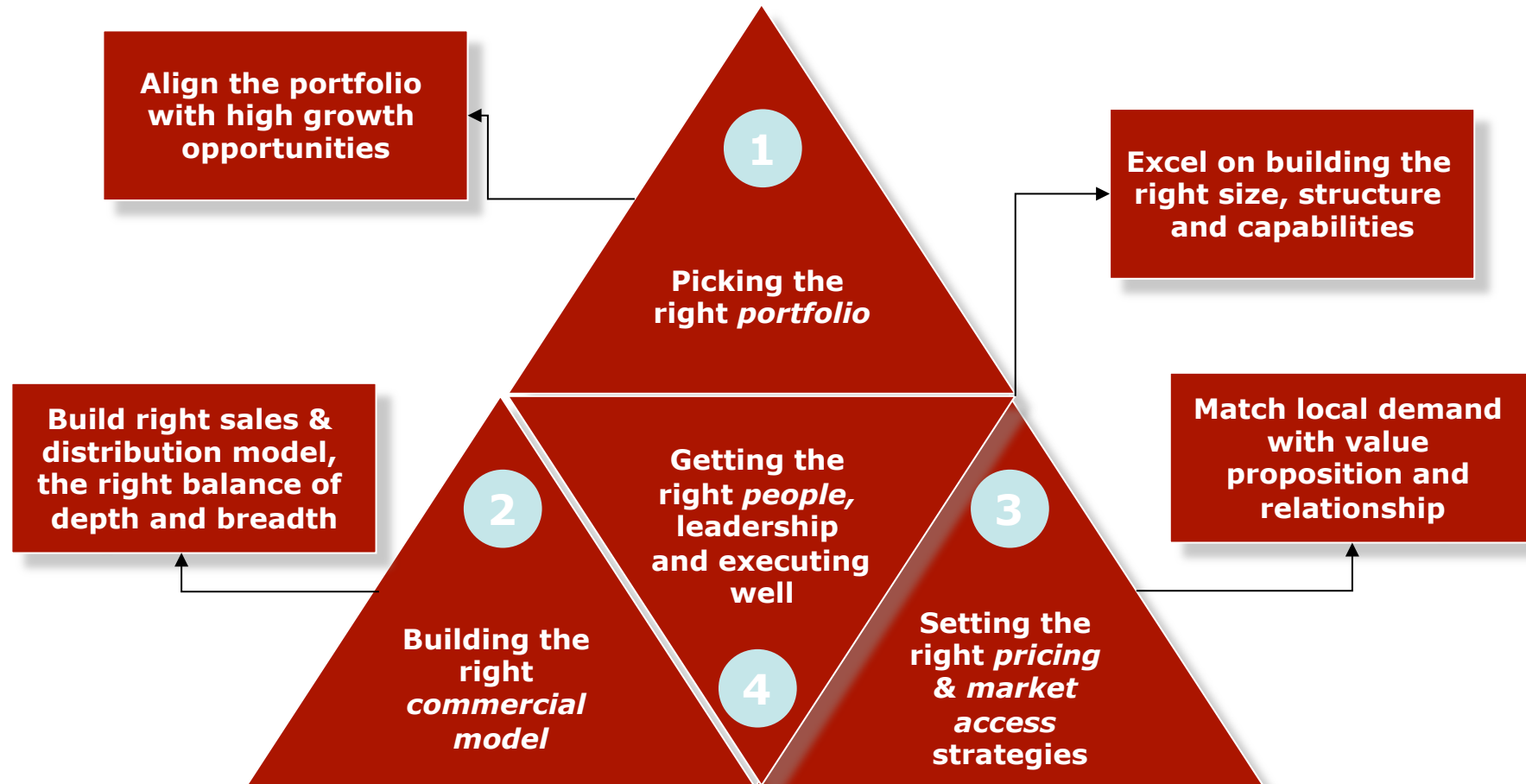
Current Status of Stem Cell in China

- The industry develop into: stem cell repository, therapy, cell production, cellbank and related services, etc.
- The clinical market for stem cells is still in the early stage, but lacks of industry standard and quality control system. Some unqualified companies exploit opportunity to make profit and have negaitve effect to the industry.
- China has huge medical needs,
 - 240m CV patients, 92m diabetic, 40m Alzheimer's disease, 14.6m hematological cancer patients

Opportunities



Opportunities



Source: IMS

Opportunities



Government Incentives

State Level

- S&T Dev Program (€24B) on new drug) 12th Five year plan
- Mega New Drug Development Program (€10B)
- Thousand talent program (€120)
- Strategic project, P863, P973
- Grant for platform development
- Grant for central labs

Provincial Level

- Talent scheme
- Match fund
- Innovative tech industrialization grant
- Tax incentive on hi-tech companies....

Municipal Level

- Talent scheme
- Start up fund
- Subsidy for leasing or purchasing premises/land
- Tax incentives
- Financing (seed/VC funds)

Opportunities



Investment Approach (1)

- **Wholly owned enterprises**
 - Site selection (location, infrastructure, labour cost, tax, incentives etc.)
 - Recruiting and retaining talent
 - Local partners
 - Government relationship
- **Joint Venture**
 - Control majority of equity
 - D.D. on potential partner's credibility, avoid state partner
 - Manage IP
 - Backup plan

Opportunities



Investment Approach (2)

- **Distribution**
 - Select right distributors with good experience on regulatory, hospital relationship
 - Manage Key hospitals or KOL if possible
 - Be aware of market dynamics and informal practice
- **Licensing**
 - Select a capable and reliable licensee
 - Protect your IP (consult attorney with local expertise)
 - Be aware of the market trend

Opportunities



Investment Approach (3)

- **Co-Development**
 - Select a partner with good track record with MNCs or western clients
 - Local partner in healthy financial condition and strong team
 - IP protection
- **Acquisition**
 - Select a range of target candidates
 - Thorough D.D...
 - Valuation is high
 - Retain staff

Sino–Europe Bio Partnering 2013



To Foster Innovation and Partnership



Hosts: Shanghai S&T Committee;
Zhangjiang Pharma Valley
Co-Hosts: BioXcluster, BioWin
Organizer: G-Med Consulting

Time: May 29, 2013
Place: Shanghai

⁴⁴
SEBP2013



Four Modules

- **Industry Insight**
- **Fostering Innovation**
- **Partnership**
- **Bio-cluster Workshop**



Sino–Europe Bio Partnering

Industry Insight

- **Bio-medical industry overview in China**
- **Life science industry overview in Europe**
- **Medical reform impact to the industry**
- **Key issues on regulatory approval**
- **IP issues on patent and transactions**
- **Investment society in China**

Sino–Europe Bio Partnering



Fostering Innovation

- **Focus on the 12th Five Year plan in life science**
- **New EU model to foster innovation**
- **BioXcluster program introduction**
- **Innovation development in China by EU firm**
- **Local innovation development in Zhangjiang**

Sino–Europe Bio Partnering



Partnership

Road show: 18-20 companies.

Track 1 : Biotech Pharma 15-20 companies

Track 2: Medical Device : 15-20 companies

Bio-cluster Workshop

How to support SME go International ?

- How can EU clusters help SME go international?
- How can Chinese clusters support EU companies?
- How to optimize the partnership for SME

Sino–Europe Bio Partnering



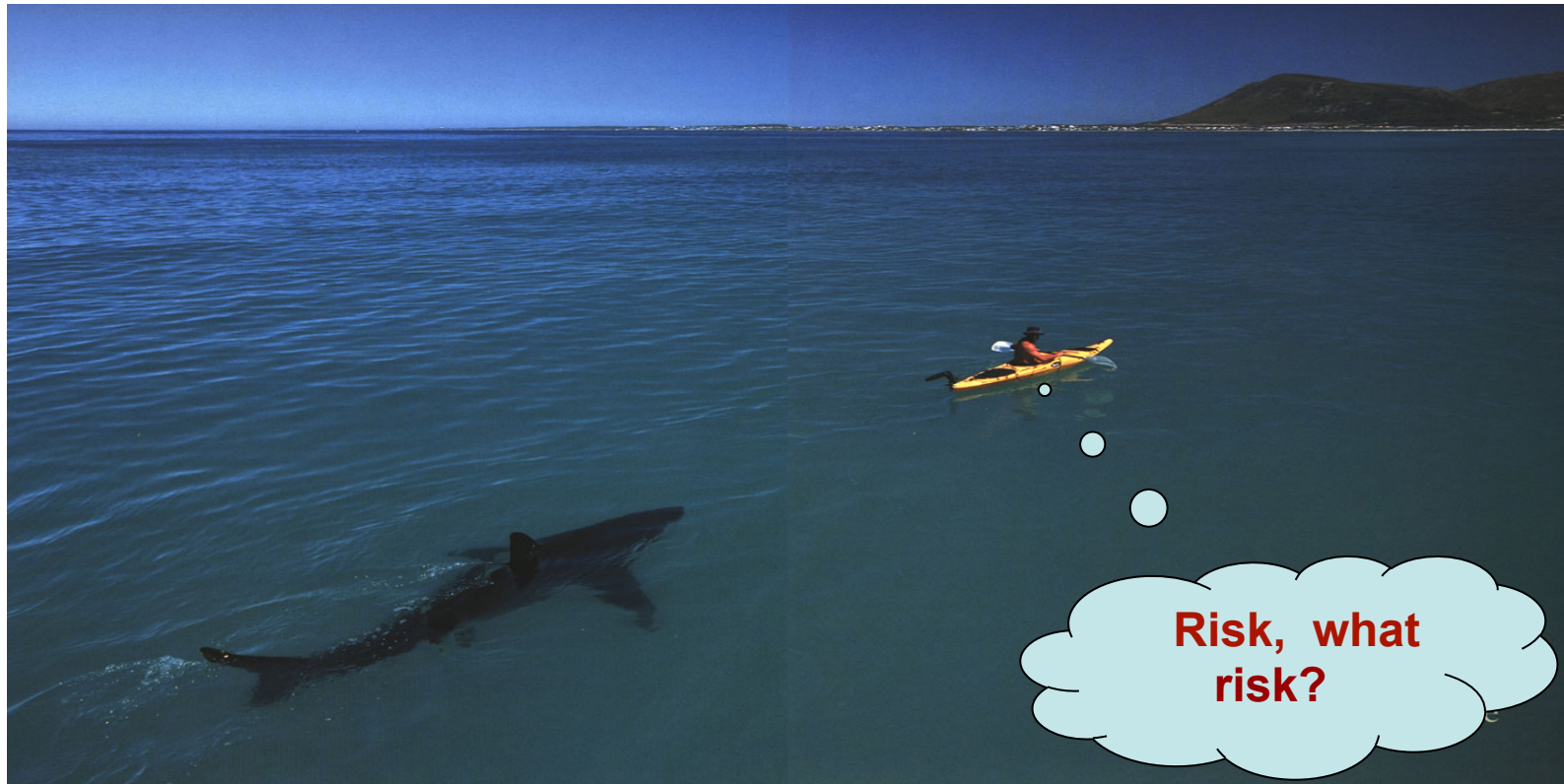
Sponsorship:

- Gold 300,000RMB (€ 3,7500)
- Silver 100,000 (€ 12,500)
- Bronze 50,000 (€ 6,250)

Road show:

- Presentation 10min (€ 375)

Challenges





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+86 13706135759

Thank you !