# 3SBio Investor Presentation

**March 2018**

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# Industry Policy Review since 2017

## The Policy of “Healthy China” Accelerates the Development of the Industry

| | |
|---|---|
| February 21 2017 | The Ministry of Human Resources and Social Security issued the "National Basic Medical Insurance, Industrial Injury Insurance and Maternity Insurance Drug Catalog (2017 Edition)", which is the fourth update of the medical insurance catalog (the third update was in 2009). According to statistics, 339 new drugs were added to the 2017 new medical insurance catalog, and new drugs for cancer and other major diseases were also included |
| April 10 2017 | The CFDA issued the "Announcement on Suggestions for Handling Issues Related to Drug Clinical Trial Data Inspection" (Draft for Suggestions), which clarified the blacklist system, clinical urgent need system, and zero tolerance for data fraud |
| May 11 2017 | The CFDA issued the "Relevant Policies on Encouraging the Innovation and Reform of Clinical Trial for Drug-based Medical Device Innovation Management" (Draft for Suggestions), changing the qualification of clinical trial institutions into record management, thus optimizing the clinical trial review process and improving the ethics committee mechanism |
| June 9 2017 | The CFDA General Office issued the “Announcement on the Relevant Matters Concerning the Evaluation of the Quality and Efficacy of Generic Drugs" (Draft for Suggestions); meanwhile, the acceptance review guide was announced. It marked the overall advancement of the bioequivalence study of generic drugs and further clarifies the work details and specific systems |
| August 21 2017 | The CFDA issued the "Notice of Promoting the Pilot Work of the Drug Marketing Authorization Holder System". The "Notice" specifies the need to advance the pilot work, emphasize the holder's legal responsibility, and clarify the holder's contract manufacturing and other related systems |
| October 8 2017 | The General Office of the CPC Central Committee and the General Office of the State Council formally issued the "Opinions on Deepening the Reform of the Review, Audit and Approval System to Encourage the Innovation of Drugs and Medical Devices". The Opinions require accelerating the review and approval of clinical trial and drug marketing, and strengthening the protection and medical insurance support of the life cycle of innovative drugs, thus promoting the marketing authorization holder (MAH) system |
| October 23 2017 | The CFDA issued the amendment of "Drug Administration Law (Draft of Consultation Opinions)" and the opinions of "Drug Registration Regulations (Revised Draft)". The draft clarified the relevant responsibilities of marketing authorization holders, introduced the establishment of a professional drug inspector system, simplified administrative approvals, and toughened penalties |
| December 20 2017 | The CFDA issued the "Technical Guidelines for the Conditional Approval of Marketing of Urgently Needed Drugs (Draft of Consultation Opinions)." Innovative drugs for the treatment of diseases that are seriously life-threatening and for which there is no effective treatment can be approved for marketing on the basis of special conditions. The implementation of the "Guidelines" can significantly shorten the time for research and development and clinical trial. Drugs can be provided earlier to meet the demands of patients |



Data Source: CFDA, Company research

# Industry Policy Change – Implication to the Industry

## Current Situation

- **The number of new drug applications reached a record high with certain drugs included in the list of priority review**
  - The number of domestically-reported category 1.1 chemical drugs in 2017 was 112 (40 in 2016); the number of biological drug applications was 62 in 2017 (28 in 2016).
  - As of December 31 2017, total of 431 drugs were included in the list of priority review, of which 49 were new drugs for category 1 or 1.1
- **Reimbursement system leans toward innovative drugs**
  - A large number of innovative drugs with proven efficacy and obvious clinical benefit were included in the 2017 NRDL. Together with the dynamic adjustment mechanism of the negotiation list, more innovative drugs with proven efficacy and urgent clinical needs will be covered by the reimbursement system. Meanwhile, many adjuvant drugs have been restricted or even removed from the reimbursement list.
- **Implementation of clinical data self-inspection**
  - As an important measure to improve the clinical trial quality and ensure the efficacy and safety of drugs, the self-inspection of clinical data has been implemented since 2015. More than 2,000 applications have been included in the range of self inspection, and nearly 60% of the applications have been withdrawn, which significantly shorten the backlog of CFDA.
- **Implementation of mandatory bioequivalence study ("BE" study)**
  - On December 29, the official website of CFDA released the first batch of product catalogs of generic drugs that passed the BE study regarding drug quality and efficacy. This first batch included a total of 13 varieties and 17 variety specifications. Later, local authorities across the country began to introduce preferential policies for BE study.
  - The work of BE study will fundamentally change the competitive pattern of China's generic drugs, and will help improve the quality of generic drugs and the order of the market.
- **Improving recognition of oversea clinical data**
  - It could facilitate the MNCs' introduction of global innovative drugs into China, driving MNCs' China strategy focus from off-patent originator drugs to branded patented drugs.

## Implication to the Industry

**Higher standards of clinical trials with raised R&D costs**

**Innovative drug is expected to receive more government support**

**Drugs with proven efficacy and superior clinical benefits at competitive costs are more likely to be covered by reimbursement**

**MNCs intend to focus on innovative drugs and divest mature product**



Data Source: CFDA, Company research

# History and Key Milestones

**Interfen**
(interferon alpha-2a)

**Inleusin**
(interleukin 2)

**EPIAO**
(rhEPO)

**TPIAO**
(rhTPO)

**IV Sucrose**
(Iron Sucrose)

**SEPO** (rhEPO)
**Sparin** (LMWH-Ca)

**Wansheng**
**Product Portfolio**

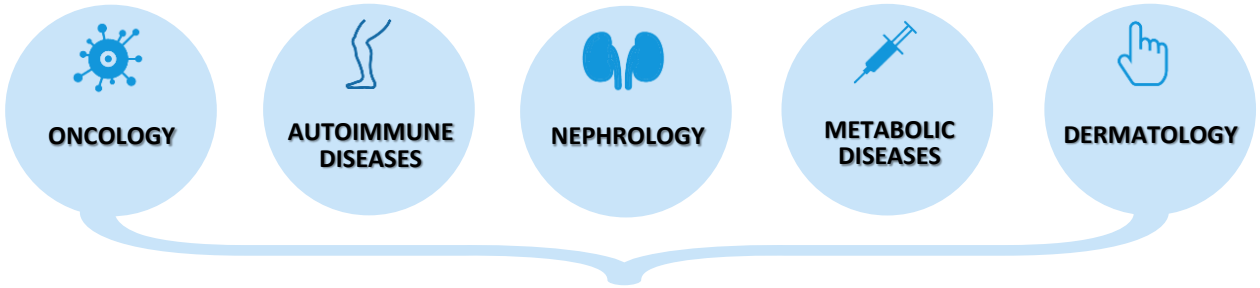
**Yisaipu** (rhTNFR-Fc)
**Byetta** (exenatide)
**Bydureon**
(Long-acting exenatide)

**Humulin** (insulin)
**Shinuo** (Fluticasone Propionate Cream)

**TRK-820** ("REMITCH")
**Laizi** (Tacrolimus Ointment)

| | |
|---|---|
| 1993 | Established Shenyang Sunshine, the major operating subsidiary of our Company |
| 1995 | |
| 1996 | Listed on Nasdaq |
| 1998 | Privatized by a consortium led by management and CPE and delisted from Nasdaq |
| 2005 | Acquired Sciprogen and Sirton (Italy) |
| 2006 | Listed on Hong Kong Stock Exchange<br>Acquired Zhejiang Wansheng |
| 2007 | Added to Hang Seng Compostie LargeCap & MidCap Index |
| 2013 | Raised equity interest in Sunshine Guojian to 97.8%<br>Entered into exclusive license agreement with AstraZeneca in respect of Byetta and Bydureon<br>Added to MSCI China Index<br>Ranked 85th of the top 100 pharmaceutical company in China in the "2015 China Pharma 100" list issued by CPIIC. One of the Best Pharmaceutical R&D pipeline companies in China |
| 2014 | |
| 2015 | TPIAO, Yisaipu and Qiming Keli included in 2017 NDRL<br>Entered into exclusive license agreement with Lilly China in respect of Humulin |
| 2016 | Raised EUR300 mm via convertible bonds |
| 2017 | Received marketing approval from CFDA of Fluticasone Propionate Cream for multiple dermatological disorders |
| 2018 | Bydureon SDT received CFDA approval<br>Received marketing approval from CFDA of Tacrolimus Ointment for pediatric indication<br>Entered into exclusive license agreement with Toray in respect of TRK-820 ("Remitch") |

# Outlook and Future Strategies




## Innovative Biologics & Core Product Portfolio

## China-based Global Leader in Biologics

- In the next 10 years, 3SBio will launch 30+ new products with at least half being innovative biological products

### R&D

- Focused R&D on innovative biologic products
- Further integrate the R&D platform for the discovery & development of antibody and biologic drugs
- Prioritize investment in clinical trials, expedite clinical trials and product launch

### Manufacturing

- Create opportunity with current capacity and well prepare for the manufacturing of new products
- Fully integrate mammalian cell-based, bacteria cell-based and small molecule manufacturing platform
- Complete the construction of manufacturing facilities with adherence to high standard

### Sales and Marketing

- Build the leading sales and marketing team
- Expand our BROAD market network to penetrate wider market
- Leverage commercialization platform by adding more products

### Investment and Alliance

- In-license promising drugs
- Further seek for equity investment aligning with company strategy
- Build up industry ecosystem


7

# Section 1

Investment Highlights

# Investment Highlights

1. Leader in the Highly Attractive PRC Biotechnology Industry
2. Market-Leading Products with Significant Growth Potential
3. Focused and Innovative Product Pipeline with Steady Growth Expected
4. Leading Commercial Platform Supported by Extensive Sales Network
5. Comprehensive Manufacturing Platform with Strategic CDMO Capabilities
6. Excellent Track Record in Growth and Profitability
7. Experienced and Visionary Management Team Leading the Growth

# Leader in the Highly Attractive PRC Biotechnology Industry

## Well-Positioned to Capture Vast Industry Opportunities

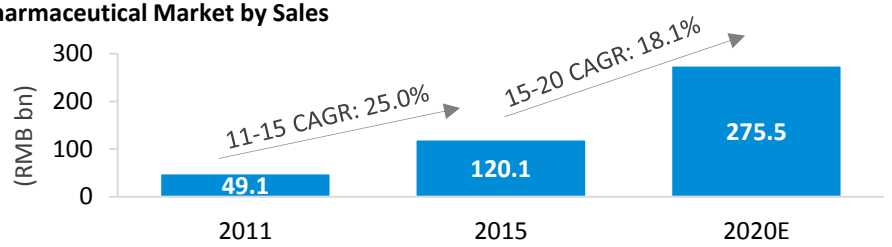
### Pioneer in the PRC Biopharmaceutical Industry

- A pre-eminent player with **7** approved biological products in China's fast growing biopharmaceutical industry
- **31** pipeline candidates, and **5** IND approvals were received in 2017 and Q1 2018
- Operates **11** antibody bioreactors with over **38,000** liter capacity
- Small molecule production plant, mammalian cell based production plant, and bacterial cell based production plant
- Leading commercial platform with **2,446** sales and marketing employee focusing on oncology, rheumatology, nephrology, metabolic and dermatology
- Strong emphasis on academic marketing, covering over **14,000** hospitals and medical institutions, including over **2,000** Grade III hospitals

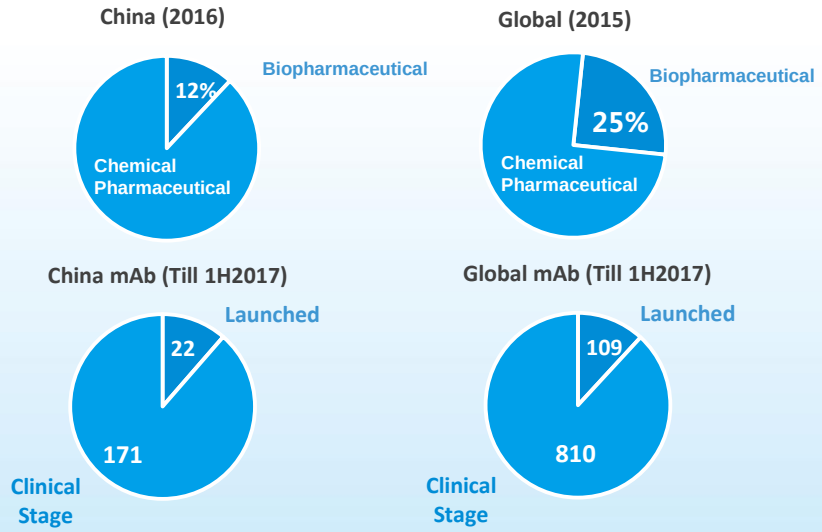
### Highly Attractive PRC Biotechnology Market

- Strong government policy support
- Substantial unmet demand and low penetration
- Increasing physician awareness and adoption of biopharmaceuticals

**PRC Biopharmaceutical Market by Sales**



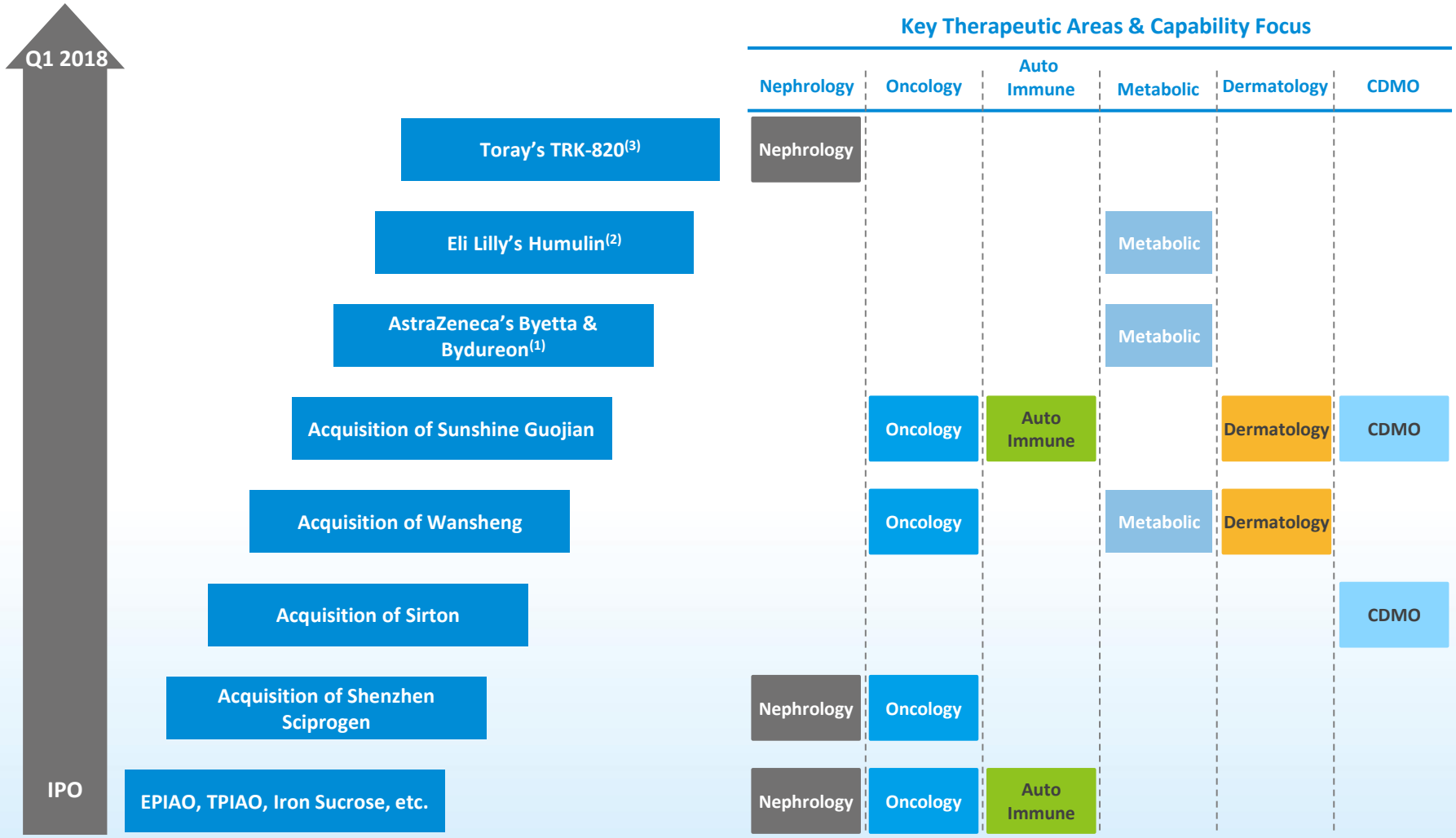

### Still in Early Stage Compared with Global Market




Source: Frost & Sullivan, EvaluatePharma, Clarivate Analysis, Company Research

# Leader in the Highly Attractive PRC Biotechnology Industry (Cont'd)

## Strengthened Leadership by Expanding to Areas with Significant Growth Potential




Note:
1 Exclusive commercial rights in PRC for 20 years
2 Exclusive commercial rights in PRC for 10 years
3 Exclusive commercial rights in PRC for certain period

# Market-Leading Products with Significant Growth Potential

## Attractive Products with Unique Value Positions and Significant Growth Potential

**TPIAO**
rhTPO

- Self-developed and the only commercialized rhTPO product in the world
- Higher efficacy, faster platelet recovery and fewer side effects compared to alternative treatments for CIT and ITP
- Achieved a market share of **51.0%** in 2017[1]
- The first choice in second line treatments list per PRC ITP Experts Consensus
- Received market authorization in Ukraine, one of the PIC/S countries
- **Inclusion in 2017 NRDL as a class B drug**
- INDs approved for surgery patients with hepatic dysfunction at the risk of thrombocytopenia and pediatric ITP indication

**Yisaipu**
rhTNFR-Fc

- Launched in 2005 by Sunshine Guojian as a first-to-market drug
- Indicated for the treatment of rheumatoid arthritis, plaque psoriasis and ankylosing spondylitis
- On 3 treatment guidances (the experts consensus on the Treatment of Childhood Idiopathic Arthritis, the Rheumatoid Arthritis Treatment Guidance and the Ankylosing Spondylitis Treatment Guidance)
- Boasts a dominant market share of **60.4%**[2] in China in 2017
- **Inclusion in 2017 NRDL as a class B drug**
- The Group has completed phase III trial for prefilled syringe of Yisaipu and is expecting to apply for manufacturing approval in Q2 2018

**EPIAO**
rhEPO

- Consistently ranked #1 in the PRC rhEPO market in terms of sales and volume since 2002; market share reached **41.6%**[2] in 2017 (together with SEPO)
- The only rhEPO product approved for all three indications by CFDA in China

**SEPO**
rhEPO

- Second brand rhEPO of the Group
- Increased our penetration into Grade II and Grade I hospitals
- Market share reached **9.0%**[2] in 2017, compared to **3.3%**[2] in 2013

**Byetta/Bydureon**
Exenatide
Long-acting exenatide

- GLP-1 products in-licensed from AstraZeneca in Oct 2016
- The first to market long-acting GLP-1 product in China
- Tap into diabetes field and further enhance our product portfolio
- Innovative drug addressing significant unmet medical needs

**Humulin**
rh Insulin

- Insulin products in-licensed from Eli Lilly in May 2017
- Further enhance the product portfolio of diabetes
- Better leverage existing diabetes marketing and promotion team to improve productivity
- Further penetrate into broad market and achieve the synergy with existing products



Note:
1 Treatment for thrombocytopenia category in QuintilesIMS data
2 QuintilesIMS data

# Market-Leading Products with Significant Growth Potential (Cont'd)

## TPIAO

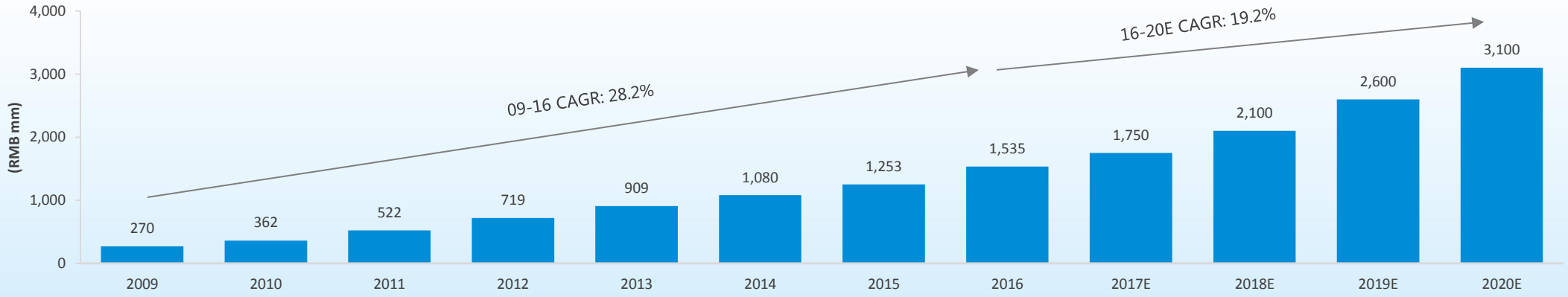
### China's rhTPO Market is Still Under-Penetrated

| Indications | Target Patients in China | |
|---|---|---|
| **Chemotherapy-Induced Thrombocytopenia (CIT)** | **Chemo patients with Thrombocytopenia** ~374,000 | **TPO penetration: ~14.4%** ~54,000 |
| | Target Patient Population | Patients Received TPO Treatment |
| **Idiopathic Thrombocytopenia (ITP)** | **Moderate / Severe ITP** ~129,000 | **TPO penetration: ~17.4%** ~22,500 |
| | Target Patient Population | Received TPO Treatment |

### rhTPO: A Safer and More Effective Treatment Option for CIT and ITP Patients

| | rhTPO | rhIL-11 | Eltrombopag |
|---|---|---|---|
| **Efficacy** | • More effective in increasing platelet production than other therapies<br>• Total efficacy rate is the highest among CIT and ITP therapies<br>• Short average period until platelet recovery | • Total efficacy rate is relatively high<br>• Average period until platelet recovery is longer than rhTPO therapy | • Total efficacy rate is relatively high<br>• Average period until platelet recovery is longer than rhTPO |
| **Side effects and Other Constraints** | • High safety<br>• Low side effects | • Cardiotoxicity<br>• Peripheral edema<br>• Conjunctival redness | • More convenient<br>• High cost<br>• Liver toxic |
| **Indication** | • CIT & ITP | • CIT | • ITP |

### Attractive Growth of CIT Treatment Market



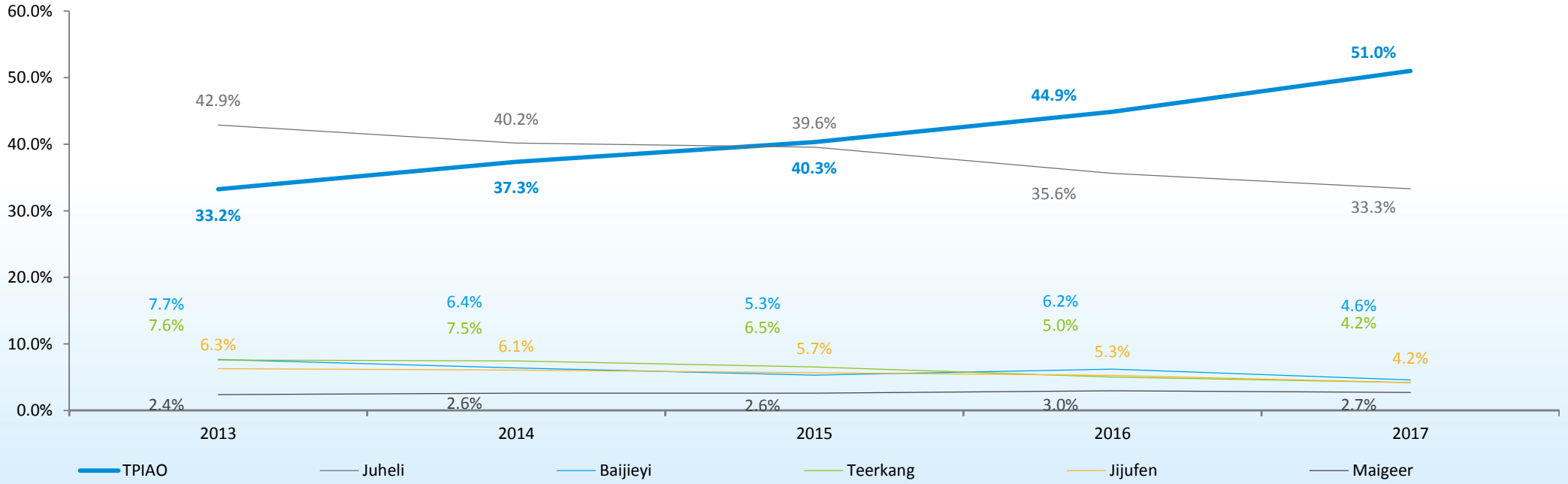

Source: QuintilesIMS, Company analysis, Frost & Sullivan

# Market-Leading Products with Significant Growth Potential (Cont'd)

## TPIAO

- First to market
- Higher efficacy, faster platelet recovery and fewer side effects compared to alternative treatments for CIT and ITP
- Achieved a market share of 51.0% in 2017[1]
- The first choice in second tier treatments list per PRC ITP Experts Consensus
- Received market authorization in Ukraine, one of the PIC/S countries
- Inclusion in 2017 NRDL as a class B drug
- INDs approved for surgery patients with hepatic dysfunction at the risk of thrombocytopenia and pediatric ITP indication

**Dominant rhTPO Leadership in China**




Source: QuintilesIMS

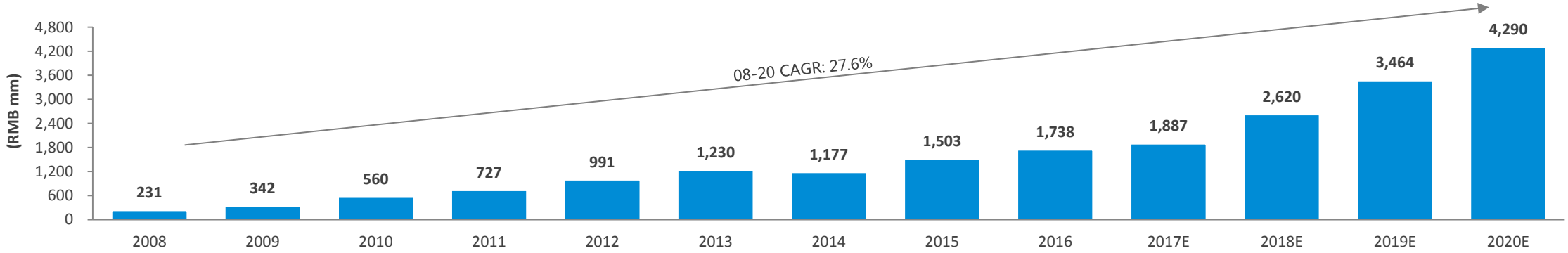
1 Treatment for thrombocytopenia category in QuintilesIMS data

# Market-Leading Products with Significant Growth Potential (Cont'd)

## Yisaipu

**Rapid Growth of China Anti-TNF Market in the Past Decade…**

**Anti-TNF Therapies' Sales Reached approximately RMB1.9 bn in China in 2017**

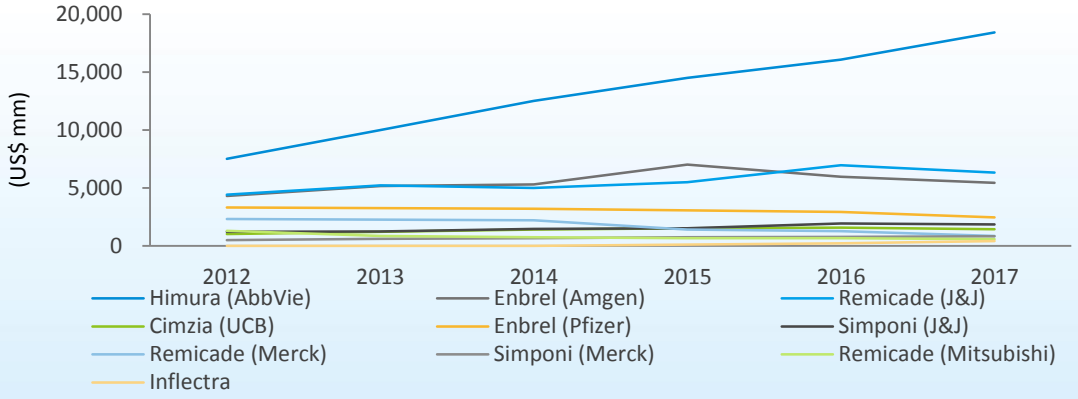



**…But Market Penetration Still Very Low**

| Indications | Target Patients in China | |
|---|---|---|
| rheumatoid arthritis (RA) | ~4,500,000 Target Patient Population | Anti-TNF Drugs penetration: ~1%<br>45,000 Received Anti-TNF Treatment |
| Ankylosing Spondylitis (AS) | ~4,000,000 Target Patient Population | Anti-TNF Drugs penetration: ~1.5%<br>60,000 Received Anti-TNF Treatment |

**Leading Global Anti-TNF Drugs Achieved Huge Success**

**Global Sales of top Anti-TNF Drugs**





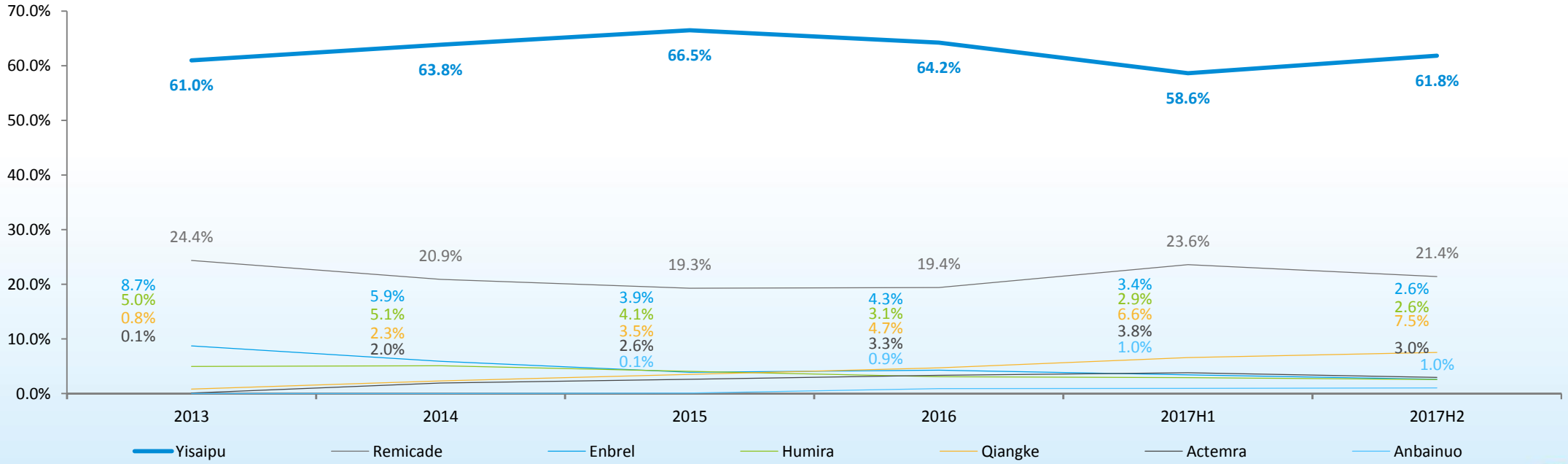

Source: Company data, research reports

# Market-Leading Products with Significant Growth Potential (Cont'd)

## Yisaipu

- First to market Anti-TNF drug
- Indicated for the treatment of rheumatoid arthritis, plaque psoriasis and ankylosing spondylitis
- On 3 treatment guidances (the experts consensus on the Treatment of Childhood Idiopathic Arthritis, the Rheumatoid Arthritis Treatment Guidance and the Ankylosing Spondylitis Treatment Guidance)
- Boasts a dominant market share of 60.4% in China in 2017
- Inclusion in 2017 NRDL as a class B drug
- The Group has completed phase III trial for prefilled syringe of Yisaipu and is expecting to apply for manufacturing approval in Q2 2018

**Dominant Anti-TNF Leadership**



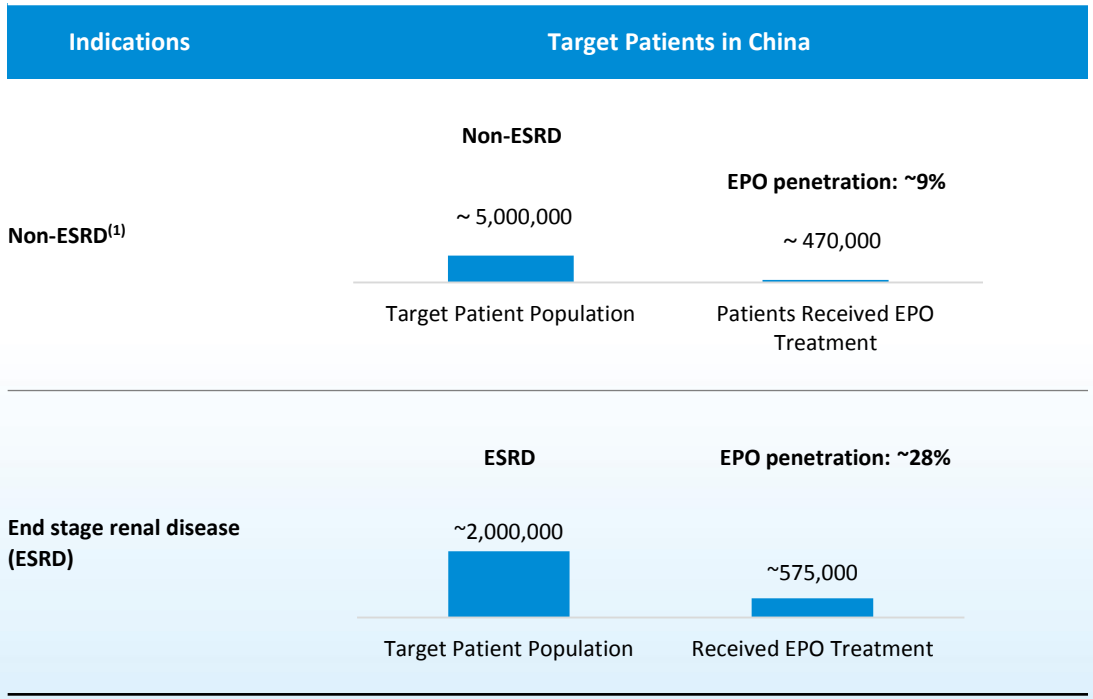

Source: QuintilesIMS

# Market-Leading Products with Significant Growth Potential (Cont'd)

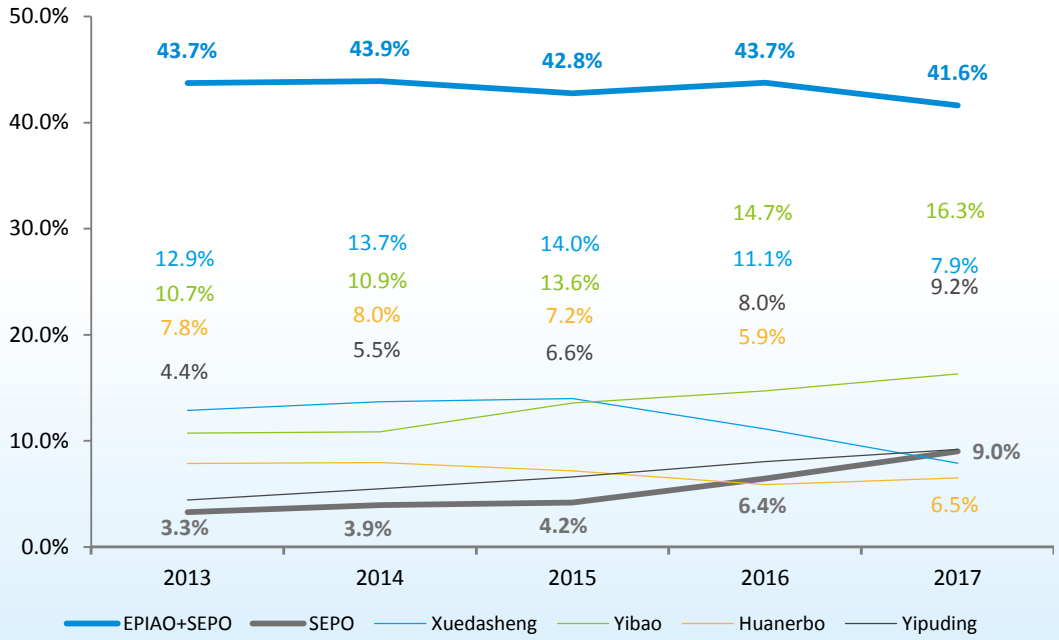
## EPIAO and SEPO

- EPIAO has been market leader in China's rhEPO market for over a decade, consistently ranking #1 in terms of revenue and volume since 2002
  - — Market share reached 41.6% in 2017 (together with SEPO)
- SEPO is our second brand rhEPO product and expanded our market coverage, especially in Grade II and Grade I hospitals
  - — Market share reached 9.0% in 2017, compared to 3.3% in 2013

**China's rhEPO Market is Still Under-Penetrated**




**Consistent Market Leadership**




Source: QuintilesIMS, Frost & Sullivan



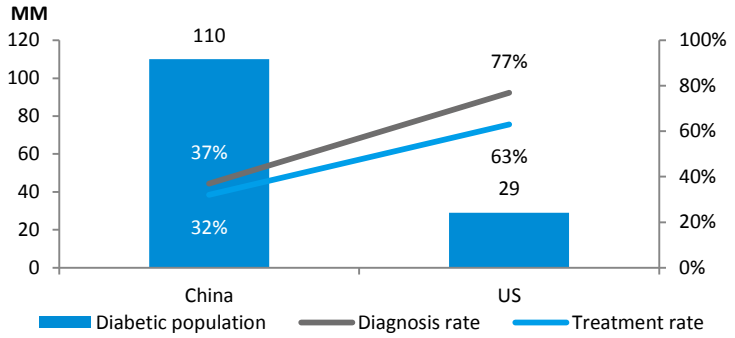
Note:
1 Non-ESRD includes chemotherapy-induced Anemia (CIA) and perioperative erythrocyte mobilization

# Market-Leading Products with Significant Growth Potential (Cont'd)

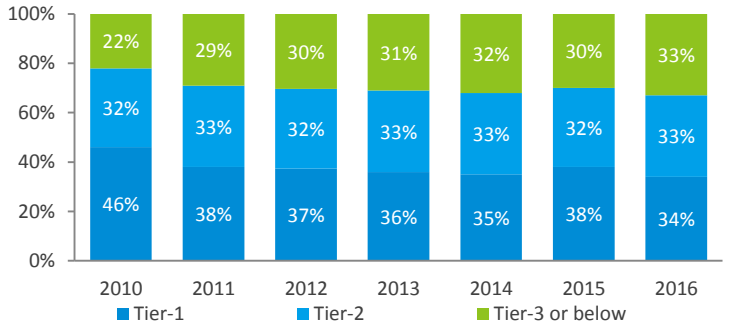
## Diabetes Franchise (Humulin and GLP-1)

**China Diabetes Market Is Large and Underpenetrated with Tremendous Growth Potential**

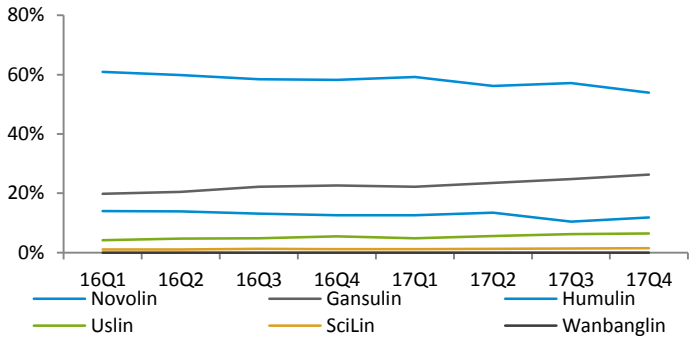
- China has the largest diabetes population in the world
- Pre diabetes patients population is even larger
- The diagnosis rate and treatment rate in China are relatively low




- Tiered medical service system will push more patients flow to lower tier market.
- The new NRDL includes human insulin as category A drug, which will be more favorable to patients in lower tier market

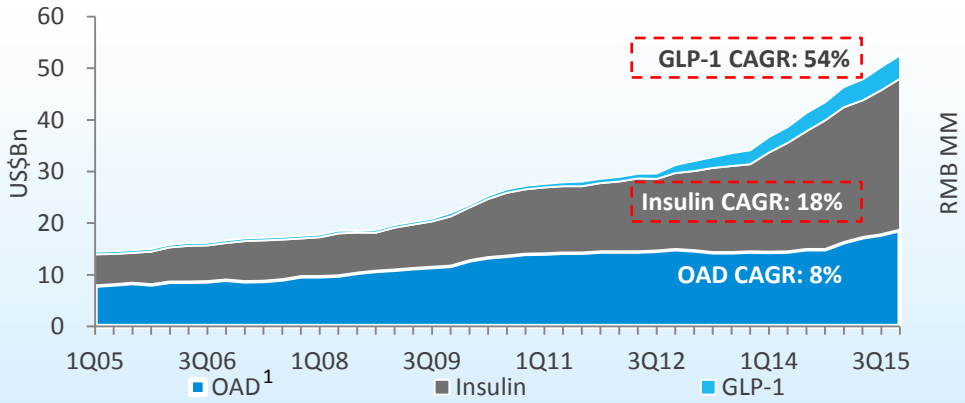


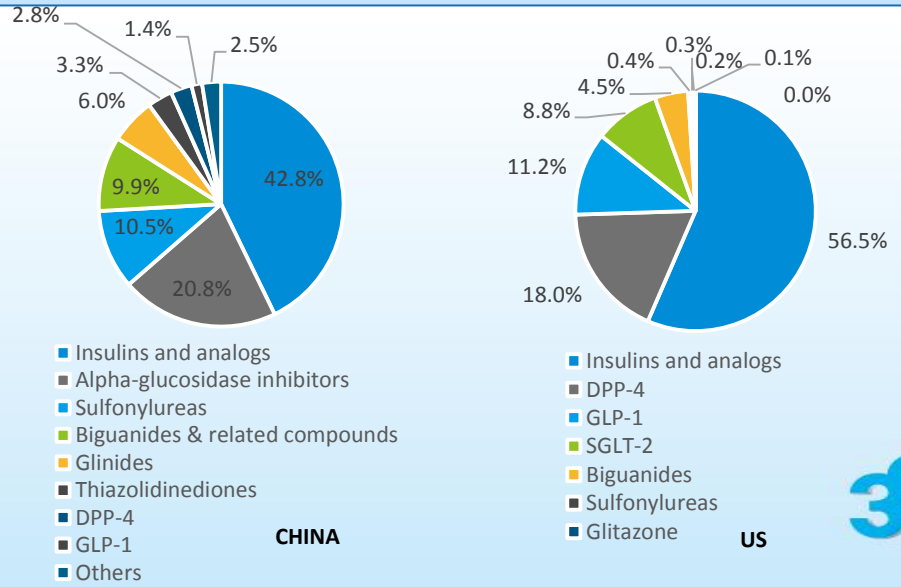

- Humulin market share dropped in Q3 2017 due to the transition period and bounced back in Q4 2017.




**GLP-1 and Insulin Outperformed the Overall Anti-diabetic Segment Globally…**

- GLP-1 class demonstrated rapid growth in global market
- China market is very under penetrated as compared to global market
- Bydureon is the first to market long acting GLP-1 in China, which may largely improve the patient' s compliance






Source: Pharma Trust 690 sample hospitals, Morgan Stanley Research, International Diabetes Federation, China Diabetes Society, QuintilesIMS

1. Oral anti-diabetic drug

# Robust and Innovative Product Pipeline Supported by Integrated R&D Platform

**4 R&D centers with both biologics & chemical drugs platforms**

**National Engineering Research Center for Antibody Drugs**

**Multiple Research Topics Supported by 13th Five-Year Major Drug Development Project**

- **73** national patents , **30 +** launched products , **31** product candidates , among which we have **16** National Class I New Drugs
- Covering **oncology, auto-immune diseases, nephrology, metabolic, dermatology and other areas**

## R&D centers in 3SBIO





- Department of Research
- Department of Registration Affairs
- Department of Medical
- Department of Intellectual Property
- Department of Project Management and External collaboration
- Department of International Business

# Robust and Innovative Product Pipeline Supported by Integrated R&D Platform (Cont'd)

| Therapeutic Area | Product Candidate | Pre-Clinical | Clinical Trial Application | Phase I | Phase II | Phase III | New Drug Registration | Production Permit |
|---|---|---|---|---|---|---|---|---|
| Nephrology | SSS06 | | | | | | | |
| | RD001 | | | | | | | |
| | SSS17 | | | | | | | |
| | SSS18 | | | | | | | |
| | SSS12 | | | | | | | |
| | SSS13 | | | | | | | |
| Oncology | 302H | | | | | | | |
| | 304R | | | | | | | |
| | 602 | | | | | | | |
| | SSS24 | | | | | | | |
| | 601T | | | | | | | |
| | 701 | | | | | | | |
| | 609A | | | | | | | |
| Auto-Immune Diseases and Other Areas | 301S | | | | | | | |
| | SSS07 | | | | | | | |
| | SSS11 | | | | | | | |
| | 601A | | | | | | | |
| | TPIAO – Hepatic disease | | | | | | | |
| | TPIAO - Pediatric ITP | | | | | | | |
| | AP506 | | | | | | | |
| | SSS20 | | | | | | | |
| | SSS32 | | | | | | | |
| | 608 | | | | | | | |
| | 610 | | | | | | | |
| Metabolic | Bydureon SDT | | | | | | | |
| | Bydureon DCP | | | | | | | |
| | SSS26 | | | | | | | |
| Dermatology | BK011 | | | | | | | |
| | KW303 | | | | | | | |
| | MN709 | | | | | | | |
| | ND409 | | | | | | | |



Monoclonal Antibody  Other Biologics  Small Molecular Drugs

# Robust and Innovative Product Pipeline Supported by Integrated R&D Platform (Cont'd)

## Several projects of the Group are supported by the National Important New Drug R&D Program under the 13th 5-Year Plan

- As of February 2017, the Group has applied for over 300 patents and undertaken several national R&D projects
- 6 projects are under the National High-tech R&D Program (863 Plan), 10 projects are under the National Important New Drug R&D Program and 4 projects are under the National High-tech Industrialization Program

### Clinical study of recombinant erythropoiesis stimulating protein (CHO cell) injection

- Long acting recombinant human erythropoietin, i.e. recombinant erythropoiesis stimulating protein (CHO cell) injection (rESP)"
- Compared with the rhEPO, the rESP is featured with 3 times longer half-life, less administration frequency, longer administration cycle, better efficacy, lower immunogenicity and better homeostasis
- The new structure of rESP owns two proprietary intellectual property rights and is committed to provide a safe and long acting recombinant human erythropoietin for renal anemia patients in China.

### Pre- and clinical study of humanized anti-TNFα monoclonal antibody

- For " humanized anti-TNF α monoclonal antibody", 3SBio owns two exclusive intellectual property rights
- The product is over 90% humanized, which means good neutralizing activity and its in vivo biological activity and pharmacokinetics parameters are superior to the similar products
- The project will provide a safe and effective humanized anti-TNF α monoclonal antibody drug to the rheumatoid patients in China.

### Pre- and clinical study of a injectable pegylated recombinant uricase

- Global intellectual property right to treat refractory gout
- High activity – maximum reduction in uric acid in vivo activity
- Process improvement and stability improvement
- Phase I clinical trial in US shows that it is highly effective and long acting
- Completed the preclinical study and received IND approval in China. The Group' s partner Selecta is conducting Phase II trials in the US.

## R&D Strategies

- The Group focuses its R&D on innovative biologics products, supplemented by the development of small molecule and generic drugs
- We expect, on an average, to receive one new drug and/or new indication approval for Class I drug, and 2-3 IND approval each year
- The Group's core therapeutic areas are Oncology, Immunology, Nephrology, Metabolic diseases and Dermatology
- The Group plans to expand its pipeline and therapeutic areas through both internal research and external collaboration and partnership

## Major Progress Made in 2017

- Further streamline and prioritize existing pipelines
- Remain focusing on our key therapeutic areas and biologics, while initiating the development of small molecule generic drugs
- Development of new technology platforms, and initiating new research programs in the area of our expertise, via both in-house efforts and in-licensing opportunities
- Enhancement of in-house clinical development capacity and capability, via preferable investment in both manpower and financial resource

# Strong In-House Sales Capability Enabling Us to Effectively Promote and Sell Innovative Pharmaceuticals

## Emphasis on Academic Marketing

- Established and maintained strong relationships with leading hospitals and medical professionals
- Promoted and strengthened our academic recognition and brand awareness among medical experts

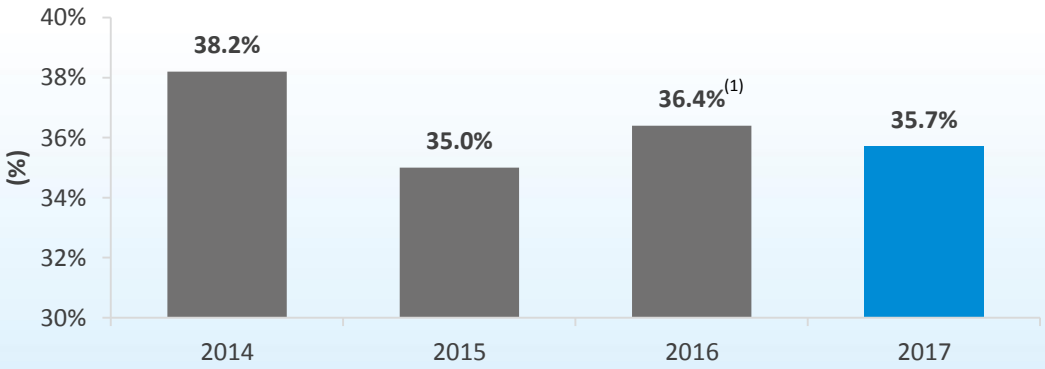
## Effective Marketing Strategies

- Marketed and promoted TPIAO, Yisaipu, EPIAO, Humulin, Byetta, IV Iron Sucrose, dermatology products and Qiming Keli mainly through our in-house sales and marketing team
- Relied on third-party promoters to market other products
- DBU was established with the aim to penetrate into lower tier market
- TPIAO, Yisaipu, EPIAO, SEPO and some of our other products are exported to a number of countries through international third-party promoters

## Extensive Sales and Distribution Network

- 2,446 sales and marketing employees, 272 distribution agencies and 1,845 third-party promoter agencies as of 31 December 2017
- Covered over 2,000 Grade III hospitals and over 12,000 Grade II or lower hospitals and medical institutions, reaching all provinces, autonomous regions and special municipalities in the PRC as of 31 December 2017
- 6 BUs (EBU, TBU, GBU, WBU, DBU, MBU) with integrated compliance, market access, commercial operation, marketing, sales force efficiency and finance, with improved overall efficiency

## Sales and Distribution Expenses As % of Revenue




Notes:
1 The increase was mainly attributable to the consolidate of Byetta since 11 October 2016, which requires higher level of investments in marketing activities at the early stage of its product life cycle

# Comprehensive Manufacturing Platform with Strategic CDMO Capabilities

**Strong and Comprehensive Manufacturing Capability**

## Manufacturing Platform

### Shenyang Facility

- In 2013, the mammalian cell-based production plant and the bacterial cell-based production plant were both certified under the latest edition of the Chinese GMP by the CFDA
- Primarily for the manufacturing of TPIAO and EPIAO

### Shenzhen and Songshan Lake (under construction) Facilities

- In 2016, the Shenzhen production plant was certified under the latest Chinese GMP
- Mammalian cell-based production plant for manufacturing SEPO

### Hangzhou Facility

- Chinese GMP certified chemical drug production lines
- Small molecule production plant

## CDMO Capabilities

### China CDMO Platform




- 38,000L mAb facility which can establish the profitable and most sophisticated mAb CDMO player in China
- Vertical integration across the value chain from research to commercial manufacturing
- Advanced pilot-scale antibody drug conjugate（“ADC”）facility with GMP capabilities

### Europe CDMO Platform




- Offers fill/finish service to its customers
- Total surface: 10,800 $m^2$ ; warehouse: 2,400 $m^2$
- Significant capacities in vial filling, lyophillization, pre-filled syringe filling, ampoules and vial packaging

# Comprehensive Manufacturing Platform with Strategic CDMO Capabilities (Cont'd)

## CDMO Strategic Rationale

**Enhancing Asset Performance with our Service Capability**

三生国健 guojian pharmaceutical

- Operates the largest mAb commercial facility in China, with free capacity being able to offer contracted manufacturing services worldwide
- Equipped with a cutting edge in-house R&D engine across the full R&D value chain with the full capacity, offering an integrated biological CDMO end-to-end solution

Sirton Pharmaceuticals

- cGMP Authorized by EU to manufacture injectable pharmaceutical products in various formats
- Owns a mature CDMO business with the established customers from core markets (EU, North America, etc.)

**Capturing the Growing market Opportunity in Biological CDMO**

- Demand for prescription drugs shifts to biologics worldwide
- Explosive growth of investments in innovative biologic R&D
- Biosimilar becomes hot spots in North America and EU markets
- Demand for biological CDMO service increases rapidly due to the high barrier to entry
- China MAH System creates a huge market opportunity in the CDMO business of commercial manufacturing in China

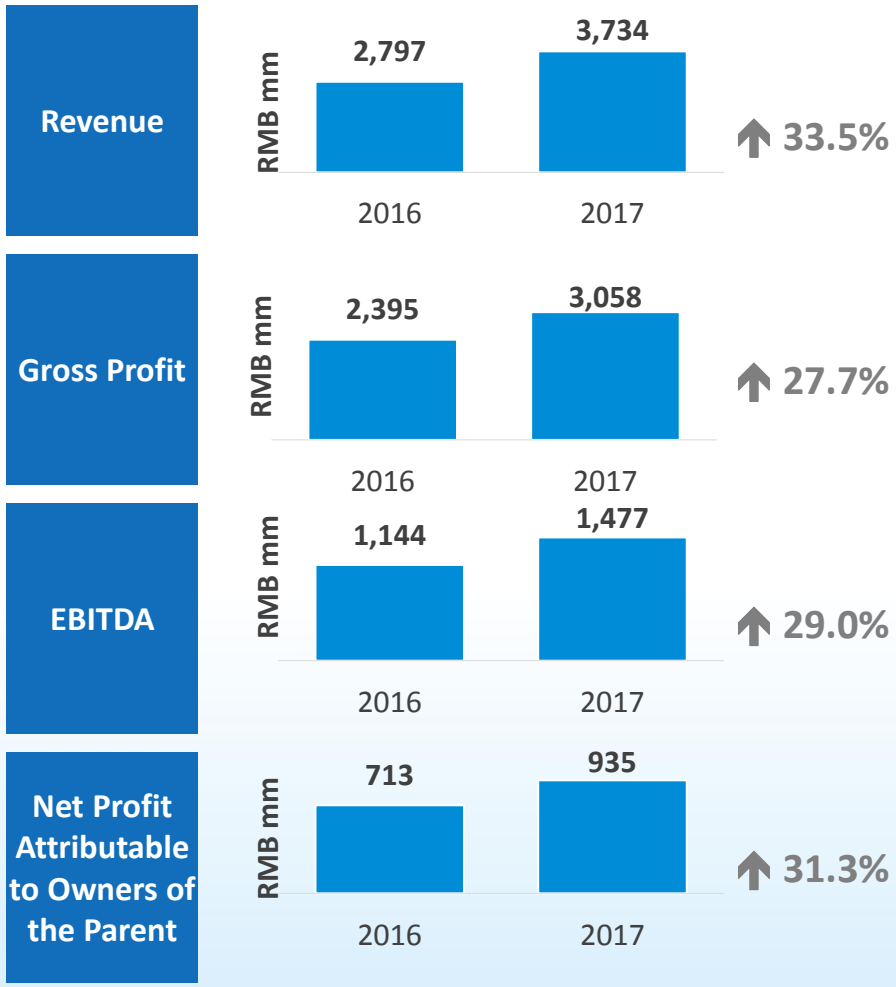
**Promoting Revenue & Earning Growth, and Maximizing Shareholder Value**

- Creates a new source of revenues through CDMO service in a short term
- Increase the operation efficiency and profitability by enhancing the fixed asset performance and capacity utilization in a mid term
- Intend to establish an independent, profitable and global biological CDMO company with a scale, credibility, capacity, capability and strong client base in several years
- Intend to maximize values for shareholders with available options based upon the market opportunity

# Section 2

2017 Annual Results Highlights

# 2017 Annual Results Overview




## Key Highlights of 2017 Annual Results

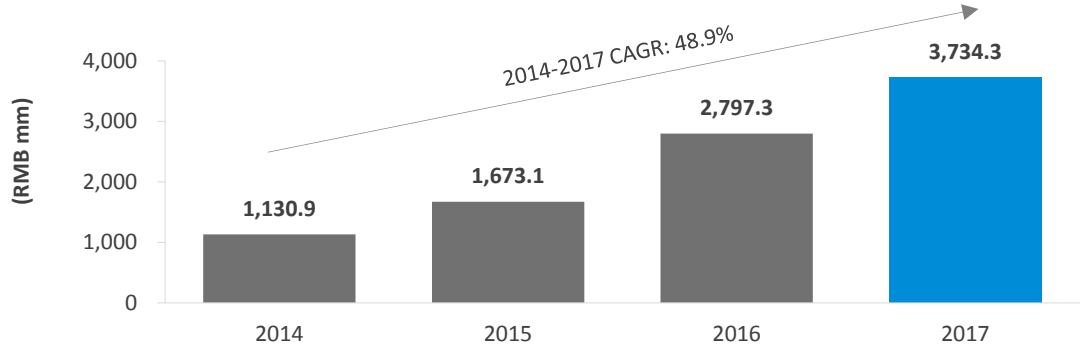
- New Growth
  - TPIAO achieved 27.4% revenue growth
  - Yisaipu achieved 28.8% revenue growth(9.5% compared to 2016 on a twelve month consolidation basis)
  - EPIAO and SEPO achieved 10.7% revenue growth
  - Byetta contributed 4.3% overall revenue growth
  - Humulin contributed 7.0% overall revenue growth
- New Development
  - 3 products (including Yisaipu and TPIAO) are included in NRDL
  - Completed Phase III trials of prefilled syringe of Yisaipu and expected to file manufacturing approval in Q2 2018
  - Completed phase III trials of Clindamycin Phosphate and Tretinoin Gel for topical treatment of acne vulgaris, and expected to file for manufacturing approval in 2Q 2018
  - Received IND approval for clinical trials for pegsiticase in China. Business partner Selecta Biosciences has initiated Phase II trials in the US in Oct 2016 and has shown positive results
  - Received IND approvals for TPIAO's new indications for the hepatic dysfunction patients at the risk of thrombocytopenia, and pediatric ITP indication
  - Received IND approvals for an anti-VEGF antibody to conduct clinical trials in patients with neovascular AMD, and in patients with non small cell lung cancer and cervical carcinoma
  - Received marketing authorization of EPIAO in Ukraine, one of the PICs countries
  - Raised EUR300 mm via convertible bonds with zero coupon
  - Guojian facility for Yisaipu received qualified person's declaration equivalence to EU GMP
- New Leaderships
  - Dr. Zhu Zhenping, joined the company as the Chief Scientific Officer
  - Dr. Zhangji, joined the company as the General Manager of Sunshine Guojian, who is in charge of the group's CDMO business
- New Products
  - Entered into an Exclusive License Agreement with Lilly China for the commercialization of Humulin in the PRC for 10 years
  - Bydureon SDT received CFDA approval and is expected to be launched in Q2 2018
  - Fluticasone Propionate Cream obtained manufacturing approval in August 2017 and launched in March 2018
  - Tacrolimus Ointment was approved by CFDA for pediatric indication in February 2018
  - Entered into an Exclusive License Agreement with Toray for the commercialization of TRK-820 ("Remitch")

# Section 3

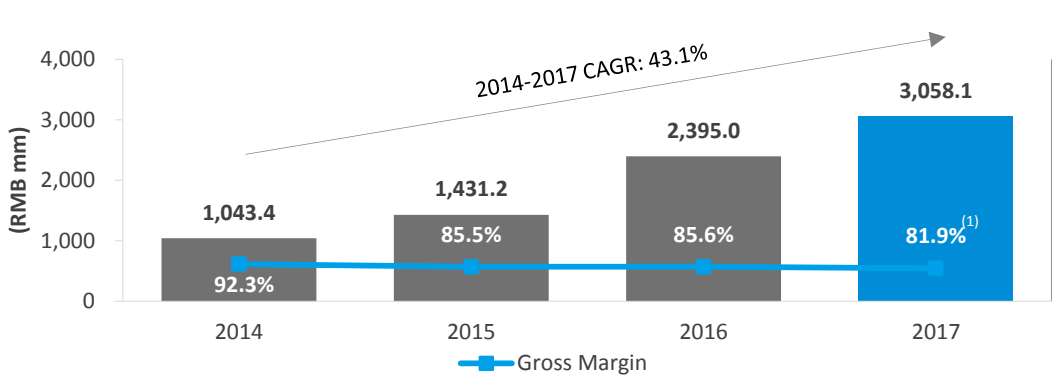
Financial Review

# Robust Revenue and Profit Growth

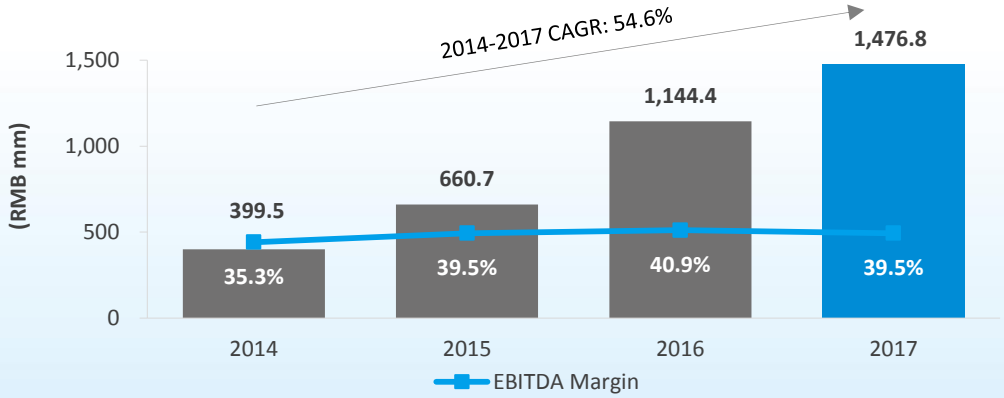
## Revenue



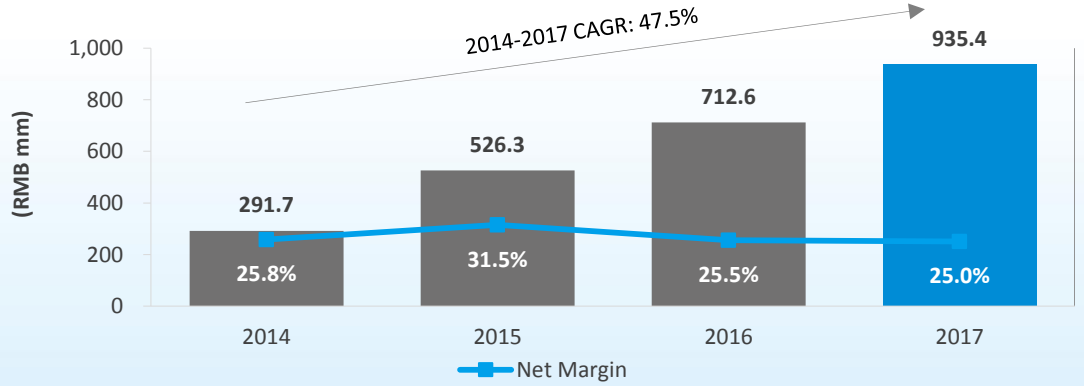

## Gross Profit




## EBITDA




## Net Profit Attributable to Owners of the Parent

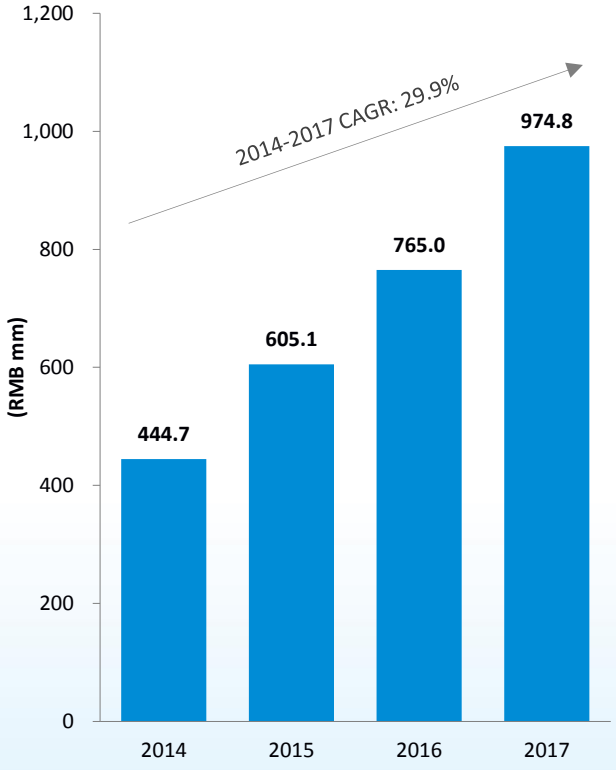




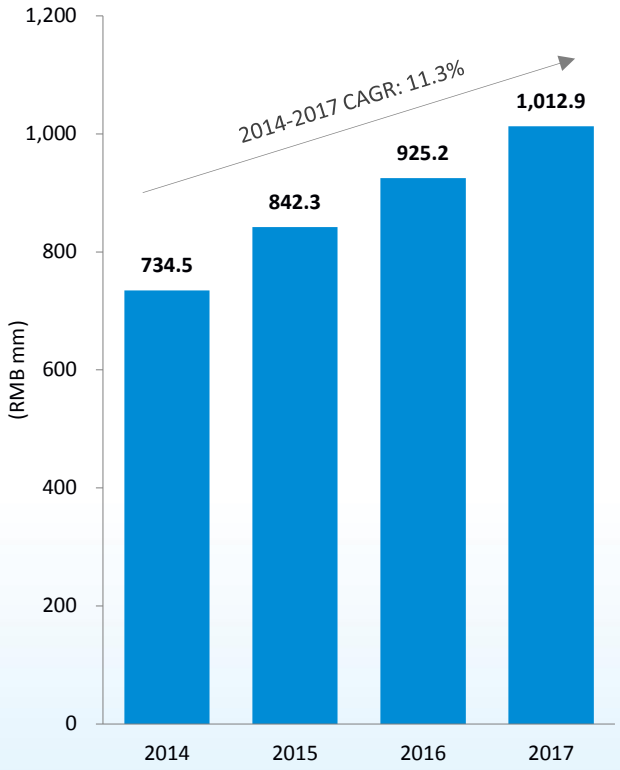

Note:
1 The decrease in gross margin is mainly attributable to the consolidation of Humulin and Byetta, which had a lower gross margin compared to the Group's other businesses

# Market-Leading Products with Strong Growth Momentum

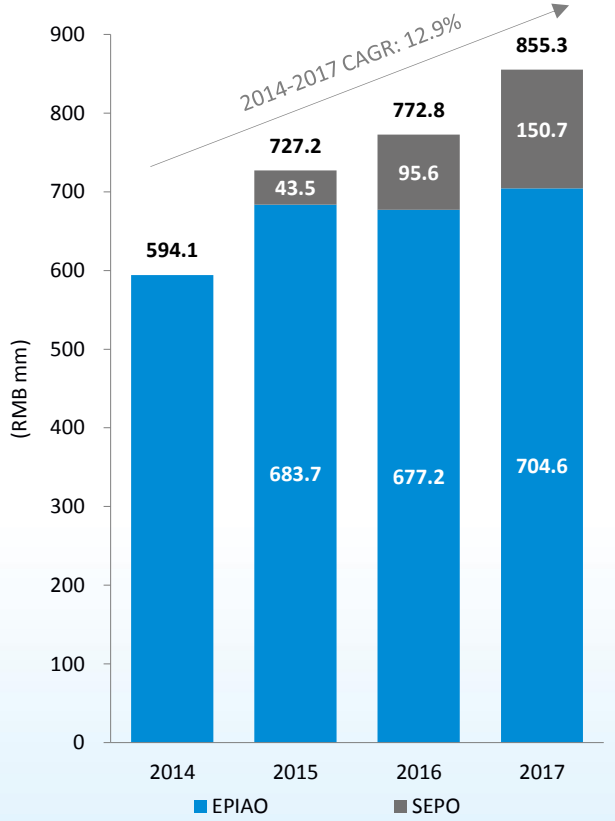
## TPIAO




## Yisaipu[1]




## EPIAO + SEPO

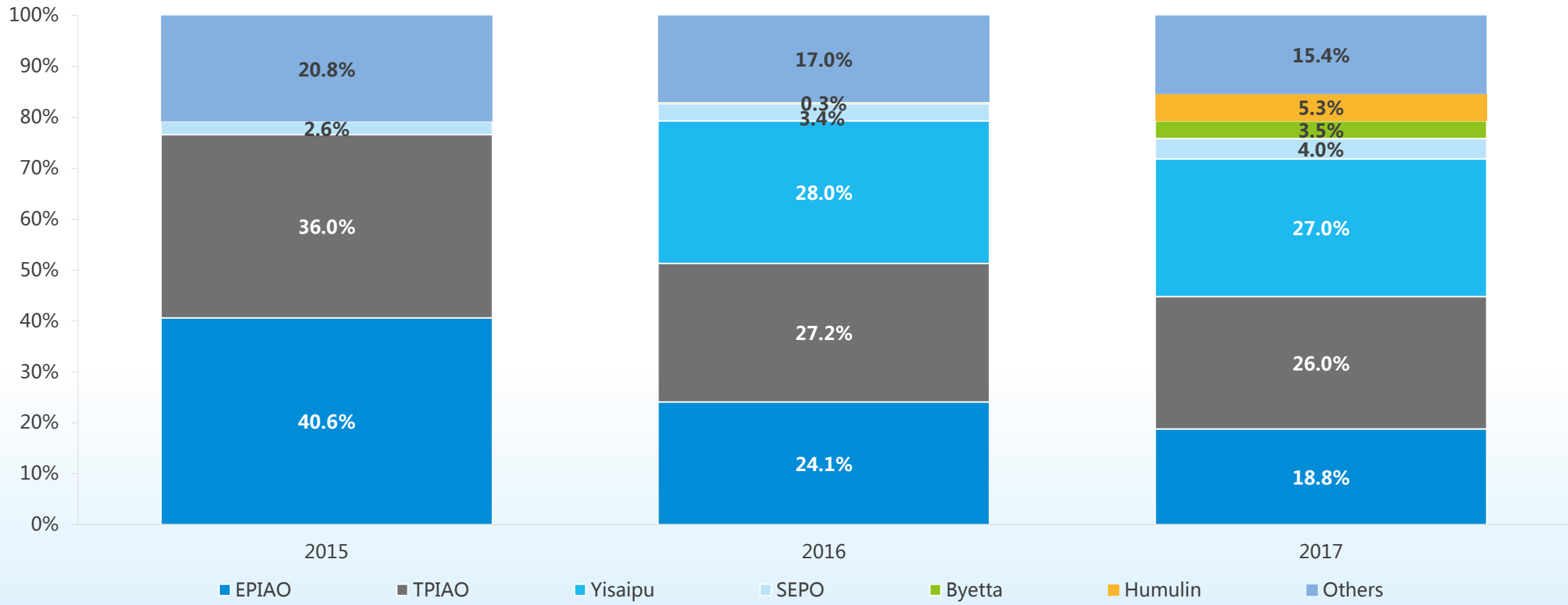





**Notes:**
1 Yisaipu was consolidated since 1 April 2016

# Product Mix and Contribution

**Sales of Goods Contribution[1,2,3,4]**




**Notes:**

1 Sales of TPIAO, Yisaipu, EPIAO and SEPO shown above are those generated in China
2 Sales of Yisaipu for the 9 months from 1 April 2016 to 31 December 2016 were included for 2016
3 Byetta was consolidated into the Group's financials since 11 October 2016
4 Humilin was consolidated into the Group's financials since July 2017

Thanks!

珍爱生命 关注生存 创造生活
Cherish life Care for life Create life

# Appendix

# Experienced and Visionary Management Team Leading the Growth

**Dr. Lou Jing**

*Co-founder, Chairman, Executive Director and Chief Executive Officer*

- Joined Shenyang Sunshine as director of research and development in 1995
- Led the manufacturing process development for EPIAO and TPIAO
- Obtained Ph.D from Fordham University in 1994 and completed post-doctoral study at the United States National Institute of Health in 1995
- A member of "The Recruitment Program of Global Experts" (also known as the "Thousand Talents Program" / 千人计划)

**Mr. Kevin Xiao,** *Chief Operating Officer*

- Extensive experience within PRC's pharmaceutical industry, including a role as chief executive officer of Hisun Pfizer Pharmaceutical from 2012 to 2015 where he oversaw the strategy and operations of the Hisun and Pfizer joint venture

**Dr. Zhenping Zhu,** *President of Research & Development and Chief Scientific Officer*

- Served as EVP of Global Biopharmaceuticals, Kadmon Corporation and President of Kadmon China
- Served as VP and Global Head, Protein Sciences and Design at Novartis and VP of Antibody Technology and Immunology at ImClone Systems.
- Led discovery and early development of several FDA-approved novel antibodies for various oncology indications

**Mr. Bo Tan,** *Chief Financial Officer*

- Extensive experience within the financial and pharmaceutical industries, having worked across private equity, equity research and corporate

**Ms. Su Dongmei,** *Director and Senior Vice President*

- Served as director of research and development
- Named co-inventor for four of the Company's patents

**Dr. James Zhang,** *General Manager of Sunshine Guojian*

- Served as vice president of Yuanda, the head of Yuanda Wuhan Pharmaceutical Research Institute and the chief science officer of Huadong Pharmaceutical Company
- Also served as an executive director on the board of directors of Huadong Pharmaceutical and China Grand Pharmaceutical and Healthcare Holdings
- A member of "The Recruitment Program of Global Experts" (also known as the "Thousand Talents Program" / 千人计划)

## Extensive Experience

Senior management team on average has **> 15 years** of experience in the biotechnology or pharmaceutical industries

## In-depth Knowledge

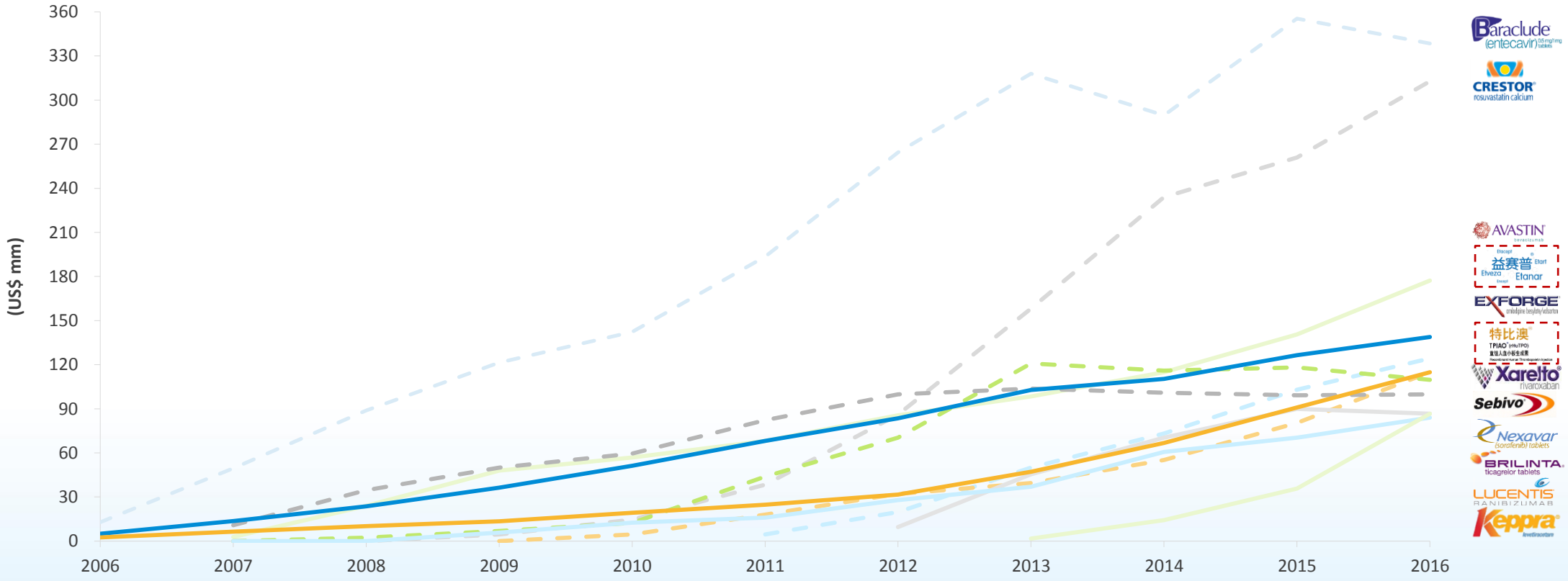
Many have worked with overseas leading global biopharmaceutical companies. They bring extensive industry experience and in-depth knowledge

## Diversified Expertise

Experience and expertise range from research and development to manufacturing, sales, marketing and distribution

# Yisaipu and TPIAO Were Among the Most Successful Launches in China

**Compared with the top 10 drugs launched since 2006, Yisaipu and TPIAO performed well with further growth potential**




**Among 97 drugs launched since 2006, only 10 (~10%) have reached US$80 mm sales by 2016**

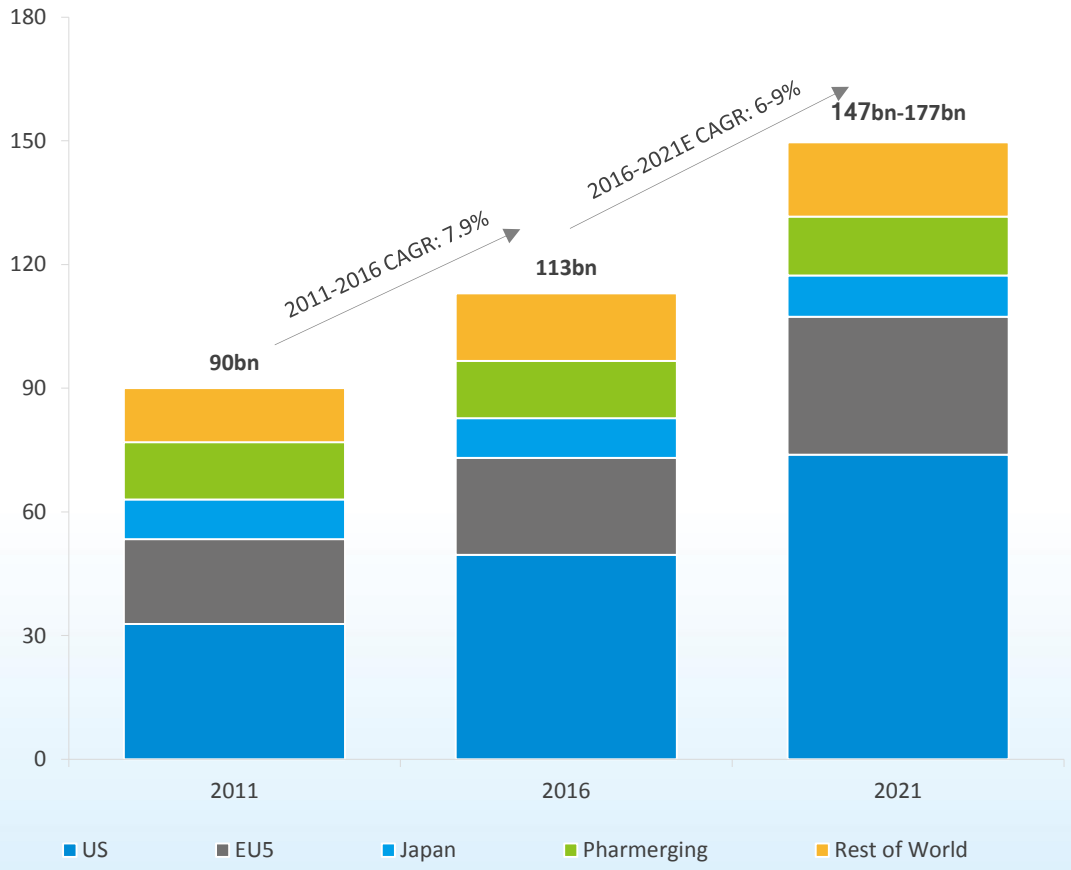
Source: Mckinsey and Co.

1 Based on drugs launched since 2006 and the top 10 with highest 2016 sales

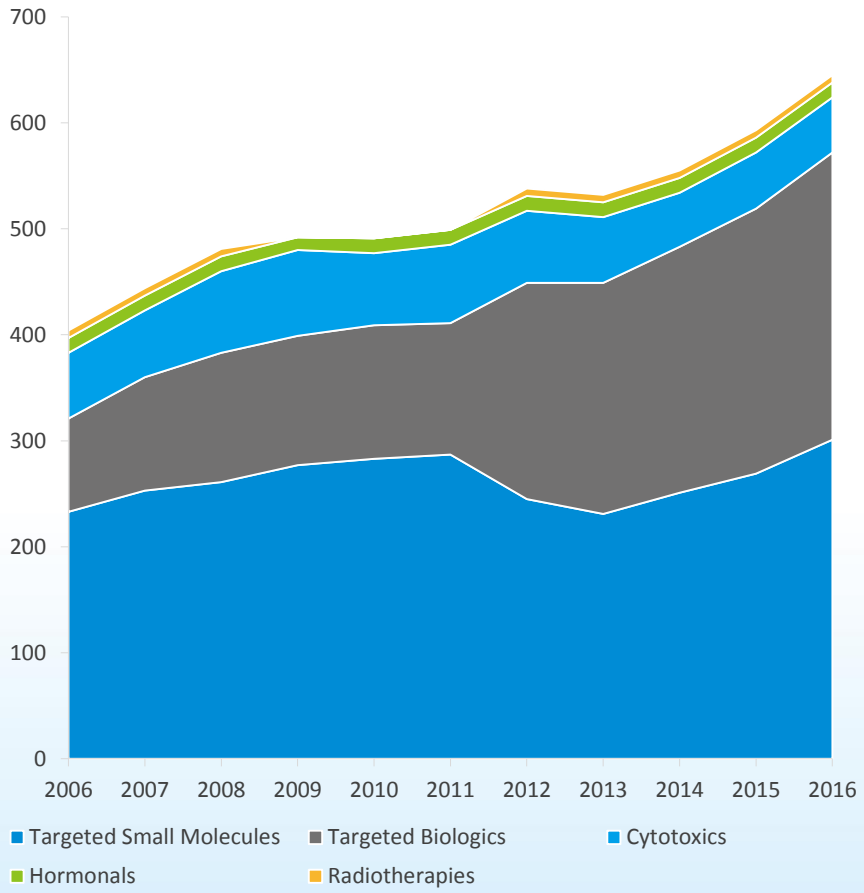
2 Exchange rate for TPIAO and Yisaipu sales of US$ : RMB = 6.66

# Global Oncology Market Growth and Pipeline

## Global Oncology Costs and Growth




## Late Phase Oncology Pipeline Molecules (2006–2016)




| 2006 (392) | 2016 (631) |
|---|---|
| 1% | 1% |
| 4% | 2% |
| 15% | 8% |
| 21% | 43% |
| 59% | 47% |



Source: QuintilesIMS, MIDAS, Q4 2016, QuintilesIMS Institute, Mar 2017

# Attractive Biologics CDMO Market Globally

**Pharmaceutical and biotechnology companies are increasingly outsourcing their biologic development and manufacturing activities to CDMOs to cut costs and meet regulatory requirements**

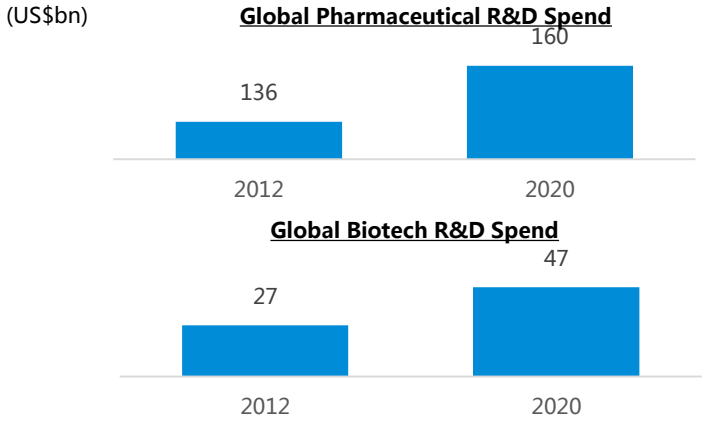
**Biologics CDMO market is expected to reach US$8.0bn by 2020**

**Over 6,000 biologics R&D projects globally**

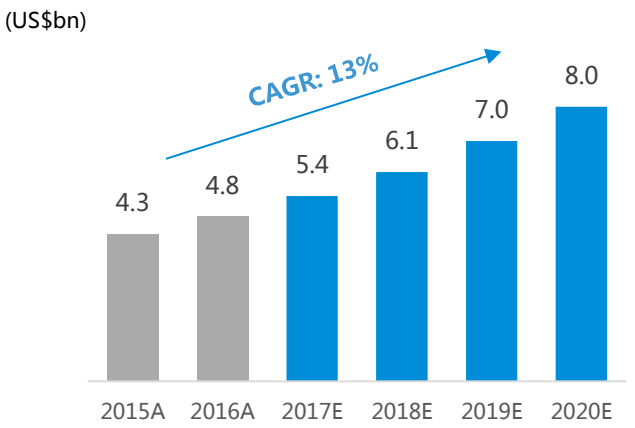
**Sales of biologics drugs are expected to grow rapidly**

**Cost pressures, desire for greater flexibility and regulatory complexity are driving increased outsourcing**

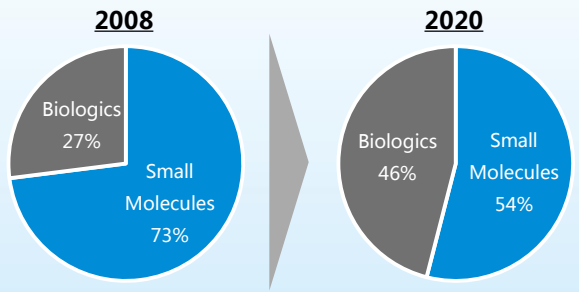
## Global Pharma and Biotech R&D Spend



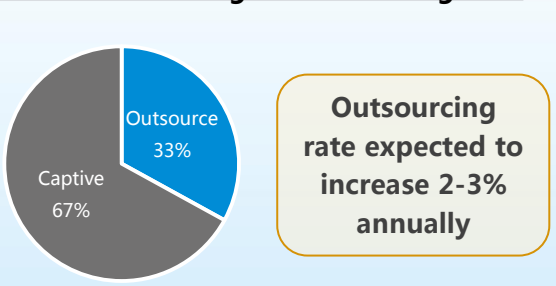

## Growing Global Biologics CDMO Market




## Shift to Biologics




## Increased Outsourcing




**Outsourcing rate expected to increase 2-3% annually**



Sources: Frost & Sullivan, EvaluatePharma