

# *Global Premier Biologics Platforms to Enable and Expedite Innovations*

*WuXi Biologics 2019 Annual Result  
(2269.HK)*

**March 2020**



**WuXi Biologics**  
Global Solution Provider

# Forward-Looking Statements

This presentation may contain certain “forward-looking statements” which are not historical facts, but instead are predictions about future events based on our beliefs as well as assumptions made by and information currently available to our management. Although we believe that our predictions are reasonable, future events are inherently uncertain and our forward-looking statements may turn out to be incorrect. Our forward-looking statements are subject to risks relating to, among other things, the ability of our service offerings to compete effectively, our ability to meet timelines for the expansion of our service offerings, and our ability to protect our clients’ intellectual property. Our forward-looking statements in this presentation speak only as of the date on which they are made, and we assume no obligation to update any forward-looking statements except as required by applicable law or listing rules. Accordingly, you are strongly cautioned that reliance on any forward-looking statements involves known and unknown risks and uncertainties. All forward-looking statements contained herein are qualified by reference to the cautionary statements set forth in this section.

## Use of Adjusted Financial Measures (Non-IFRS Measures)

We have provided adjusted net profit, adjusted net profit margin, adjusted EBITDA, adjusted EBITDA margin and adjusted diluted earnings per share for the corresponding periods, which excludes the share-based compensation expenses, listing expenses and foreign exchange gains or losses, and are not required by, or presented in accordance with, IFRS. We believe that the adjusted financial measures used in this presentation are useful for understanding and assessing underlying business performance and operating trends, and we believe that management and investors may benefit from referring to these adjusted financial measures in assessing our financial performance by eliminating the impact of certain unusual and non-recurring items that we do not consider indicative of the performance of our business. However, the presentation of these non-IFRS financial measures is not intended to be considered in isolation or as a substitute for the financial information prepared and presented in accordance with IFRS. You should not view adjusted results on a stand-alone basis or as a substitute for results under IFRS, or as being comparable to results reported or forecasted by other companies.



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**2019 Annual Results**

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**Leading Industry Trends Favoring WuXi Biologics**

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**Appendix**

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**250**

Integrated Projects

**59**

New Projects

**16**

Late Phase Projects

**US\$5.10B**

Total Backlog

**280,000L**

Capacity after 2022

**5,666/2,474**

Employees/Scientists



**¥ 3,983.7M**

Revenue

**¥ 1,205.0M**

Adj Net Profit

**57.2%**

Revenue YoY Growth

**60.3%**

Adj Net Profit YoY Growth

**41.6%**

Gross Profit Margin

**30.2%**

Adj Net Profit Margin

**2019**



01

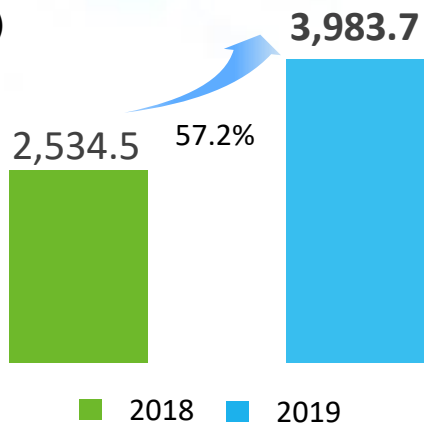
# 2019 Annual Results



# Financial Highlights: Record Revenue and Earning Growth

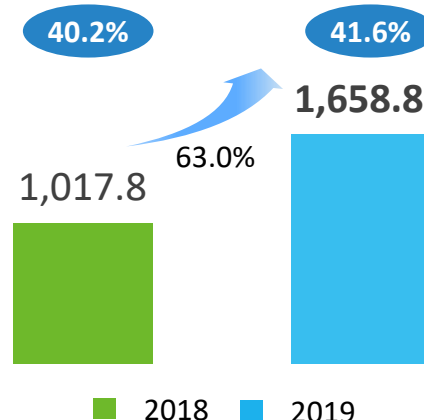
## Revenue

RMB  
(mm)



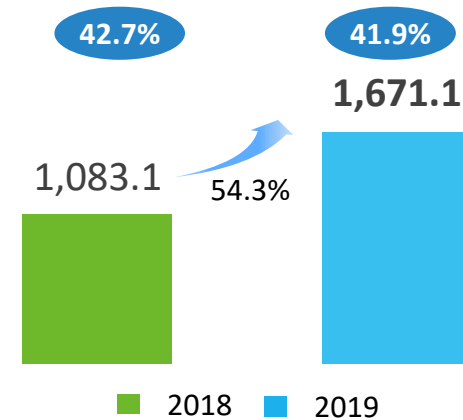
## Gross Profit

GP Margin



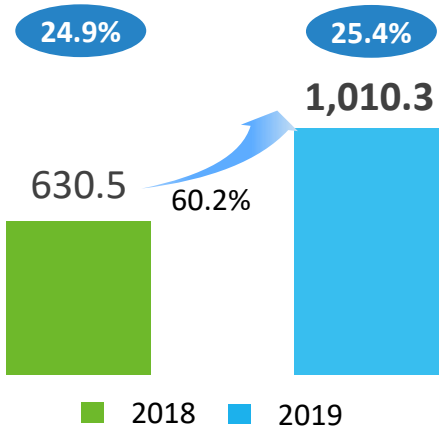
## Adj EBITDA

Adj  
EBITDA  
Margin



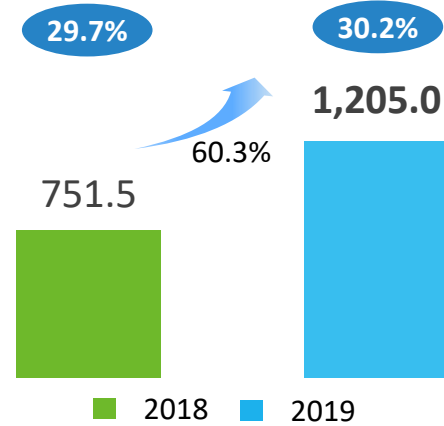
## Net Profit

NP Margin



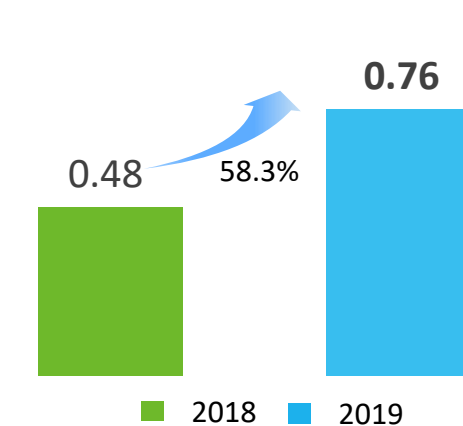
## Adj Net Profit

Adj NP Margin



## Diluted EPS

RMB



## CASH

- Bank balances, cash and cash deposit amounted to RMB**6,206** million in total as of Dec 31<sup>st</sup>, 2019
- Sufficient cash plus debt to support operations for **18+** months

## LOAN

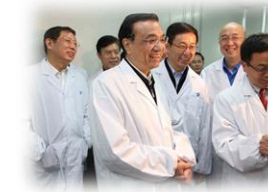
- Approx. RMB**1,901** million borrowings as of Dec. 31, 2019
- Maintains bank credit facilities of around RMB**1,633** million for future cash needs
- Operating cash flow of RMB**1,208** million, **58.7%** increased YoY

## CAPEX

- 2019 CAPEX of RMB**3.2** billion due to optimization of CAPEX flow
- 2020 CAPEX around RMB**4.5** billion including purchase of DP facility in Germany and approx. RMB**700** million to support vaccine project

## Our Mission

*To accelerate and transform pharmaceutical discovery, development and manufacturing in the fast growing field of biologics to benefit patients worldwide*



## Our “Follow-the-Molecule” Integrated Solution Model

*Our customers’ demand for our services increases as their biologics advance through development and ultimately to commercialization, which allows our revenue from each project to grow geometrically as the project advances through the biologics development cycle*

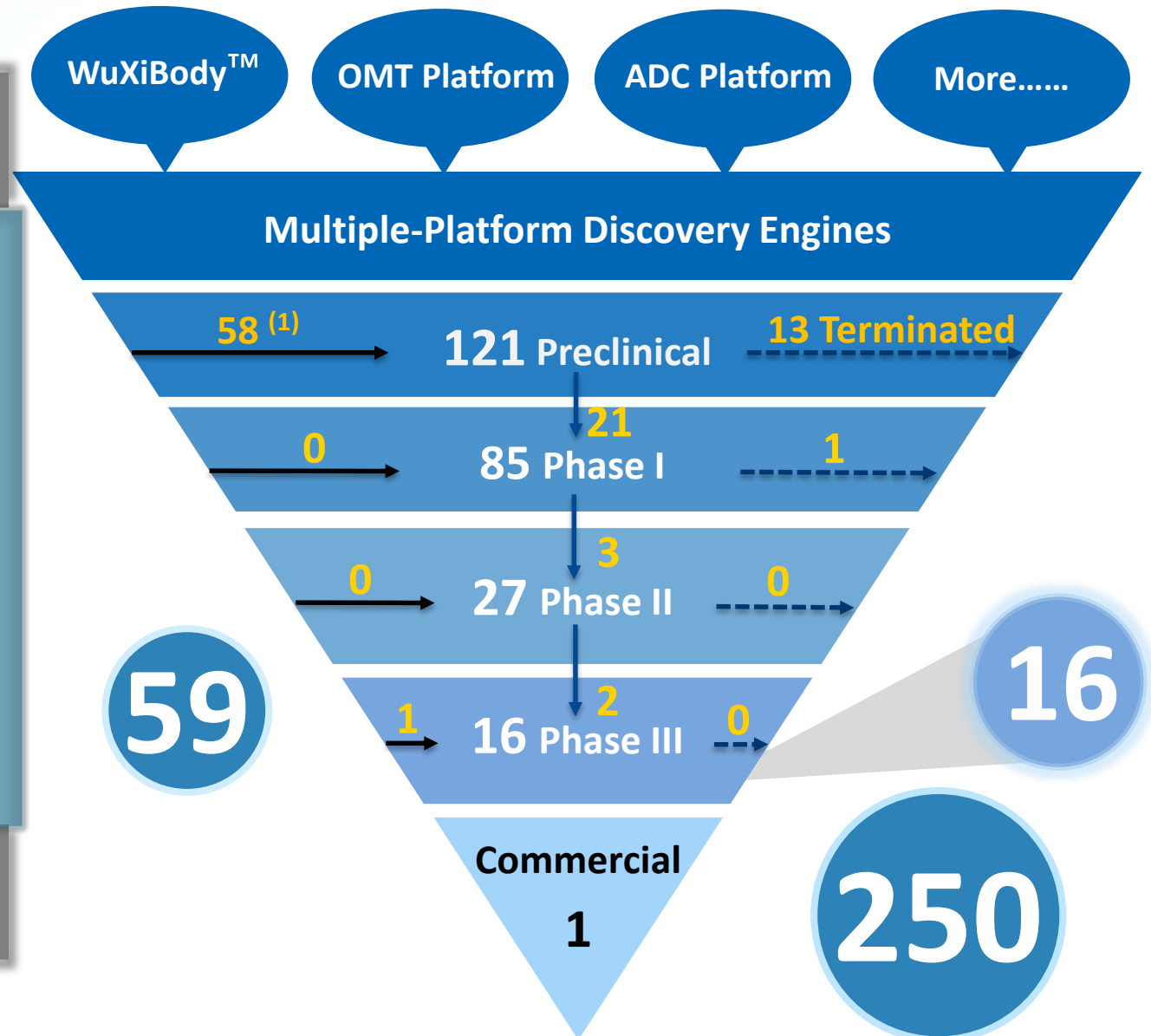
### Revenue from each project increases with its stages

Biologics Development Process	Typical Duration	Typical Revenue
Pre-IND		
Drug Discovery	2 Years	US\$1.5-2.5 mm (Milestone fee ranges from US\$ 10-100 mm Royalty fee ranges from 3% to 5%)
Pre-Clinical Development	2 Years	US\$4-6 mm
Post-IND		
Early-Phase (Phases I & II) Clinical Development	3 Years	US\$4-6 mm
Late-Phase (Phase III) Clinical Development	3-5 Years	US\$20-50 mm
Commercial Manufacturing	Annually	US\$50-100 mm annually



# 2019 Pipeline Highlights

- “Follow-the- Molecule” strategy in full motion
- Added **59** molecules into the pipeline in 2019
- **250** in development and manufacturing
- **2** of **16** Phase III projects filed BLA in China and USA, more milestone achievements expected
- **US\$55.1** million milestone revenue in 2019, increasing **83.7%** compared with 2018

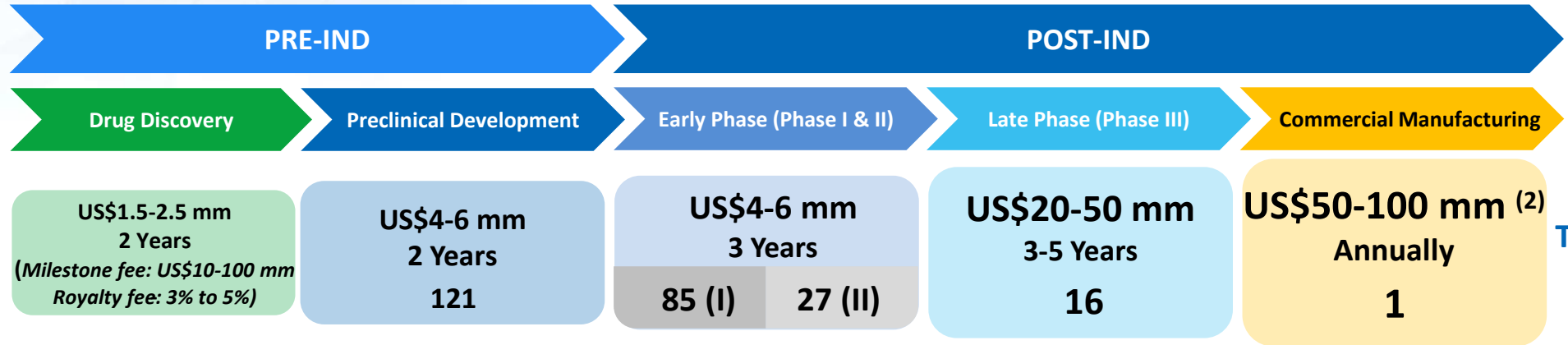


**Notes:**

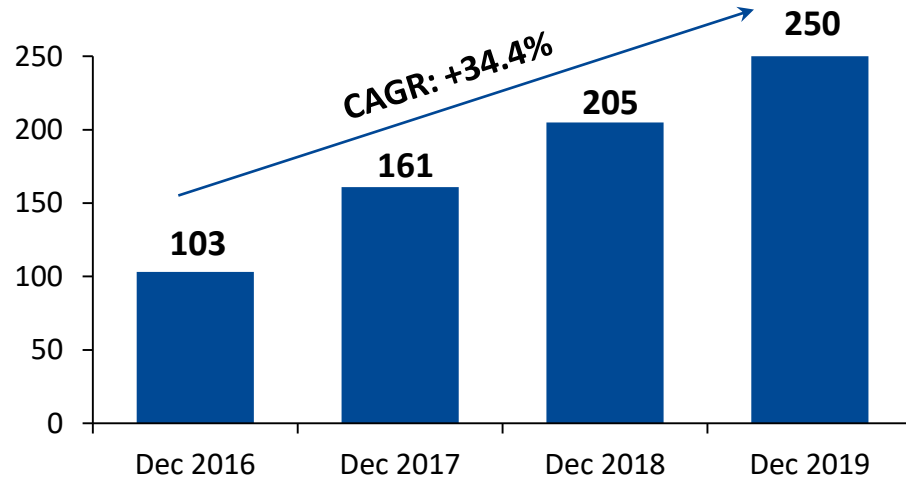
1. All of the project No. were compared to 2019 Q4

2. The arrows in black are the projects newly added from outside; the arrows in blue are the projects progressing from earlier stage thanks to our Follow-the-molecule strategy; the dashed arrows are terminated projects

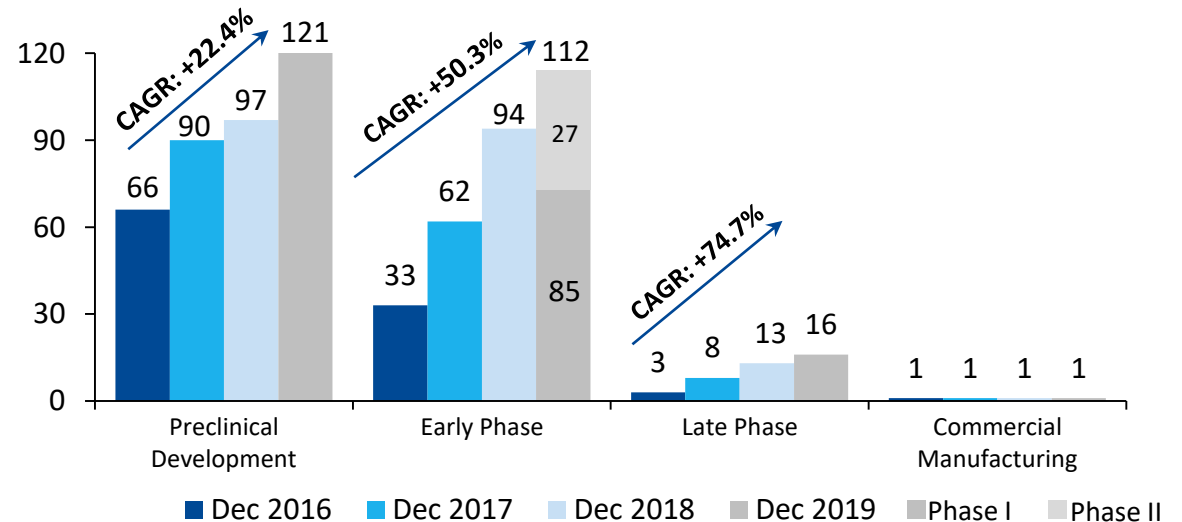
# Solid Business Progress – Integrated Projects



**No. of Integrated Projects (1)**



**Integrated Projects (1) By Phases**



**Notes:**

1. Integrated projects are defined as projects requiring services for multiple stages during biologics development process
2. Estimated CMO revenue when a biologic drug reaches its peak sales. A biologic drug typically reaches peak sales after a ramp-up period

# Strong Backlog Growth Underpins Future Performance

- Total backlog surged to **US\$5.1 bn** by the end of 2019, showing that the Company continues to gain more market share

- Upcoming potential milestone fees\* surged to **US\$3.4 bn**, **70% YoY** increased mainly driven by adding more WuXiBody™ projects, which will continue to improve margin profile

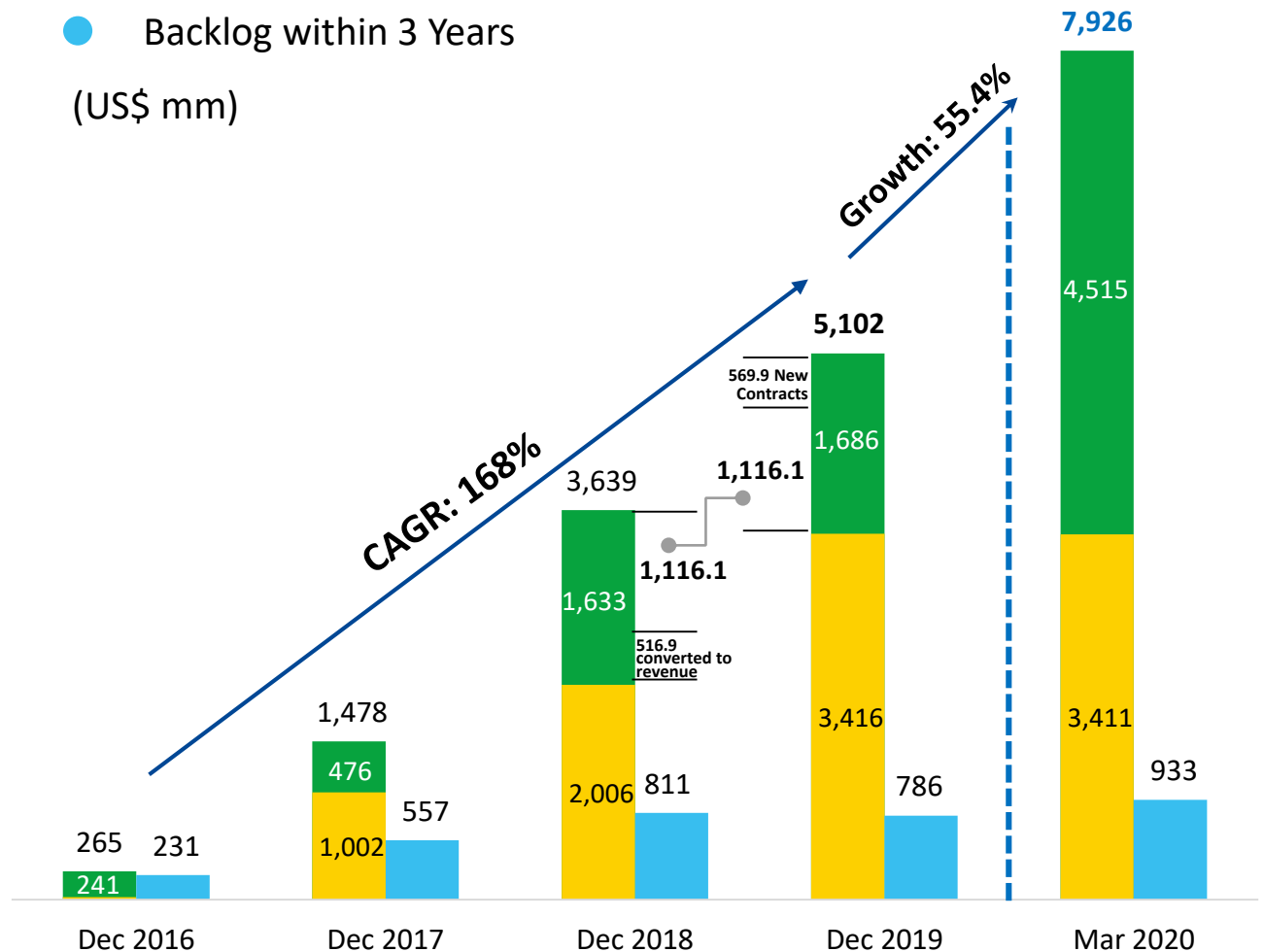
- Service backlog was up to **US\$1.7 bn** as of Dec. 31, 2019 to support further revenue growth in the future

- Mar 2020** service backlog includes new biologics signed YTD and vaccine contract

- “Follow-the-Molecule”** strategy clearly demonstrate to work

- Service Backlog
- Upcoming Potential Milestone Fees\*
- Backlog within 3 Years

(US\$ mm)

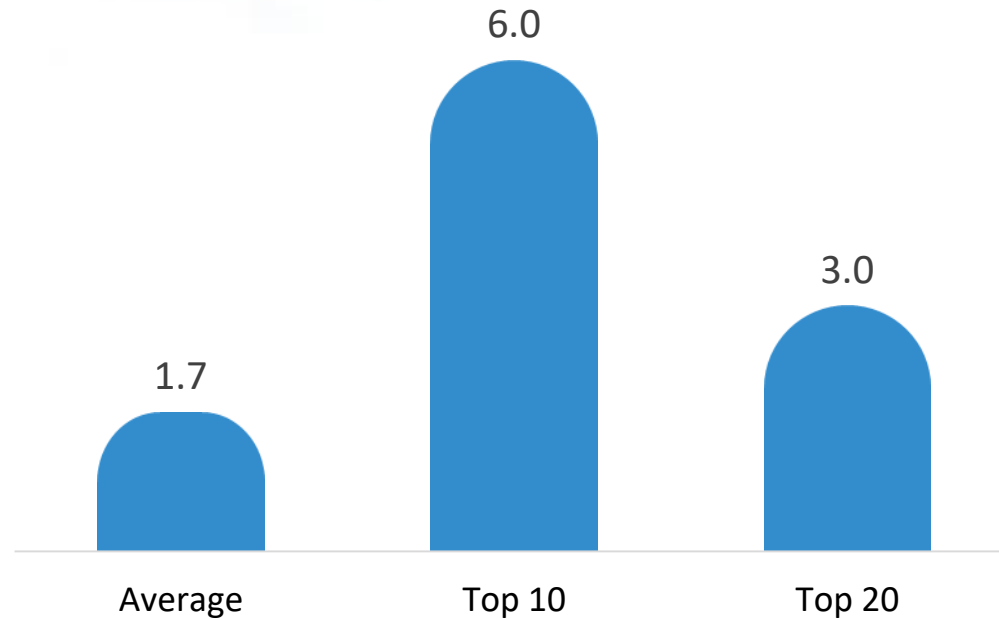


**Disclaimer:**

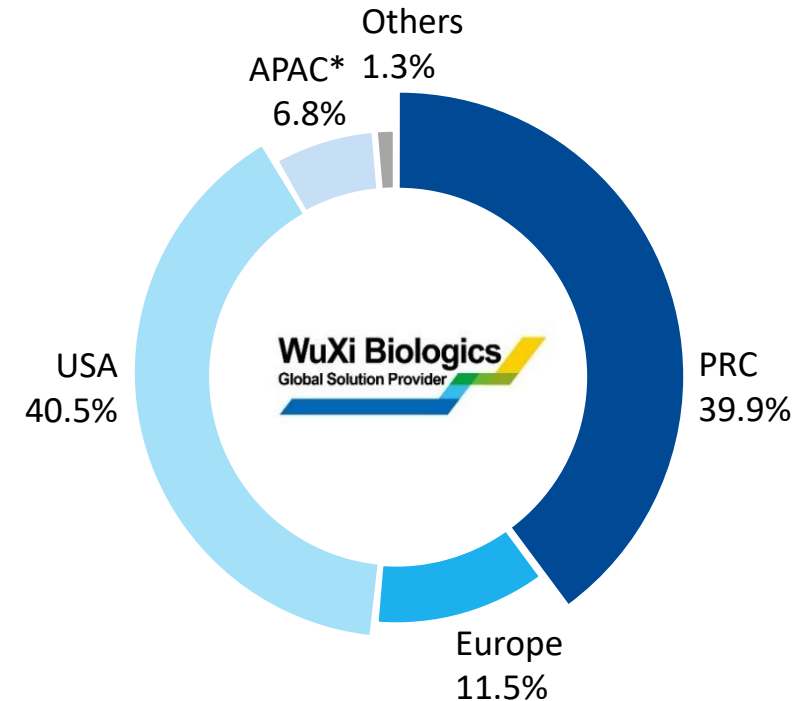
\* The upcoming potential milestone fees take a longer term to charge at various development stages. The potential to realize these milestone fees is subject to the success rate of the projects and the project progress

# Follow-the-Molecule Wins More Trust from Existing Clients

## Integrated Project's No. per Customer



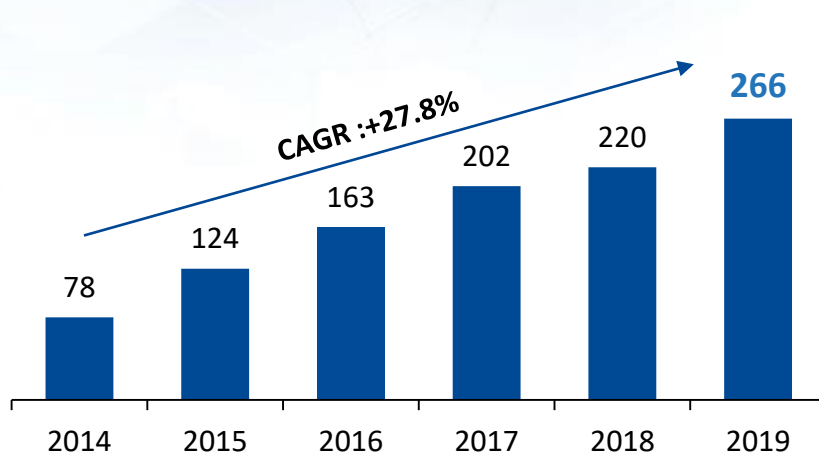
## Geographic Snapshot by Customer No.



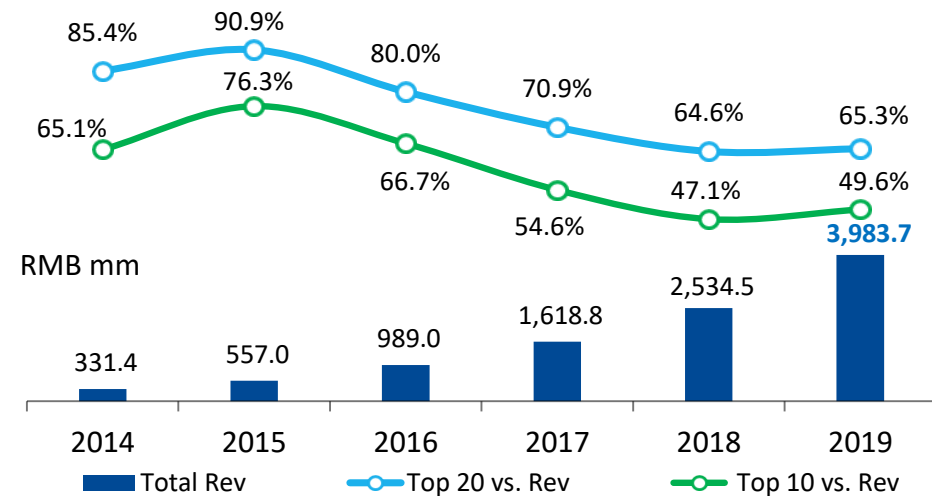
- Multiple leading platforms, best execution and track record increase **stickiness** of biologics CDMO
- Follow-the-Molecule with proven track record improved winning rate of new project from existing clients to **80+%**
- Existing clients contributed to **92%** revenue vs new client **8%** demonstrating effectiveness of our strategy
- Customer base further diversified with **USA** and **PRC** remaining most important markets

# “Follow-the-Molecule” Drives Customer Growth and Revenue Diversification

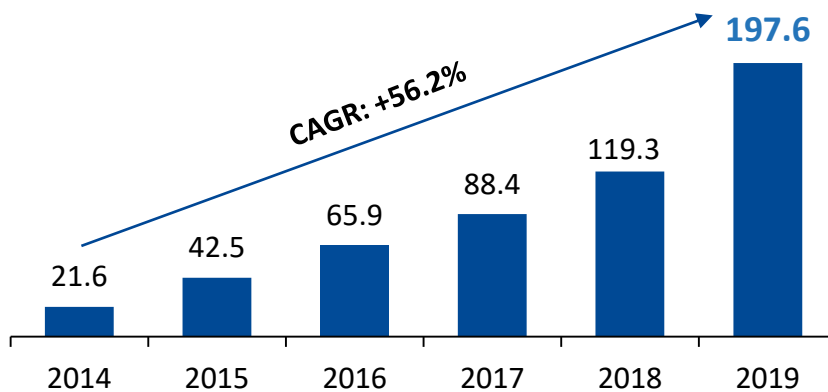
**Number of Customers Serviced in Each Period**



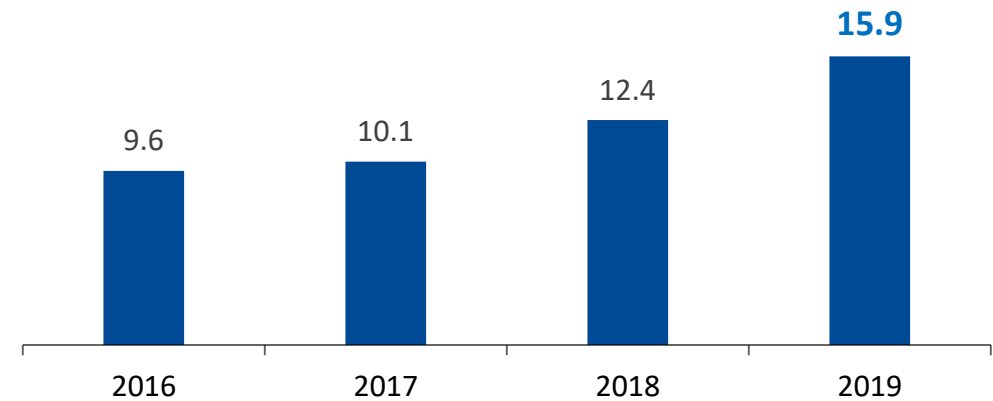
**Revenue % of the Top 20 and the Top 10 Customers**



**Average Revenue per Customer among the Top 10 Customers in Each Period (RMB mm)**



**Average Revenue per Project (RMB mm)**



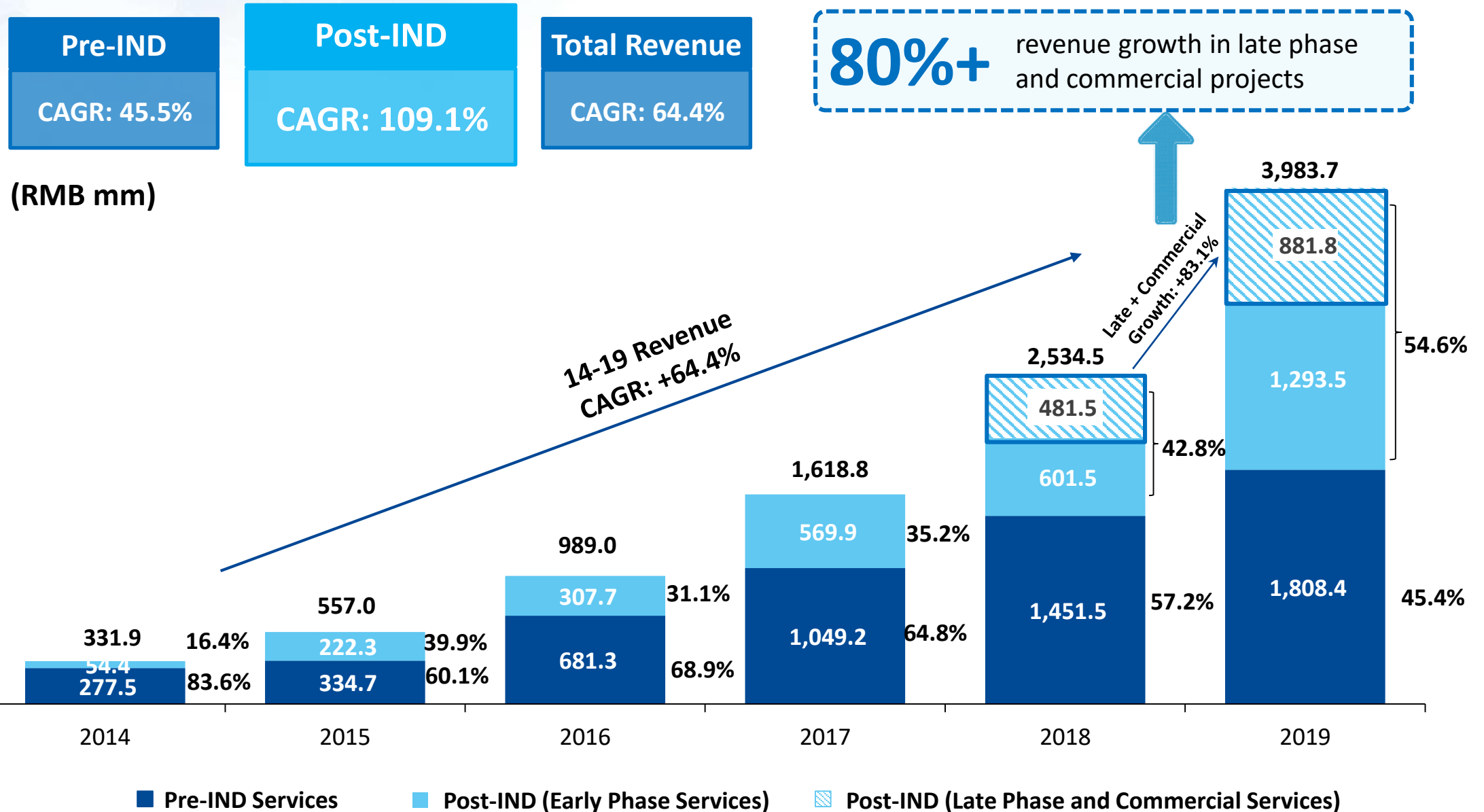
The substantial increase of Average Revenue per Customer (Top 10) & Average Revenue per Project showcases our pipeline is promptly progressing to late stage and more milestone payment received.

**Note:**

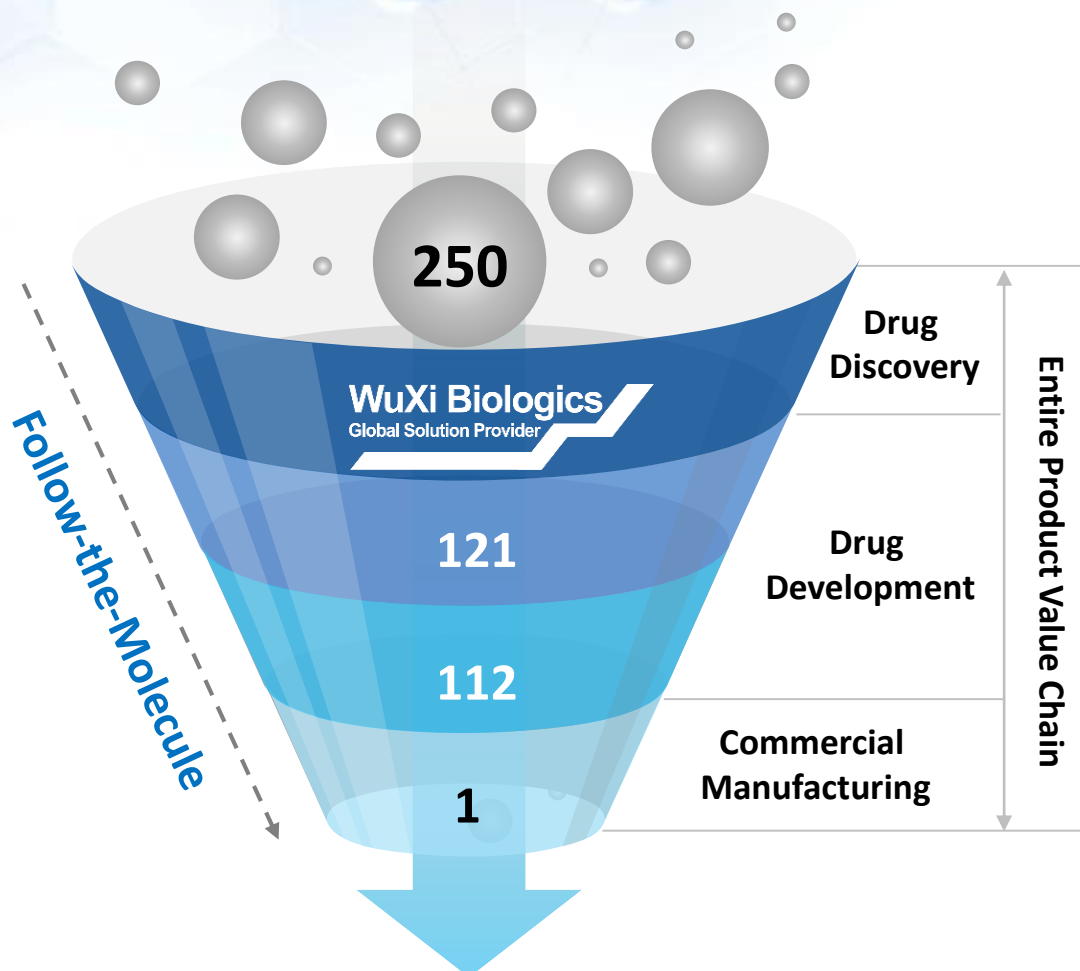
1. Number of customers refer to those who incurred revenue during the reporting period



# CDMO Model Further Validated as Post-IND Rev. Soaring “Follow-the-Molecule” in Full-Play: Less Reliance on a Single Project



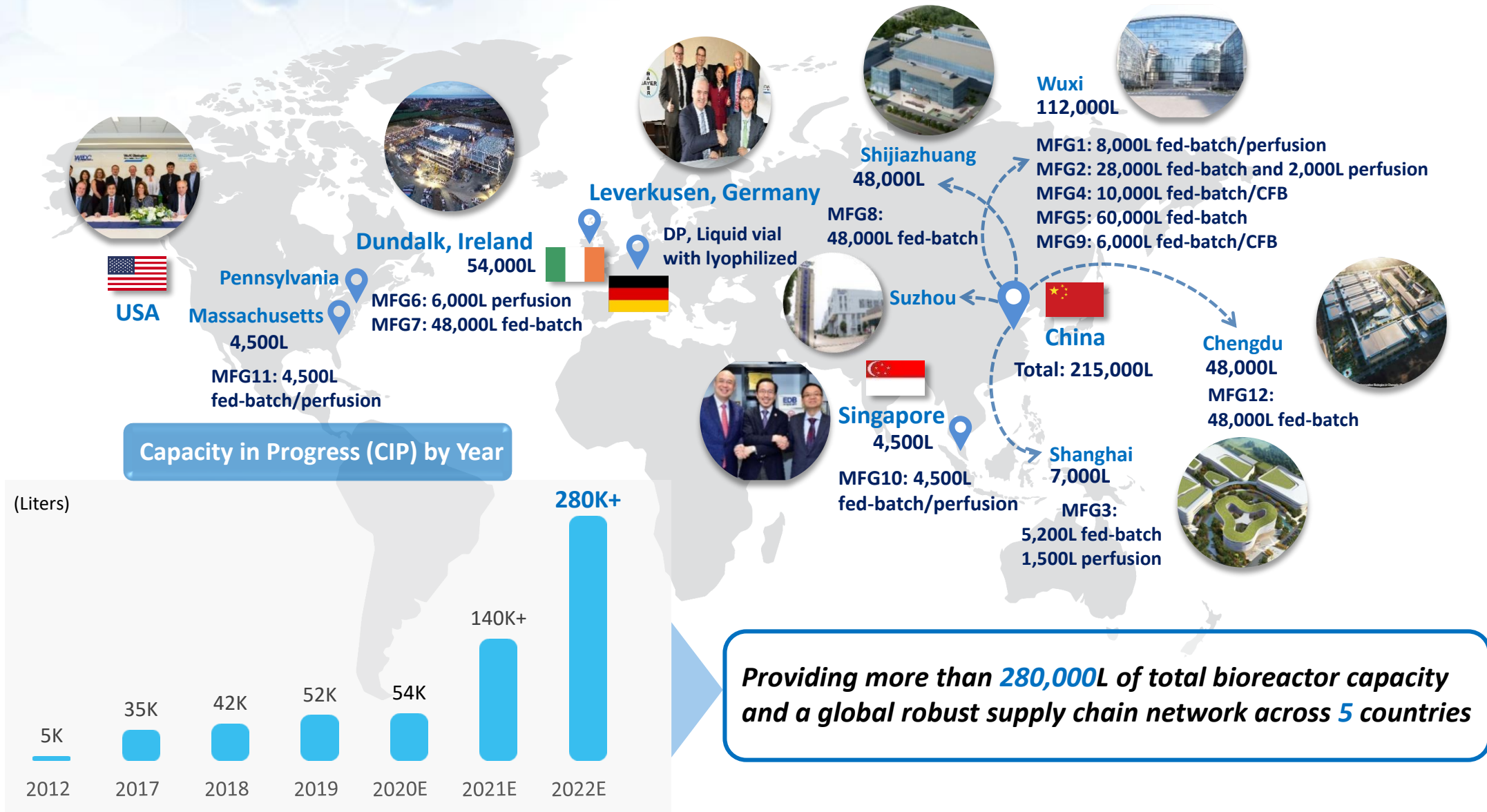
# Global Dual Sourcing within WuXi Bio: Robust Supply Chain



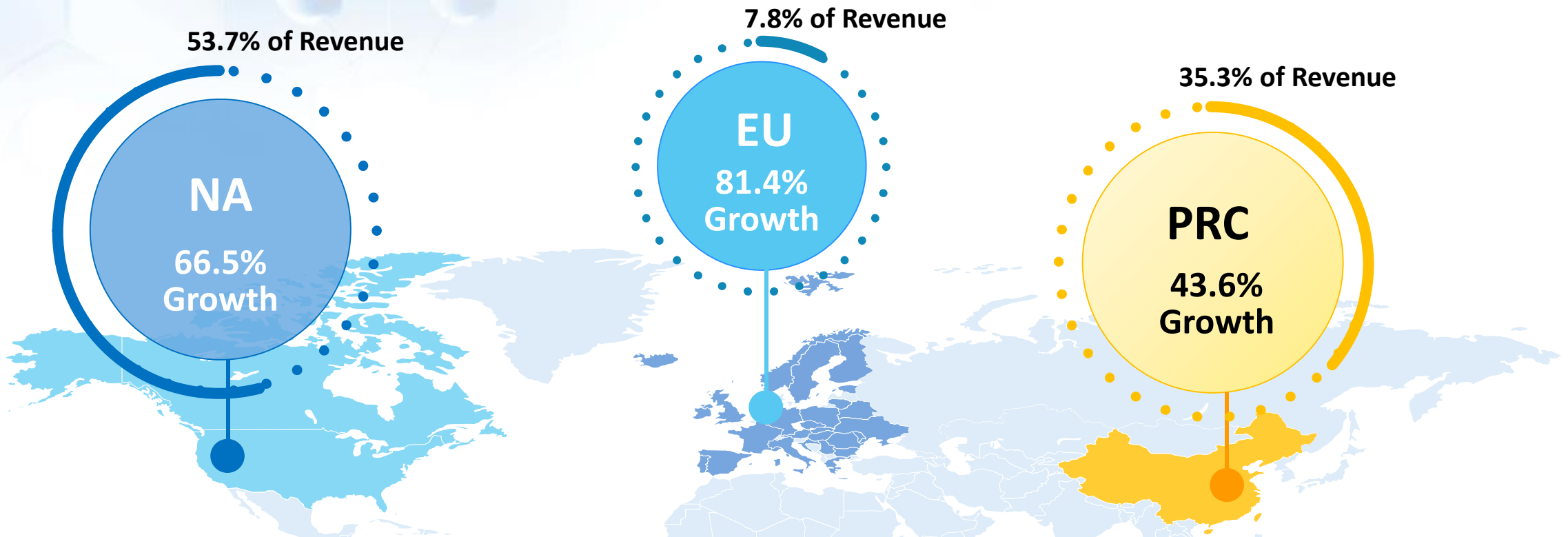
Global Dual Sourcing within WuXi Bio

- World-class capabilities, expanding capacities, excellent track record and superb execution securing more projects globally than other players
- Biologics projects are **sticky**, securing early stage projects to ensure high likelihood of continuing to commercialization – “Follow-the-Molecule”
- Our “**on-demand global capacity planning**” and “**global dual sourcing within WuXi Bio**” fulfill our global customers’ rapid growing demand
- “Follow-the-Molecule” strategy taking on effect: more integrated projects moving to CMO stage starting from 2020
- **Two** Programs from DNA to BLA achieved

# Global Network Ensures Success of “Follow-the-Molecule”



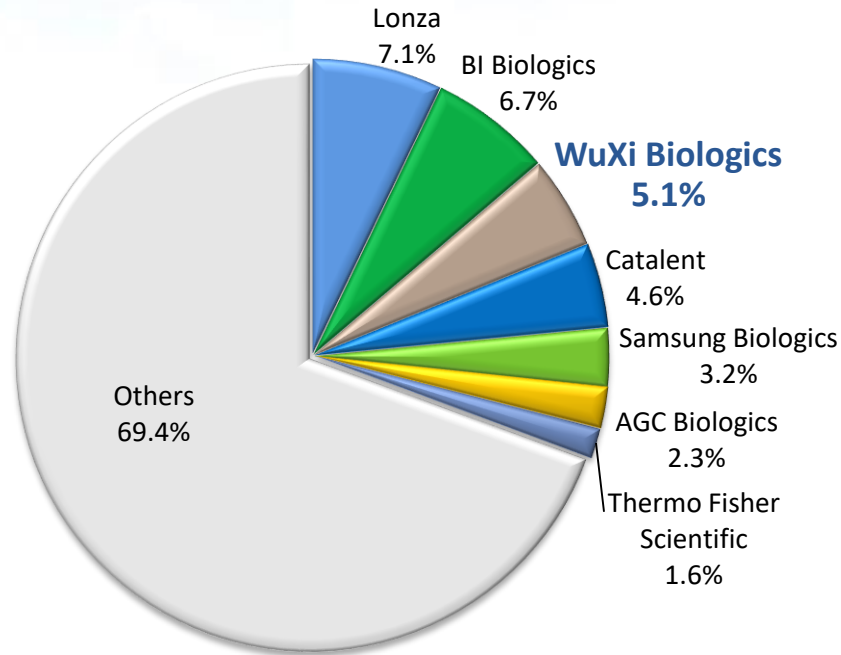
# Rapid Business Progress across Geographic Markets



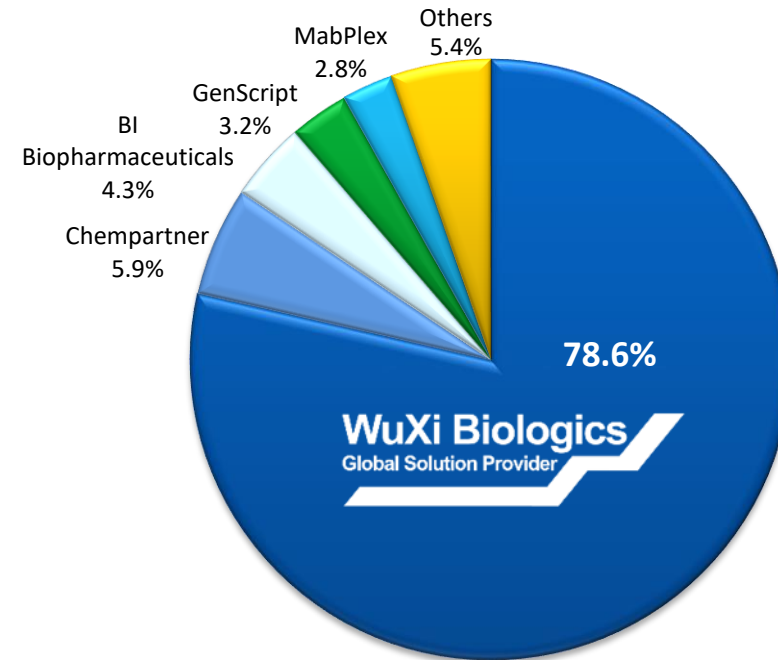
- Multiple leading technology platforms to enable global innovators in three major markets, all achieved sustained high growth
- **North America (NA)** remains the most important market, up around **66.5%** in 2019
- **43.6%** growth in China, driven by favorable policies and the boost of investment in innovative drugs
- **EU** market sustained over **160.4%** CAGR growth in the past 5 years. More innovative capabilities invested to enable biotech innovation in EU. Largest client groups from Switzerland, UK and Germany

# WuXi Bio: Global Top 3 and the Dominant Leader in China

Market Share of Global Biologics\* Outsourcing Market by Revenue in 2019 <sup>(1)</sup>



Market Share of China Biologics\* Outsourcing Market by Revenue in 2019 <sup>(1)</sup>



	Novel mAb Discovery	Discovery Biology/Drug Screening	Cell Line Engineering/Construction	Bio-analytical Testing	Research Manufacturing	Assay/Formulation/Process Development	Cell Banking/Cell Line Characterization	Viral Clearance Validation	cGMP Manufacturing	Lot Release/Stability Testing
WuXi Biologics	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓
Lonza			✓	✓	✓✓	✓✓	✓✓	✓✓	✓✓✓	✓✓✓
Boehringer Ingelheim			✓	✓	✓✓	✓✓	✓✓	✓	✓✓✓	✓✓✓
Thermo Fisher			✓	✓✓	✓	✓	✓	✓	✓	✓
Catalent			✓	✓	✓	✓	✓	✓✓	✓	✓
AGC Biologics				✓	✓	✓	✓		✓✓	✓✓
Samsung Biologics			✓	✓	✓	✓	✓		✓✓	✓✓

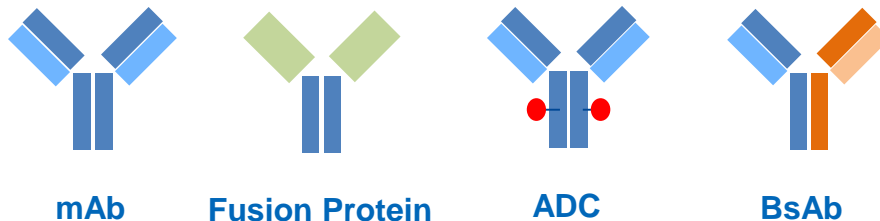
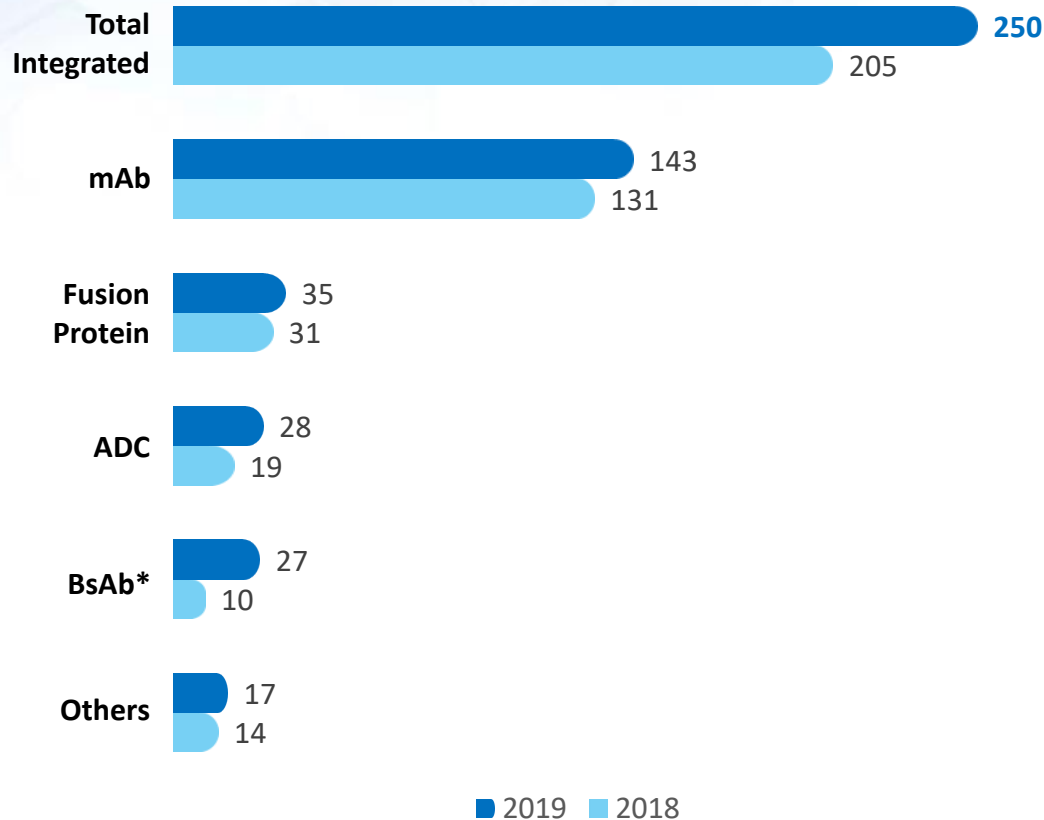
**Source:**

1. Frost & Sullivan analysis "Global Pharmaceutical Healthcare Ecosystem Market Study (2018)", company annual & quarterly financial reports, expert interviews

\* Biologics exclude cell and gene therapy



# Rich Pipeline across All Biologics Formats



86 First-in-class programs



One of **the largest** portfolios of complex proteins consisting of bispecifics, antibody drug conjugates (ADCs) and fusion proteins



More **ADCs** and **Bispecific** projects were added, in line with global biologics innovation trend



All demonstrating **globally** leading technical capabilities

**Note:**

1. Bispecific Antibody (BsAb) Included both WuXiBodyTM projects and non-WuXiBodyTM projects

# Impressive Talent Growth Forms the Basis for Business Success

5,666

Employees as of Dec 2019.  
Expected to reach around  
6,600+ by the end of 2020

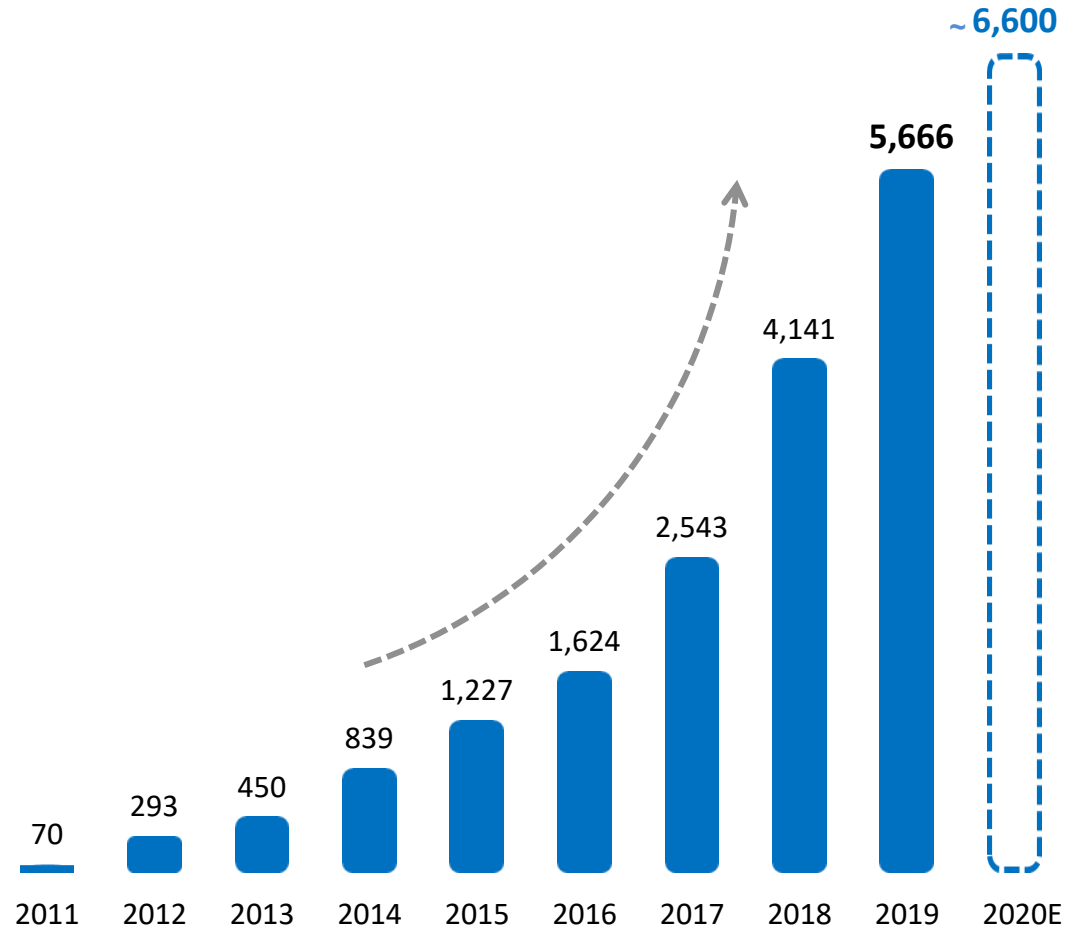
457

Employees holding  
Ph.D. or equivalent

2,477

One of the largest biologics  
development teams

Rapid Expansion of Talent Base



**2019 Talent retention rate >90%, Key talent: ~94%**

Note:  
1. As of Dec. 31, 2019

# Globally Recognized Technology with 39 IP Applications

**WuXi** 无瑕  
4 patent applications  
1 in-licensed patent

Proprietary High Titer Production  
CHO K1 Cell Line Development  
Platform

Antibody Drug Physic-chemical  
Structure and Biological Activity  
Analysis Platform

WuXi Bio **DAR4**  
4 patent applications

Comprehensive ADCs  
Development Platform

1

2

3

4

5

6

Proprietary Universal Bispecific  
Antibody Platform

Proprietary Ultra-high Productivity  
Continuous Perfusion Cell Culture  
Platform

Antibody Drug Purification and  
Formulation Development  
Platform

More.....

**WuXiBody™ Bispecific**  
Antibody Technology Platform  
24 patent applications

无上  
**WuXiUP**  
6 patent applications



# Global Company Expanding in Four Countries: ~US\$1 bn CAPEX outside of China



- Construction of Ireland DS facility on track, expect to be ready in **2021**
- Investment of **US\$240 mm** for vaccine facility, reshaping global vaccine CDMO industry

WuXi Bio Speed  
in Ireland



- **New facility** in King of Prussia, Pennsylvania to meet demand and increase presence in **U.S.** market
- Continue to expand core capabilities and capacities
- Construction to initiate in MA Q2

Prompt Response to  
Market Demand



- WuXi Bio's **FIRST** oversea M&A deal to enhance "*Global Dual Sourcing*"
- Quick access to DP facility & cross-border expansion to meet robust demand in **EU**

M&A Accelerated  
Global Footprint



- State-of-the-art DP3 facility ready for ADC project **ARX788** Phase III & commercialization
- One-stop ADC platform with total **28** global ADC projects (**13 INDs**) enabling biologics

Well-Positioned to  
Lead New Wave

# Winning the Battle against COVID-19

1

A cross-functional **Task Force** led by CEO to closely monitor daily situation, implement prompt action plan and mobilize global resources to minimize impact

2

Business Continuity Plan (**BCP**) covering manufacturing, global supply chain, quality assurance, EHS and admin demonstrated effective

3

What we achieved?

- **None** of total 5,666 employee has been infected
- **98%+** staff resume to work, business as normal
- **No** milestone delays for integrated project: winning great feedbacks from clients

4

**ENABLE** global clients to work at home: improve client stickiness beyond the crisis

- Frequent communications with clients for the latest operation update
- **Share** coronavirus fighting **best practice** with clients
- More proactive approaches to offer **multiple solutions** for global clients
- Boost morale for all staff and improve **operational efficiency** to minimize project delivery impact





# Impact from Global Coronavirus Outbreak: Challenges Come with Opportunities

1

Business Continuity Plan (BCP) demonstrated effective. No projects delayed. **98%** staff back to work

2

FDA pre-approval inspection originally scheduled in Q1 2020 likely be deferred to a later date in 2020, delaying commercial manufacturing revenue

3

A surge of demand on R&D support due to our best-in-industry timeline and premier technology platforms. Currently working on **8** programs to treat COVID-19 and in discussions with **7**. Significant potential revenue in **H2 2020** if these therapies prove to be effective

## Impact on Clients

4

- Travel ban will limit introduction of new clients and client site visits. Implementing electronic tools to attract new clients. New clients only accounted for approx. 8% revenue in 2019
- Continue to add more clients during the outbreak. See a **surge on demand** on clients in Mar due to outbreak in US and EU
- Ex-china outbreak may have less impact on our main client group i.e. small and mid-size companies as outsourcing is core to their strategy

5

Fundamentals of our business remain very strong. Follow-the-Molecule strategy proven to be superior. Despite the temporary impact of COVID-19 in 1H, full year will still witness **significant growth**



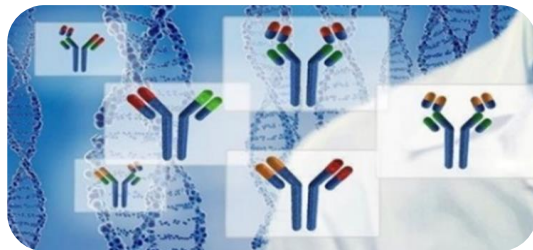
# Leading Industry Trends Favoring WuXi Biologics

# Bispecifics May Be the Next Wave - WuXiBody™ is Right on!



## Leading Edge Technology

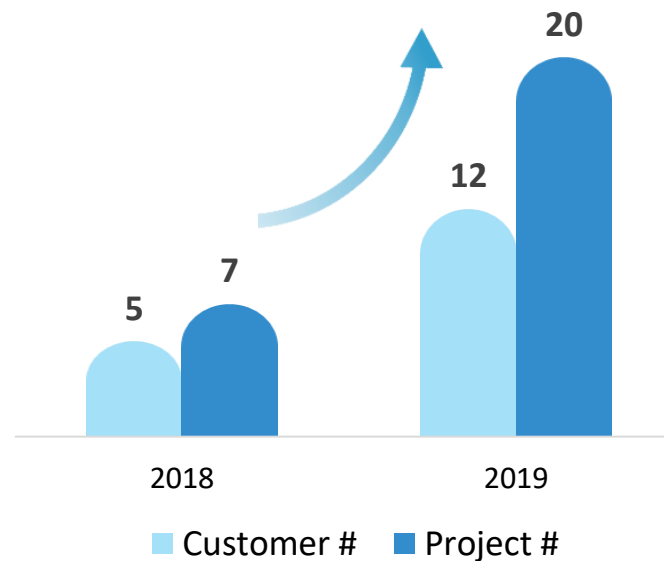
Empower to discover best or first-in-class molecules



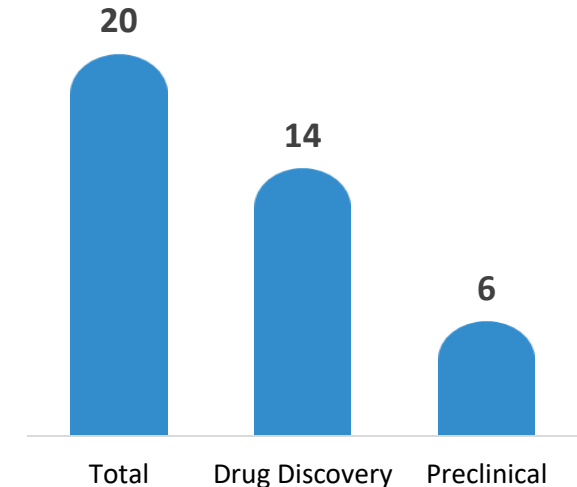
**WuXiBody™ Bispecific**  
Antibody Technology Platform



## Out-licensed Projects for WuXiBody™



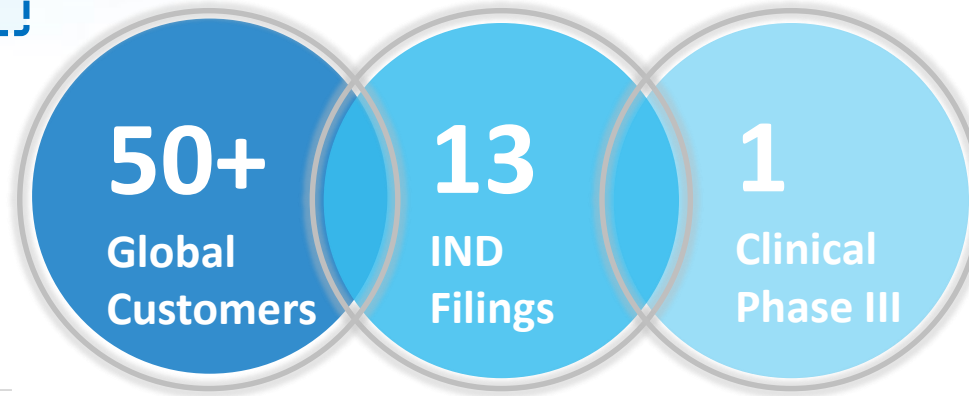
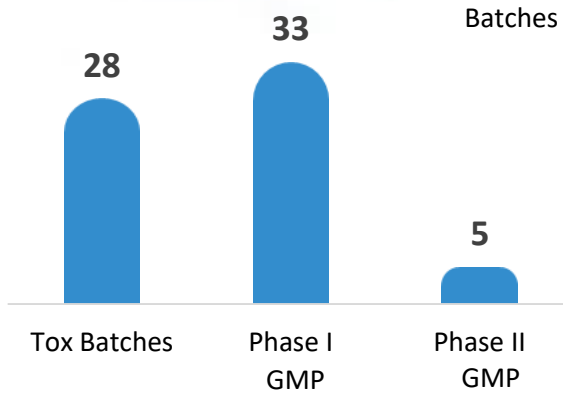
## WuXiBody™ Development Progress



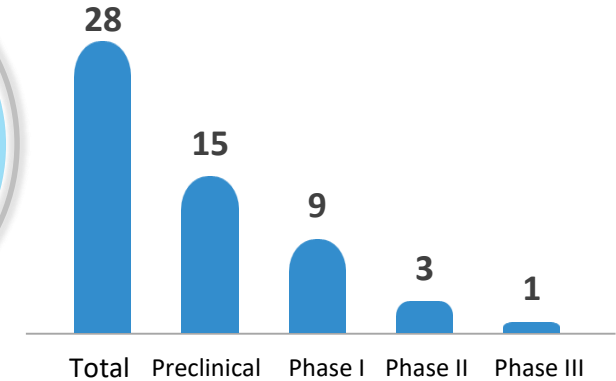
- Strong adoption of WuXiBody™ technology since its launch in 2H 2018
- 6 projects moving to preclinical to demonstrate state-of-the-art technology
- 1-2 WuXiBody™ projects will be expected to file IND in 2020

# ADC Drives Additional Growth

## WuXi Biologics ADCs Manufacturing by 2019



## ADCs Development Progress



## Selected Global ADCs Partners

Ambrx<sup>®</sup>

biocatla  
BioAcceleration™  
for protein therapeutics

SILVERBACK™  
THERAPEUTICS

Genentech  
IN BUSINESS FOR LIFE

H3  
Biomedicine  
Human. Health. Hope.

MedImmune

薬の未来を創造する  
NanoCarrier<sup>®</sup>

NBE therapeutics  
Innovating medicines

ONCTERNAL  
therapeutics

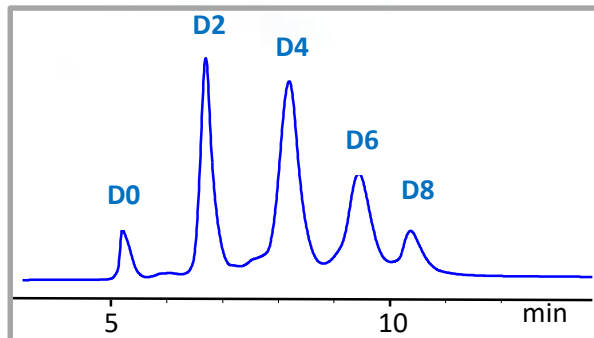
OXFORD  
BioTherapeutics

pegbio  
派格生物医药(苏州)有限公司  
PegBio Co., Ltd.

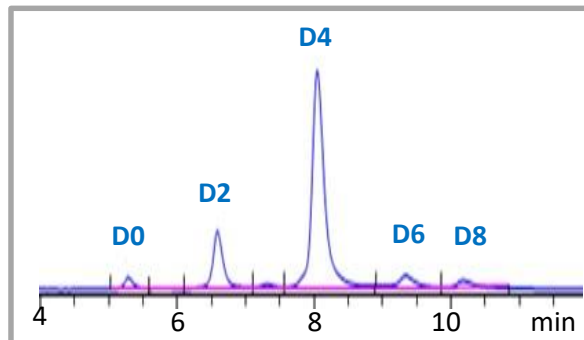
Shire

# WuXi Bio's Patented ADC Conjugation Technologies - Greatly Enhanced DAR4, Significantly Improved Therapeutic Windows

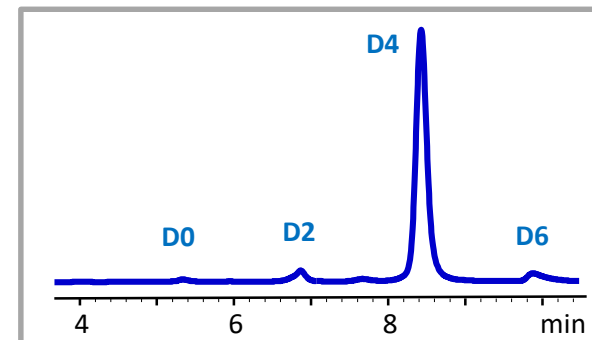
ADC produced with conventional method, natural DAR distribution



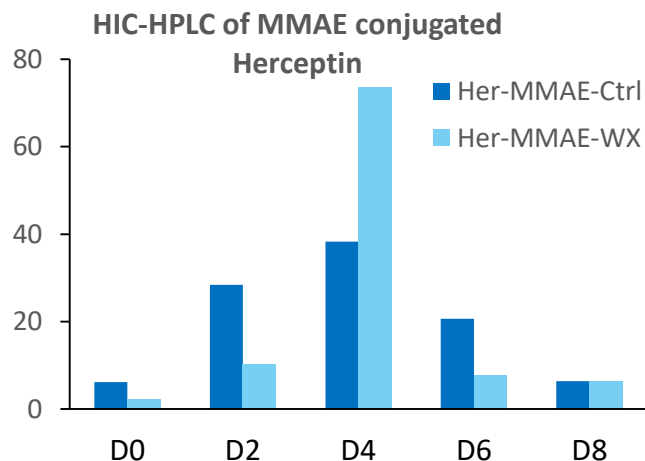
ADC produced with WuXi Biologics' IP for native IgG1



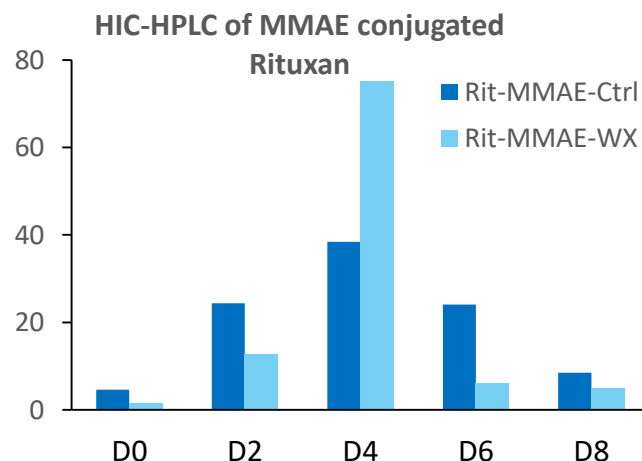
ADC produced with WuXi Biologics' IP for engineered IgG1/4



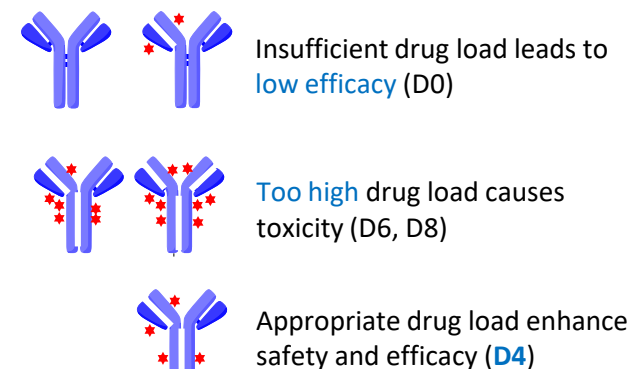
mAb in clinic: Trastuzumab



Rituximab

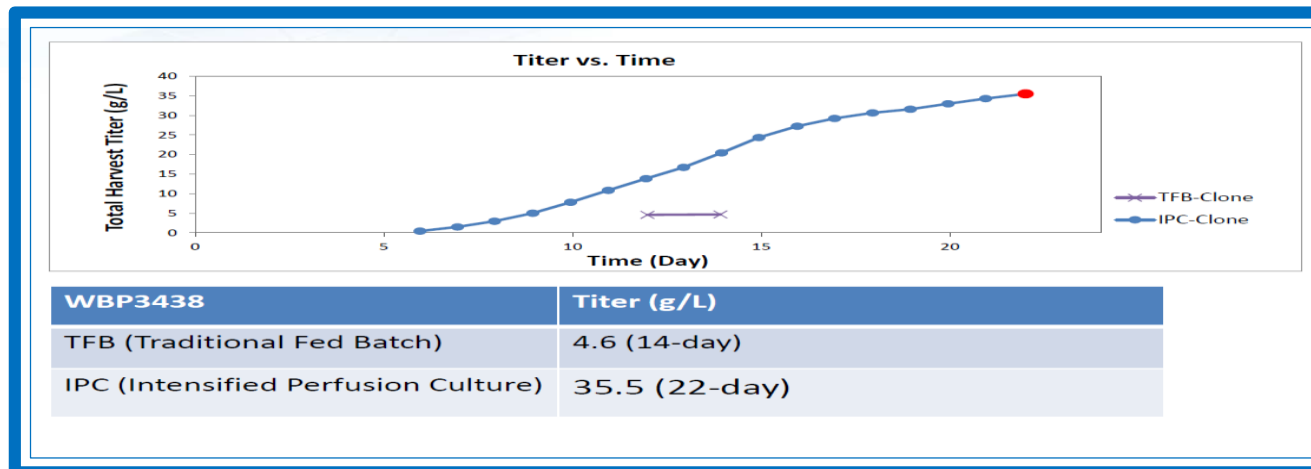
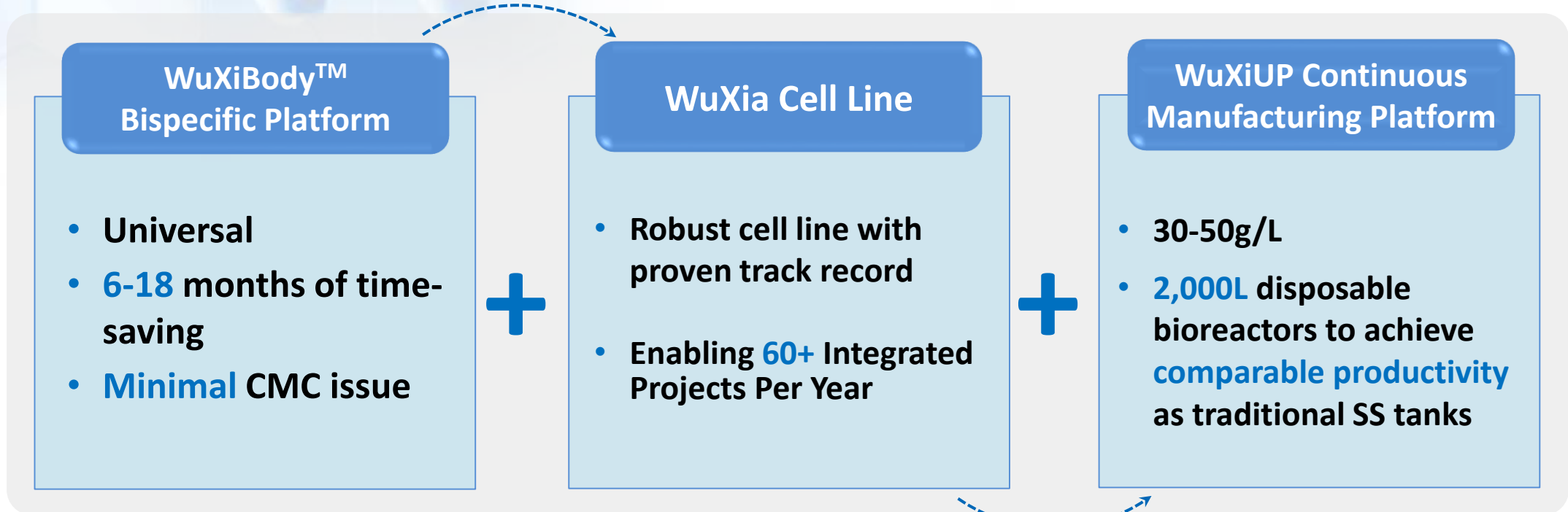


Drug-Antibody Ratio (DAR) Greatly Affects Efficacy And Safety of ADC



Clinical Cancer Research. 10, 7063-7070 (2004)  
Bioconjugate Chem. 25, 656-664 (2014)

# Manufacture 35g/L Process for a Bispecific: State-of-the-Art



“

- 17 WuXiUP projects
- Technology successfully scaled up to MFG scale, US IND targeted 2020

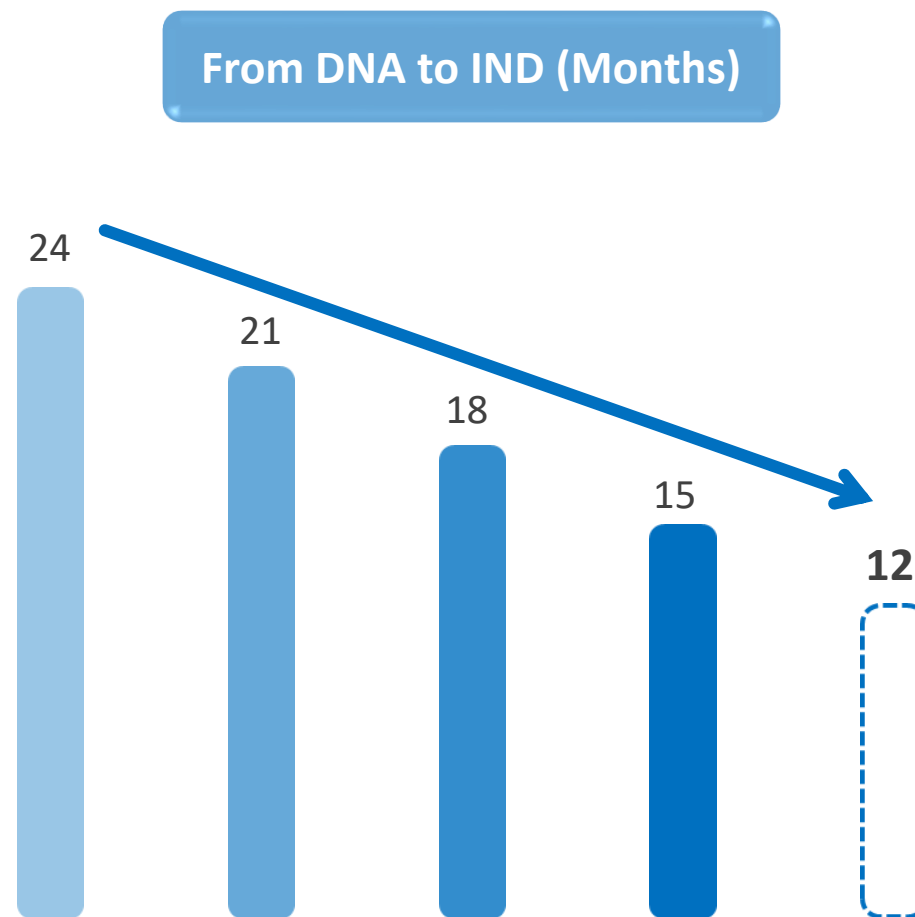
”



# WuXi Bio Speed Expedites and Enables Our Partners: 12 Months!

Utilizing sophisticated technology platforms and providing integrated services for ALL the CMC activities from DNA to IND filing in the shortest timeline globally

- Faster First In Human
- Faster approval
- Reducing product development costs and save expenses



# Continuing to Gain Market Share to Support Robust Growth

## Cutting Edge Technology

- WuXiBody™ bispecific (universal, 6-18 months of time-saving, minimal CMC issue)
- ADC (greatly enhanced DAR4, dedicated MFG sites, 10+ IND filings)
- WuXia cell line (robust cell line with proven track record)
- WuXiUP continuous manufacturing platform (30-50g/L titer, 10+x)

## Best Timeline

### IND Filing Timeline

- Industry average: 18-24 months
- WuXi Bio target: 15 reduced to 12 months now!
- WuXi Bio record: 7 months, 5 months for coronavirus related projects

## Excellent Track Record

- 100% projects delivered
- No customer transfer out
- Excellent customer satisfaction and high recognition

## Unparalleled Capacity

- Capacity for IND enabling projects increased from 60 per year to 80+
- Late phase capacity increased from 5 BLAs to 7 per year
- One of the largest scientist team :~2,500
- Largest capacity using single-use bioreactor: 280,000L after 2022



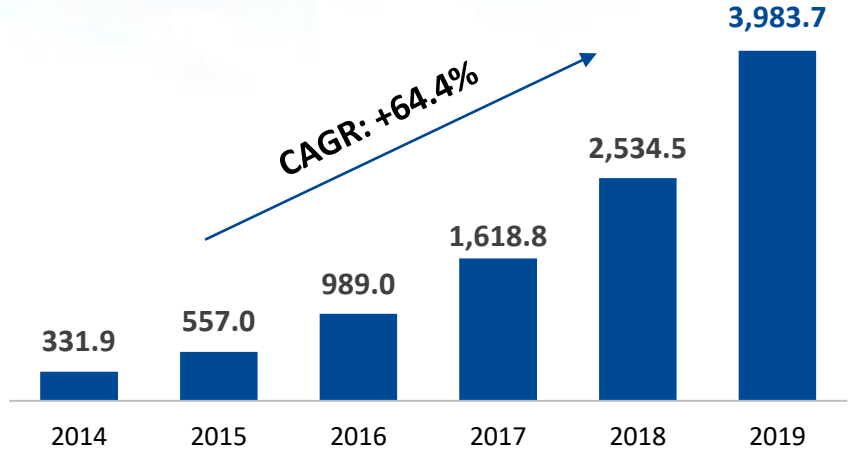
03

# Financial Overview

# Excellent Financial Performance

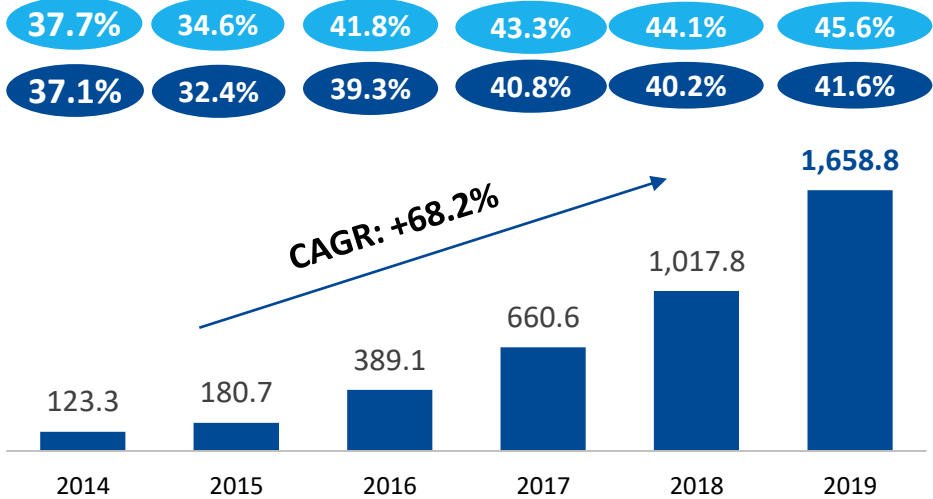
## Revenue

RMB mm



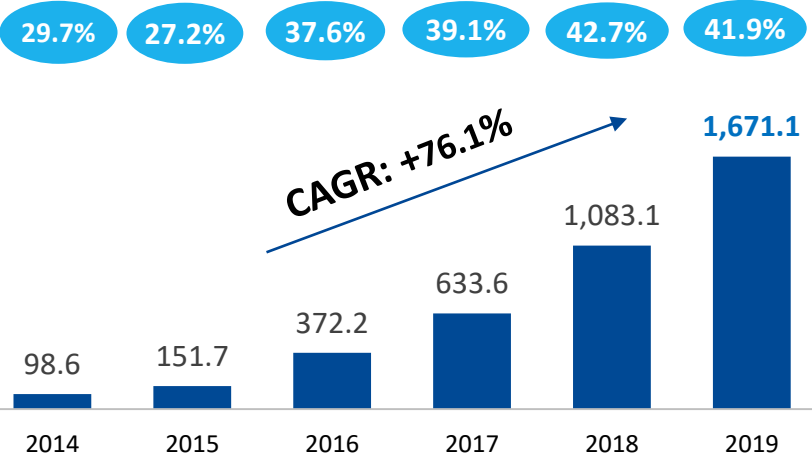
## Gross Profit

RMB mm



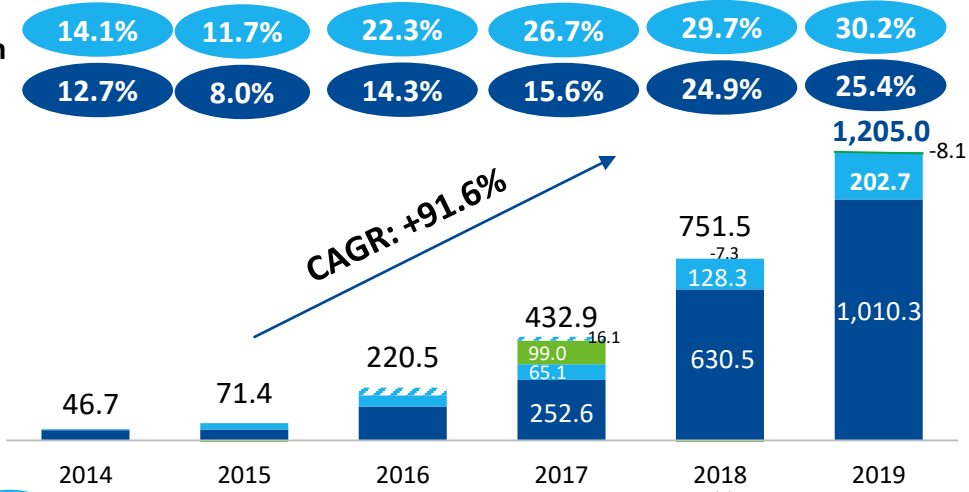
## Adjusted EBITDA (1)

RMB mm



## Adjusted Net Profit (2)

RMB mm



**Notes:**

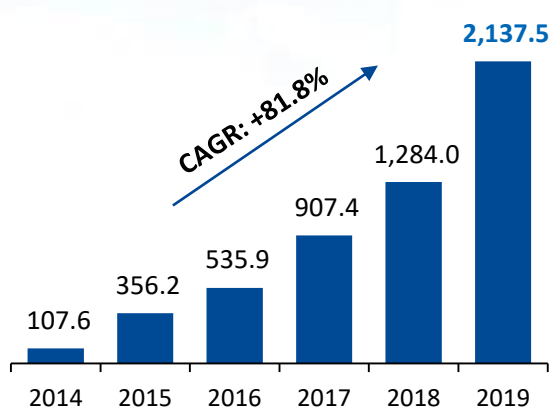
- 1. Adjusted EBITDA represents net profit before (i) interest expenses, income tax expenses, listing expenses and (ii) certain non-cash expenses, consisting of share-based compensation, amortization and depreciation and (iii) foreign exchange (gains)/losses
- 2. Adjusted net profit excludes the share-based compensation expenses, Listing expenses and foreign exchange (gains)/losses
- 3. Refers to foreign exchange (gains)/losses

● Unadjusted Margin %   
 ● Adjusted Margin %   
 ■ SBC Impact   
 ■ FX Impact (3)   
 ■ Listing Expense

# Robust Growth across All Geographic Markets (1)

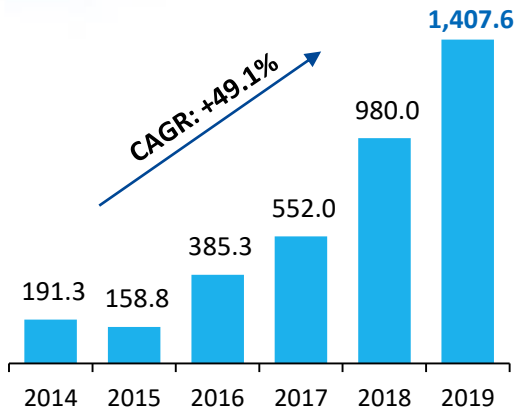
## North America

RMB mm



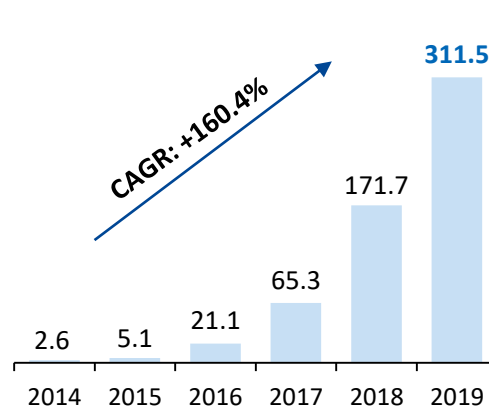
## PRC

RMB mm



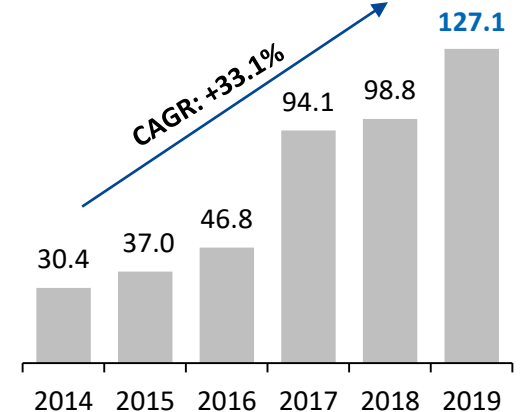
## Europe

RMB mm

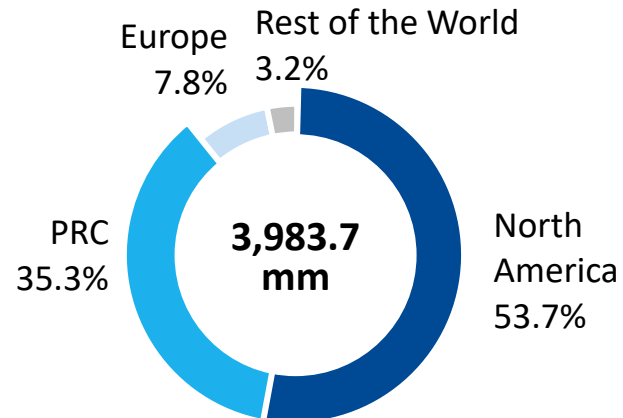


## Rest of the World (2)

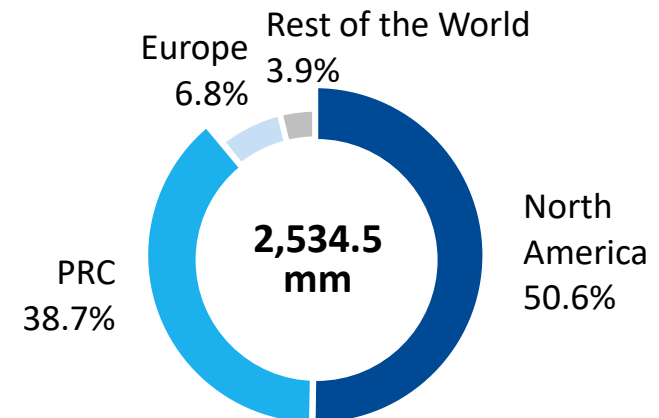
RMB mm



## 2019 Revenue (RMB)



## 2018 Revenue (RMB)

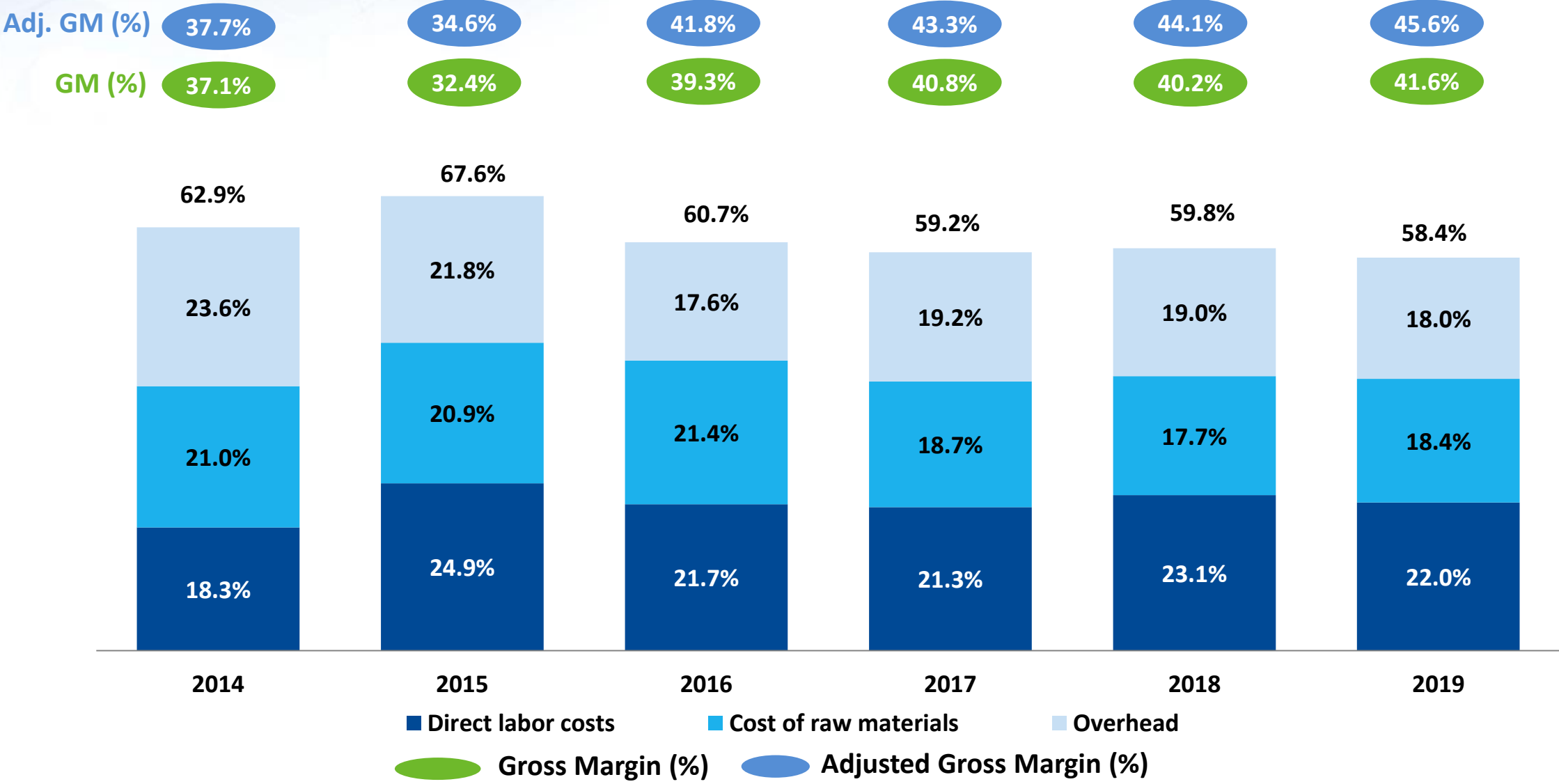


**Notes:**

1. Geographic breakdown by client headquarters
2. Rest of the world primarily includes Israel, Japan, India, South Korea

# Gross Margin Snapshot

## Cost of Services as % of Revenue



**Note:**  
1. Adjusted gross margin excludes the share-based compensation expenses

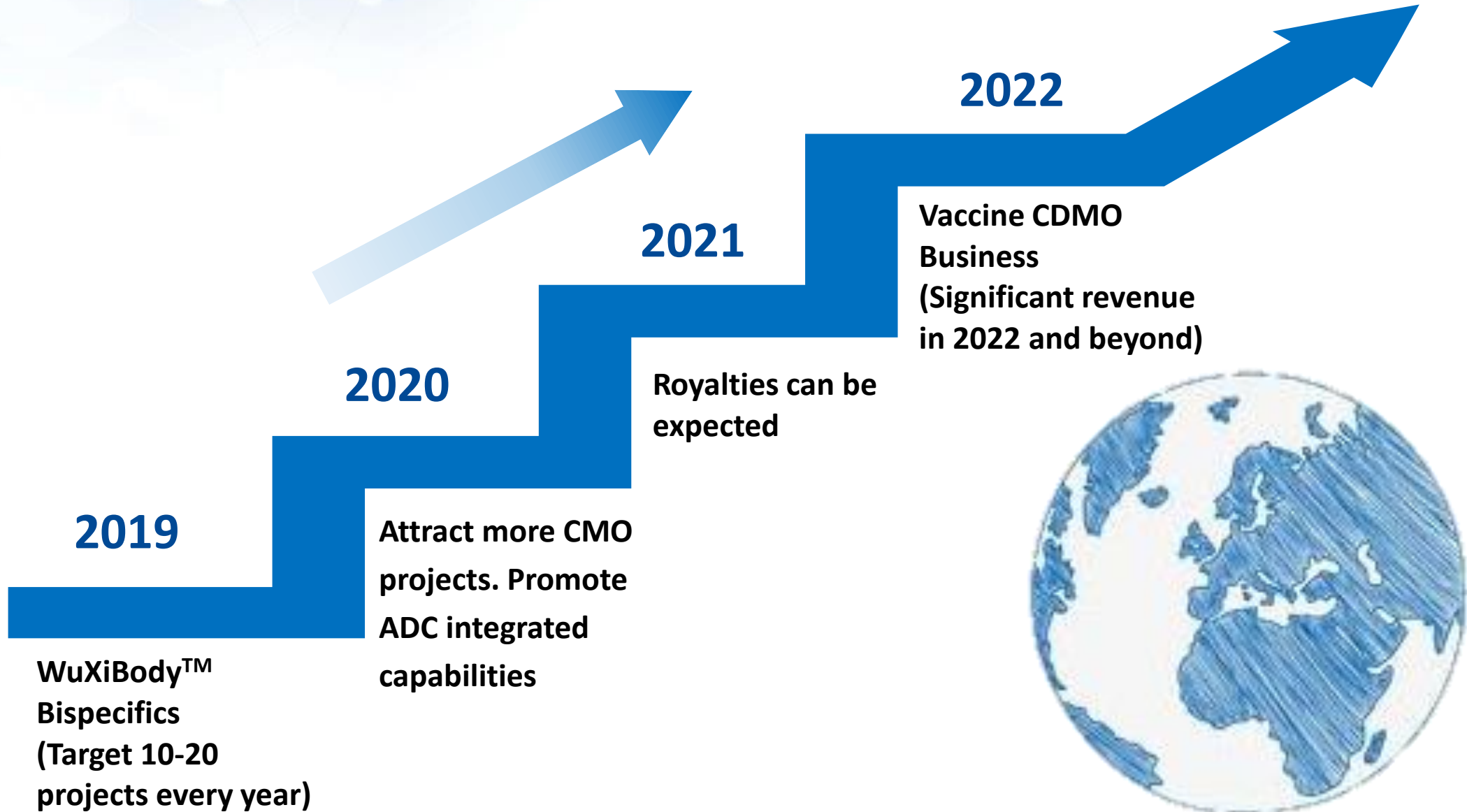




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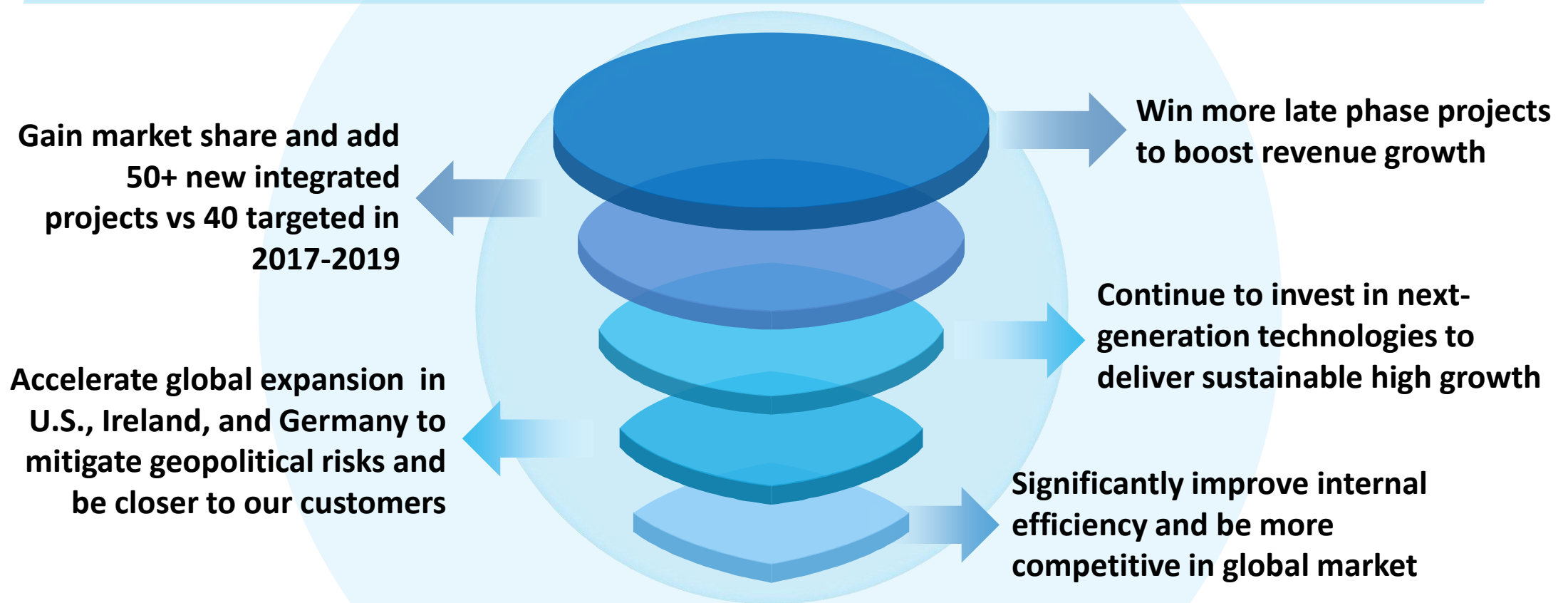
# Outlook & Catalysts

# Multiple Engines Support Sustainable High Growth



# Conclusion: Business Momentum Remains Strong

In 2020, we will enable our global partners to work at home, enlarge more collaborations with our improved timeline and increased capacities, improve efficiency of our operations and continue to accelerate global footprint to achieve outstanding performance



# 2020 Key Milestones and Catalysts



- 1<sup>st</sup> IND of WuXiBody™
- Vaccine facility dedication
- FDA pre-license inspection
- 2<sup>nd</sup> US BLA approval
- 1<sup>st</sup> Chinese BLA approval
- Another BLA filing in China
- DP7 in Germany





05

# Appendix





# A. Financial Summary



# 2019 Financial Summary

(RMB million)	2019	2018	Change
<b>Revenue</b>	<b>3,983.7</b>	<b>2,534.5</b>	<b>57.2%</b>
Cost of services	(2,324.9)	(1,516.7)	
<b>Gross Profit</b>	<b>1,658.8</b>	<b>1,017.8</b>	<b>63.0%</b>
Other income	179.9	194.2	
Impairment losses, net of reversal	(6.8)	(55.9)	
Other gains and losses	21.5	21.1	
Selling and marketing expenses	(77.1)	(42.4)	
Administrative expenses	(367.3)	(227.7)	
Research and development expenses	(259.7)	(169.3)	
Share of loss of an associate	(3.1)	-	
Financial costs	(19.6)	-	
<b>Profit before Tax</b>	<b>1,126.6</b>	<b>737.7</b>	<b>52.7%</b>
Income tax expenses	(116.3)	(107.3)	
<b>Profit for the Year</b>	<b>1,010.3</b>	<b>630.5</b>	<b>60.2%</b>
Earnings per share – Basic (RMB)	0.82	0.52	
Earnings per share – Diluted (RMB)	0.76	0.48	

**Note:**

1. Results may not foot due to rounding

## Reconciliation for Adjusted Net Profit and Adjusted EBITDA

(RMB million)	2019	2018	Change
<b><u>Adjusted Net Profit Reconciliation</u></b>			
<b>Net Profit</b>	1,010.3	630.5	
Share-based Compensation	202.7	128.3	
Foreign Exchange Loss/(Gain)	(8.1)	(7.3)	
<b>Adjusted Net Profit</b>	<b>1,205.0</b>	<b>751.5</b>	<b>60.3%</b>
<b><u>Adjusted EBITDA Reconciliation</u></b>			
<b>EBITDA</b>	1,476.4	962.1	
Share-based Compensation	202.7	128.3	
Foreign Exchange Loss/(Gain)	(8.1)	(7.3)	
<b>Adjusted EBITDA</b>	<b>1,671.1</b>	<b>1,083.1</b>	<b>54.3%</b>

**Note:**

1. Results may not foot due to rounding

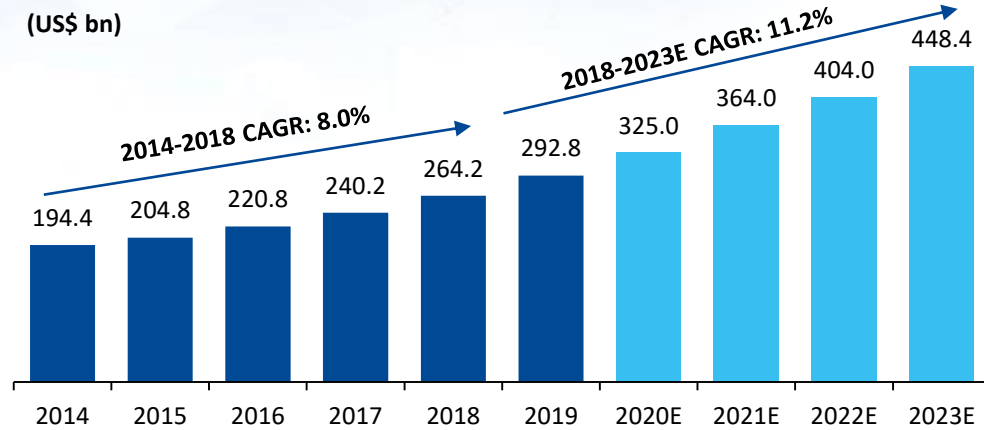


# B. Industry Background

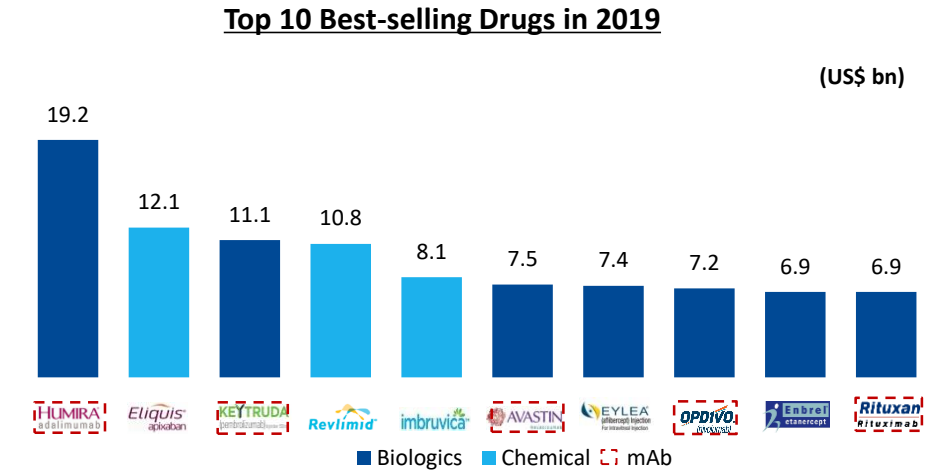


# Global Biologics Market Overview

## Biologics Represented a US\$290+ Billion Market Size in 2019

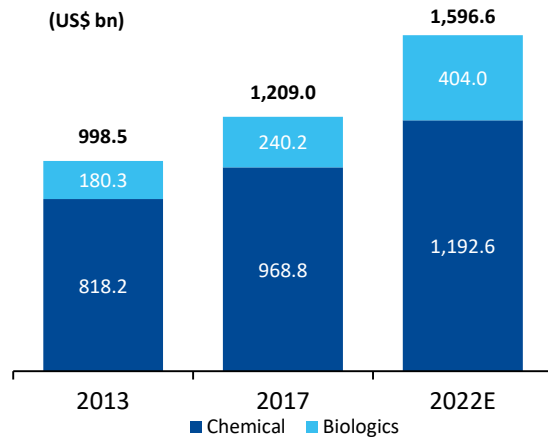


## SEVEN of Top 10 Best-selling Drugs being Biologics

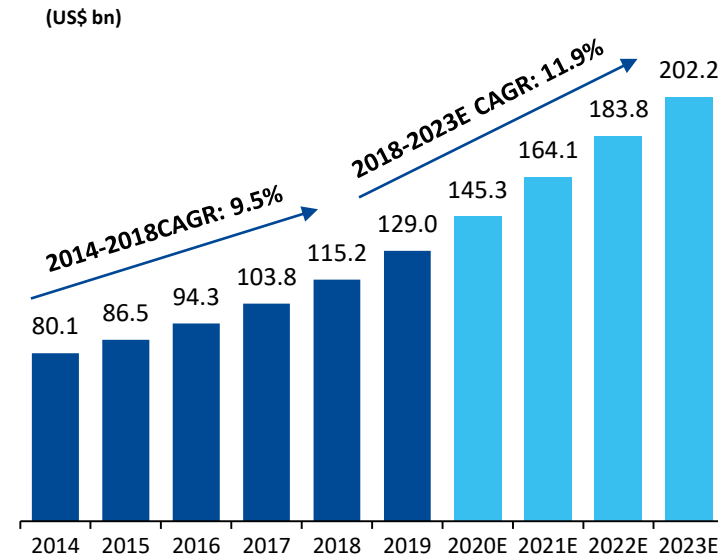


## Continue to be the Fastest Growing Segment in the Pharma Industry

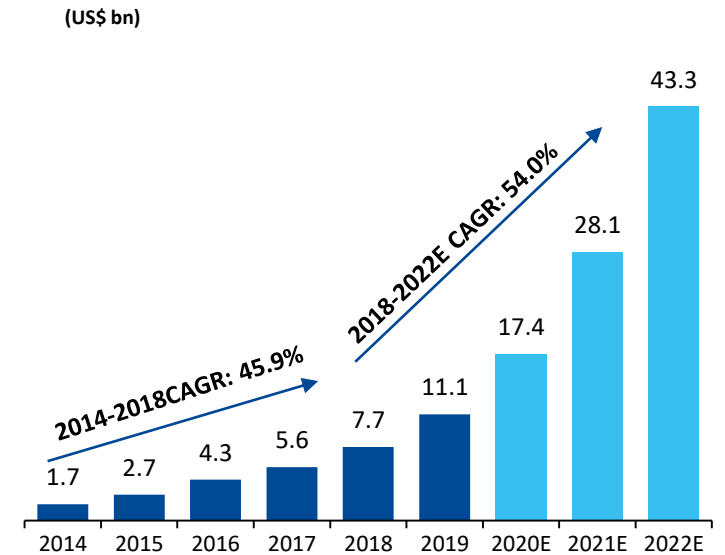
	CAGR	
	13-17	17-22E
Biologics	7.4%	11.0%
Non-Biologics	4.9%	5.7%
Chemical	4.3%	4.2%



## Global mAb Market Size



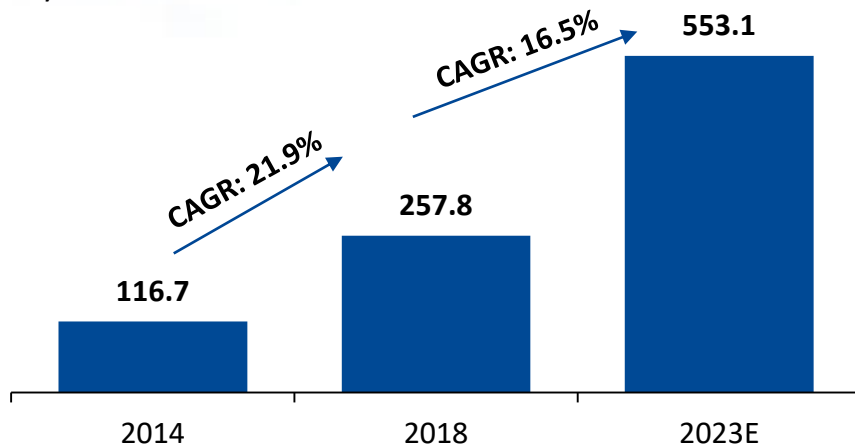
## Global Biosimilar Market Size



# China Biologics Market Overview

China Biologics Market Expected to More Than Double in Size from 2018 to 2023

(RMB bn)



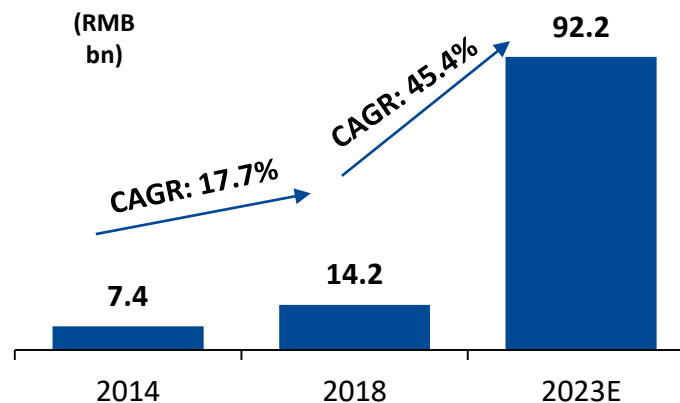
Higher Growth Profile in mAb and Biosimilar Than Overall Biologics in China

CAGR	2014-2018	2018-2023E
mAb	17.7%	45.4%
Biosimilar	17.0%	71.4%

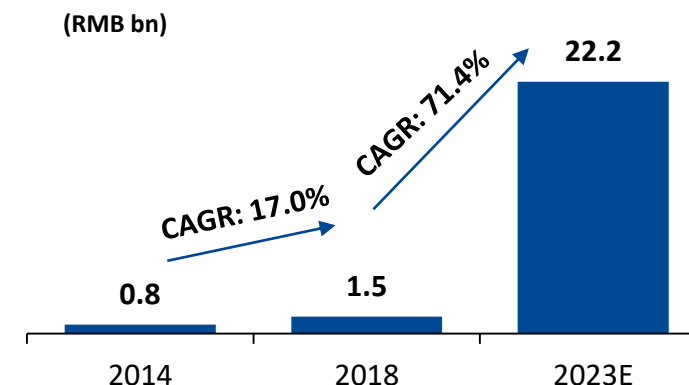
## Supported by Unique Growth Drivers

- 1 Increasing Healthcare Expenditures
- 2 Enhanced R&D Capabilities
- 3 Favorable Government Policies
- 4 Increased Capital Investment

## mAb Market



## Biosimilar Market



## This Industry Has High Entry Barriers

1

### High Technical Requirements

- Fragility of macromolecules and the sensitivity of living cells that produce biologics create complex technical requirements for the discovery, development and manufacturing of biologics
- Need access to proprietary development platforms such as disposable bioreactors, in-house manufacturing capabilities and other novel technologies to compete effectively

2

### High Capital Requirements to Set Up cGMP Compliant Facilities

- Investment for building a new biologics manufacturing plant could be up to hundreds of millions of dollars
- Such a significant upfront cost, together with the lengthy process involved in biologics discovery, development and commercial manufacturing create structural funding issues for small companies and new market entrants

3

### Ability to Comply with the Increasingly Stringent Regulations

- Increasingly stringent regulations with regards to biologics discovery, development and commercial manufacturing, particularly cGMP manufacturing, create a high entry barrier for small biologics outsourcing services providers
- As China has joined ICH, a growing number of Chinese start-up biologics companies will target at the global market

4

### Ability to Capture Customers from Established Competitors

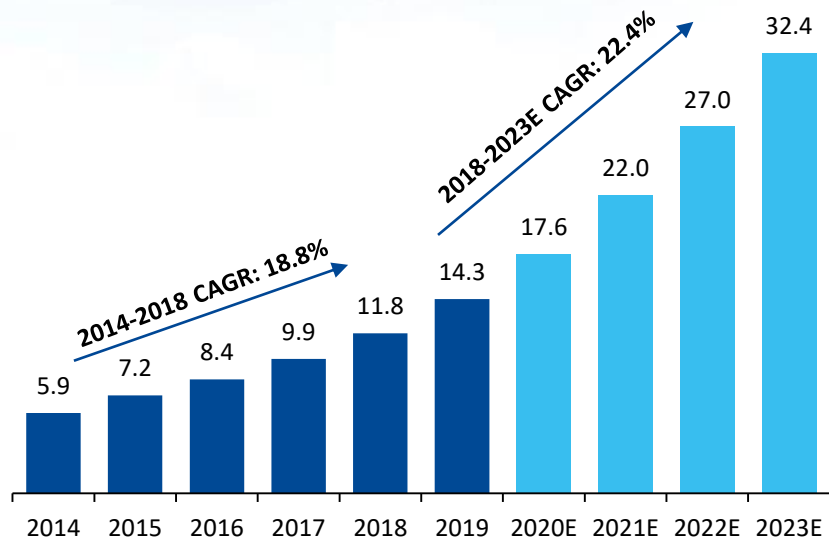
- Customers select biologics outsourcing services providers based on track record, reputation in the industry, product quality, regulatory compliance record and intellectual property protection capabilities
- Established biologics outsourcing services providers tend to enjoy a high customer retention rate, making it difficult for new market entrants to establish a sizable customer base



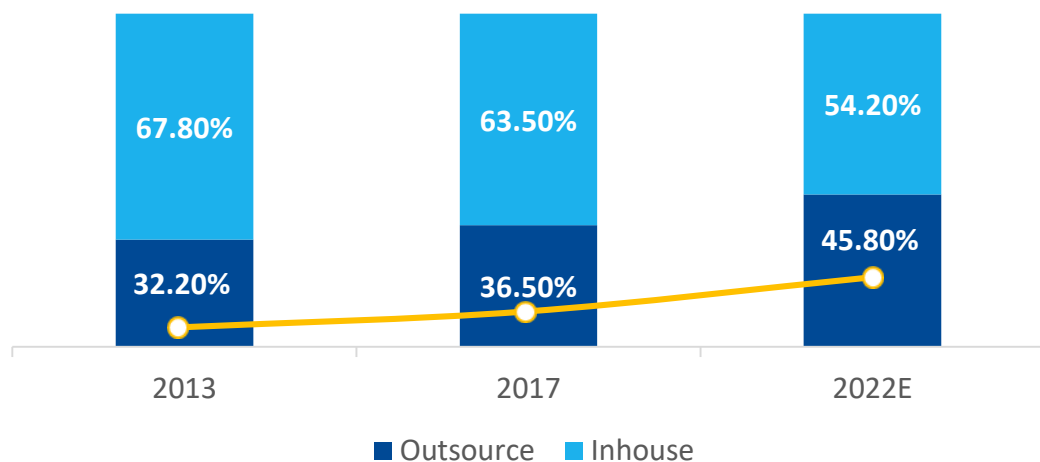
# Global Biologics Outsourcing Market Overview (Cont'd)

## Global Biologics Outsourcing Market Size

(US\$ bn)



## Global Market – Outsource VS Inhouse



Source: Frost & Sullivan

## Multiple Drivers Supporting Tremendous Growth

- 1 Increasing R&D Spending**

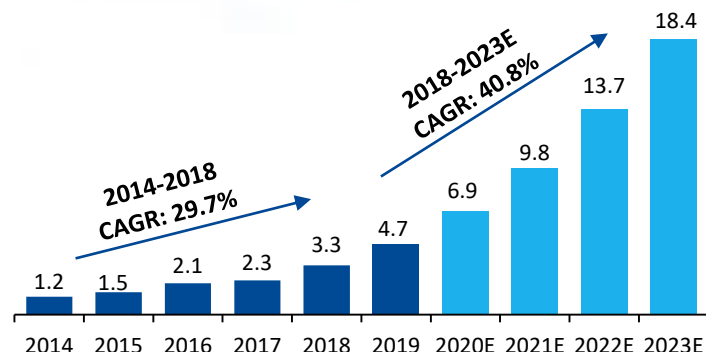
Global Biologics R&D Spending Rate

Year	Spending Rate (%)
2019	10.6%
2022	13.2%
- 2 Enormous Cost and Time Saving**
  - Establishing biologics development capabilities and facilities are highly capital intensive and time consuming
  - Saves significant amount of investment and time by outsourcing
- 3 Supply Chain and Capacity Mgmt.**
  - Ensure a robust supply chain and secure manufacturing capacity
  - Allow greater flexibility in managing capacity to meet demand fluctuation
- 4 Leverage Outside Technology**
  - Outsourcing services provider are continuously updating technologies
  - Allow pharma and biotech companies to gain competitive edge and to focus on their core capabilities

# China Biologics Outsourcing Services Market Overview

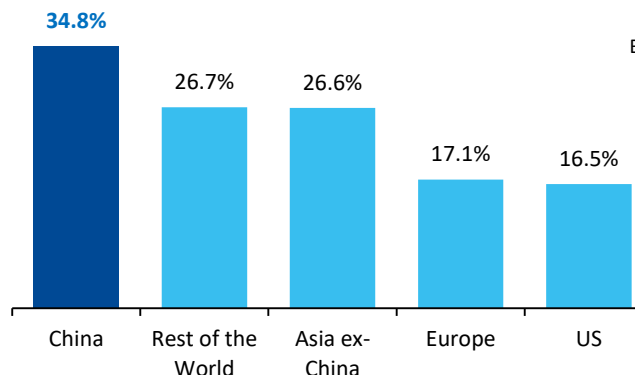
## China's Biologics Outsourcing Services Market is Projected to Grow at a Rapid Pace...

(RMB bn)



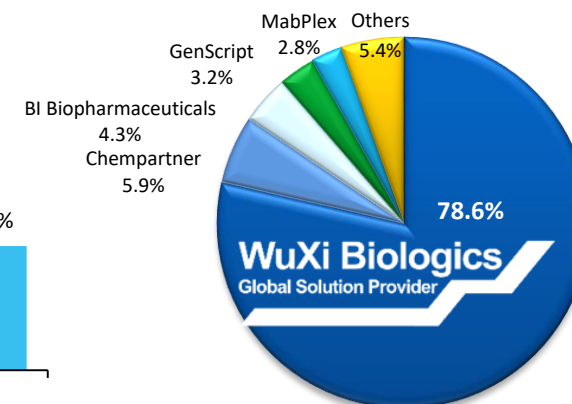
## the Fastest Rate Globally

CAGR (2016 to 2021E)



## WuXi Biologics is the Dominant Player in China

Market Share by Revenue in 2019



## Key Growth Drivers

### 1 Rapid Development of China's Biologics Market

- Rapid growth in China's biologics market requires support from strong discovery, development and manufacturing capabilities that are often not available in-house and hence need to be outsourced

### 2 Increased Capacity and Enhanced Capabilities in China

- The emergence and improved capacity and capabilities of Chinese biologics outsourcing services providers have provided additional opportunities for overseas pharmaceutical and biotechnology companies

### 3 Favorable Government Policies

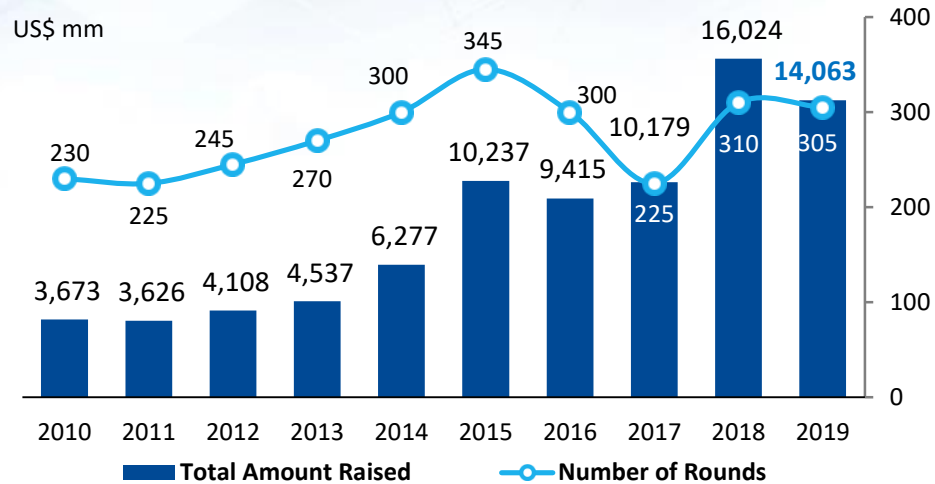
- Chinese Government has published many regulations and policies to support the development of China's biologics outsourcing services market
- CDA is planning to establish green channel for foreign innovative biologics that are manufactured locally in China

## WuXi Biologics is the Largest and Only Complete Solution Provider

Company	Biologics Manufacturing Capacity	Expansion Plans	Discovery	Development	Manufacturing
<b>WuXi Biologics</b>	54,000L	More capacity expansion globally	✓	✓	✓
Company A	300L	No significant expansion plan	✓	✓	
Company B	N/A	No significant expansion plan	✓	✓	
Company C	250L	No significant expansion plan	✓	✓	
Company D	9,000L	No significant expansion plan		✓	✓
Company E	3,000L	No significant expansion plan		✓	✓
Company F	500L	No significant expansion plan		✓	

# Positive Outlook---Global Healthcare Fundraising in 2019

## Global Biopharma Fundraising from VC/PE Remains Active <sup>(1)</sup>

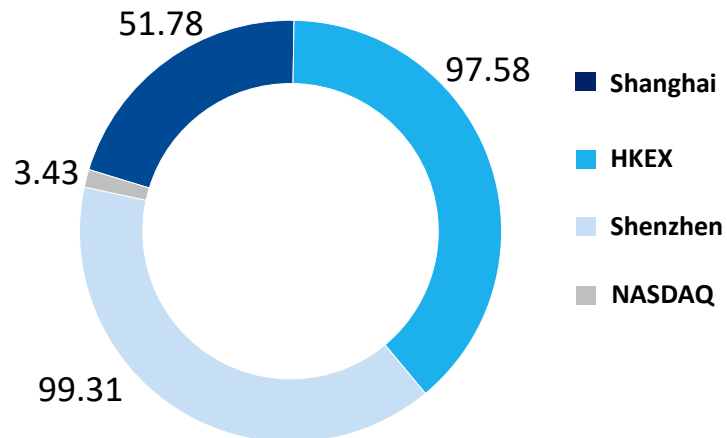


## China Biopharma/Biotech Raised RMB 111.6 bn in 2019 <sup>(2)</sup>

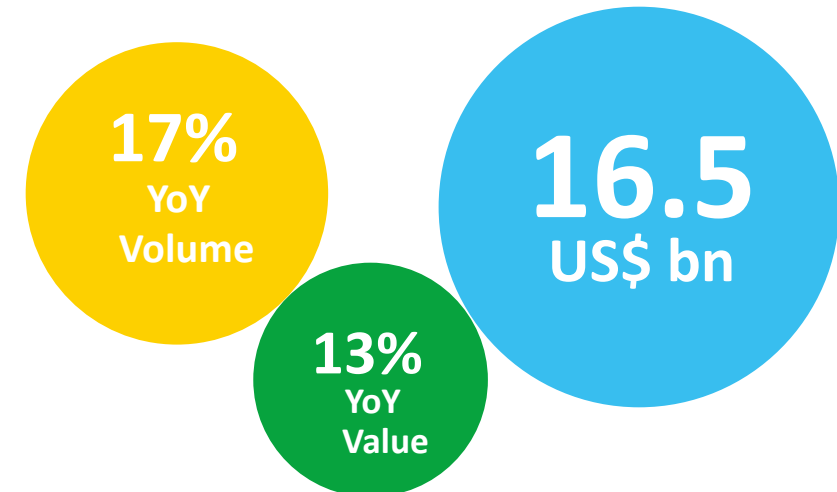
	Rounds	Total Amount (RMB bn)
Series A	308	26.27
Series B	38	12.15
Series C	63	13.89
Series D/E/F	24	7.35
Strategy	166	48.47
Seed/Angel/Others	158	1.06
<b>Total</b>		<b>111.6</b>

## China Healthcare IPOs/Listing Raised RMB 252 bn in 2019 <sup>(2)</sup>

(RMB bn)



## Bakermckenzie: Chinese biopharma raised USD 16.5 billion with 17% increase in volume and 13% increase in value from 2018 <sup>(3)</sup>



**Source:**

(1) DealForma

(2) www.hsmap.com

(3) Bakermckenzie report, <https://www.bakermckenzie.com/en/newsroom/2020/02/capital-raising-in-biopharma>



# **C. WuXi Bio's Technologies and Capabilities**

# State-of-the-Art Technology Differentiates WuXi Bio

## 1 WuXiBody™ Bispecific Platform

- Combine any two antibodies and assemble into bispecifics
- Easy to express, no aggregation or mispairing, can be developed **6-18** months faster and much lower COGS than competitor platforms
- Support **50+** projects per year which attracts downstream services

## 2 Transgenic Animal For mAbs Discovery

- Access to OMT's state-of-the-art transgenic animal technology to develop fully human antibodies with high quality, specificity, expression, solubility and stability
- Proven technology platform used by **20+** other global companies
- Support 50+ projects per year with potential downstream services

## 3 Antibody Drug Conjugate Discovery

- Integrate our in-house antibody discovery, toxin and linker to deliver the ideal lead ADC molecules
- Greatly simplify ADC drug development by providing a one-stop shop
- **30+** ongoing projects with ADC discovery services with potential downstream service

## 4 WuXia Cell Line Platform

- Our own proprietary cell line paired with our own proprietary algorithm is more cost-effective, more efficient and yields better results
- License know-how generated during cell line engineering and development process to the customer in exchange for a license fee and future royalty payments
- Developed **270+** CHO-K1 cell lines total for therapeutic protein purpose

## 5 Disposable Manufacturing Technology

- No cleaning and sterilization required for disposable bioreactors that use pre-radiated plastic bags as the production vessel in a stainless holder
- A facility using disposable bioreactors can be built 12 to 18 months faster with **30% to 50%** less investment, and can produce 5% to 15% more batches of products with a higher success rate compared to traditional stainless steel bioreactors

## 6 WuXiUP Continuous Manufacturing Platform

- The next generation biologic manufacturing solution to accelerate biologics development and manufacturing as well as to improve the affordability of biologics
- **30-50g/L** titer, **10+x**
- Enabling 2,000L disposable bioreactors to comparable productivity as traditional SS tank through WuXiUP

# Global Partners Continue to Expand

**260+** global partners including **13** of the 20 largest pharmaceutical companies in the world and **26** of the 50 largest pharmaceutical companies in China





# High-Impact Innovation to Enable Customers' Success

## WuXiBody™ Bispecific Platform

- Universal
- **6-18** months of time-saving
- Minimal CMC issue
- More strategic partnerships with customers



## WuXia Cell Line

- Robust cell line with proven track record
- Enabling **60** Integrated Projects Per Year
- **40+** ongoing clinical projects in U.S., EU and China



## WuXiUP Continuous Manufacturing Platform

- **30-50g/L** titer, 10+x
- Achieving ultra-high productivity
- Enabling **2,000L** disposable bioreactors to **comparable productivity** as 20,000L traditional SS tank



Discovery

Development

Manufacturing

Innovation of next growth cycle in biologics

# Leading Edge Technology of WuXiBody™

## DIFFERENTIATION

- **Universal:** almost any mAb sequence can be used to build bispecifics
- **Flexibility:** bi/tri/tetra valency based on biology

## SPEED

Minimal CMC challenges: no expression, aggregation or purification challenges – Save **6-18** months of development time

## QUALITY

- Expected **low immunogenicity:** natural sequence without complicated engineering
- Typical in vivo **half-life,** longer than typical bispecifics

## WuXiBody™ Platform

A new era in bispecifics



abl**bio**  
medicine for a better life

AC Immune

正大天晴  
CHIATAI TIANQING

安科生物  
ANKEBIO

天境生物  
I-MAB BIOPHARMA

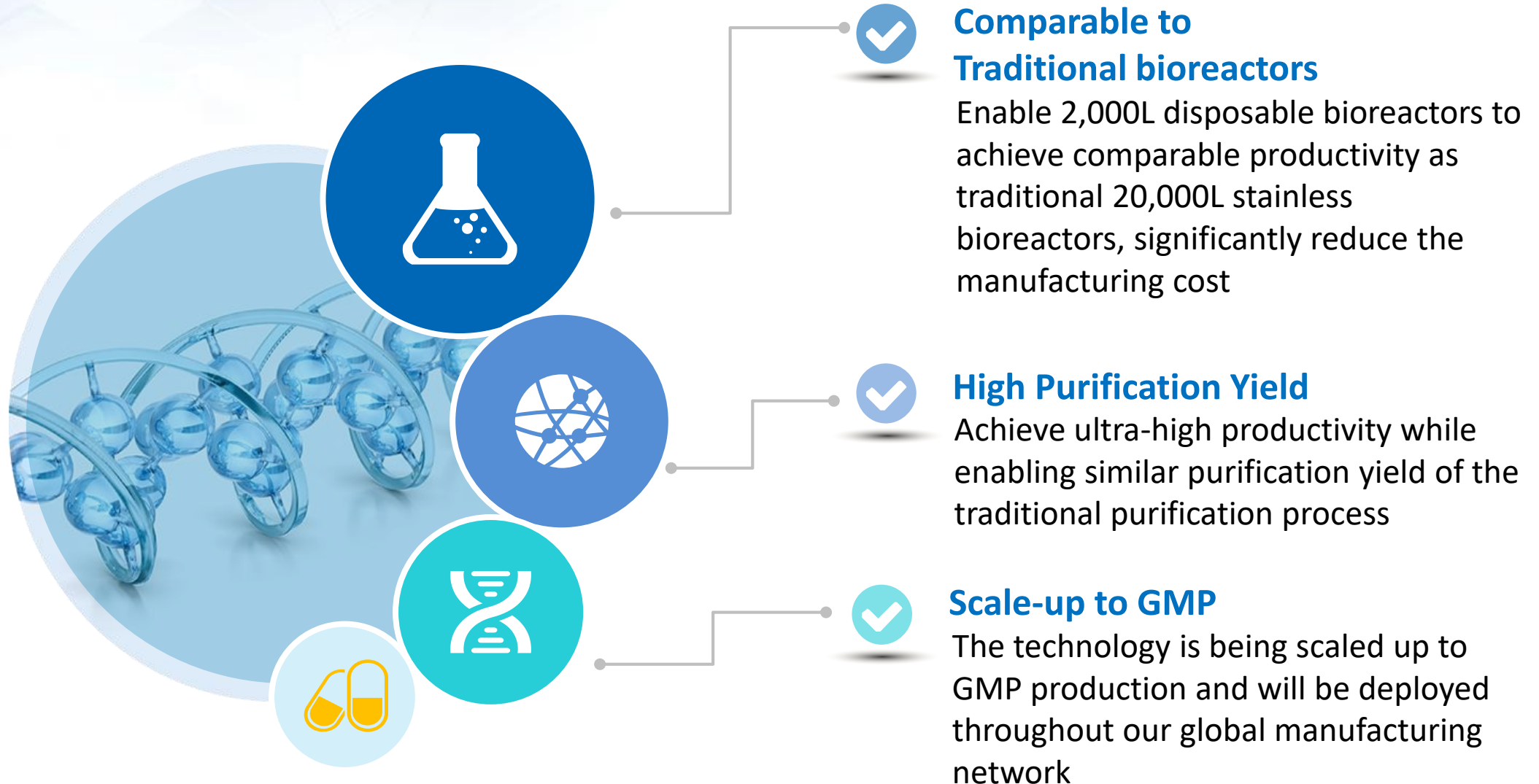
OXFORD  
BioTherapeutics

Bri

almirall

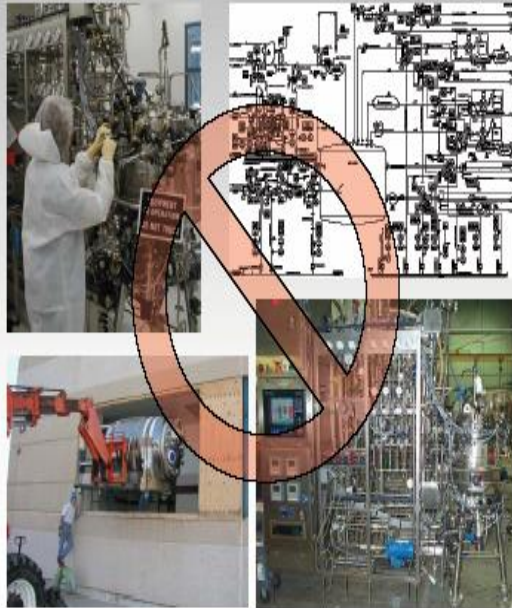
More...

# WuXiUP to Expedite Product Launch and Reduce Manufacturing Cost



# Global Leader in Biomanufacturing Using Disposable Bioreactors

## Conventional Bioreactors



## Single-Use Bioreactors

- ☑ No cleaning and sterilization
- ☑ Simple design & operation
- ☑ Saves time and resources
- ☑ Minimal utilities
- ☑ Less maintenance and repair
- ☑ Simple qualification & validation
- ☑ Low contamination risk
- ☑ Less capital investment

VS

## HyClone Single-Use Bioreactor (SUB)

Permanent Support Vessel (50 and 250L)



Single-Use Bioreactor BPC

HyClone

- No stainless steel bioreactors, **14** facilities and largest users of disposables bioreactors
- **600+** batches manufactured at **98%** success rate
- Comparable COGS with 10,000L+ with **Scale-out** strategy
- **Less** CAPEX, faster in building facilities and comparable COGS



## **WuXi Bio Vision**

**“Every drug can be made and every disease can be treated” by building an open-access platform with the most comprehensive capabilities and technologies in the global biologics industry**

