FRONTAGE (1521.HK)

Covering both China and the US markets, Professional Advantages of "Two Countries, One System"

February 13, 2020

Hong Kong | Pharmaceuticals | Company Report

The market for CRO is growing rapidly

The global pharmaceutical CRO market size in 2018 was US$55.2 billion and is expected to increase to US$91.4 billion in 2023, with a compound annual growth rate of 10.6%. Market penetration of outsourcing services for global R&D expenditure by a total of 33.7% in 2014 sustained growth to 37.7% in 2018, it is expected to increase to 49.3% in 2023.

Business covers China and the US, taking advantages of "Two Countries, One System"

The company is a fast-growing CRO that provides integrated, science-driven research, analysis, and development services throughout the pharmaceutical discovery and development process to assist pharmaceutical companies in achieving drug development goals. The company has business in both China and the United States, and can effectively capture the growth opportunities in both markets. The company implements the "Two Countries, One System" approach to ensure that customers enjoy the same quality standards, operating procedures and systems in both markets. At the same time, the company can also provide customers with detailed and experienced interpretation of drug development regulations and requirements in both countries. The company serves customers' drug discovery and development goals by sharing technical expertise and personnel in two countries and leveraging familiarity with the two regulatory systems.

Endogenous growth and extensional expansion work together to maintain stable growth

The company continues to expand their production capacity with operation of several laboratories. The company also expand its business and production capacity through acquisitions. Through the upgrade initiatives, the company hopes to use BRI and RMI to expand its Canadian and North American West Coast businesses, establish DMPK centers across North America and China, and expand its CMC service capabilities in China through controlling most of the shares of Frontage Suzhou. And through the new laboratory in Shanghai Zhangjiang Science and Technology Park to establish a Chinese DMPK team and business line, expand production capacity, seize market opportunities, and continue to promote business growth in China and the United States.

Complementary to the parent company's strengths to further enhance synergies in the future

Hangzhou Tigermed (stock code: 300347) is a CRO that focuses on providing professional services for the whole process of clinical trials for the development of new drugs. The business division of Tigermed Group and the company is clear and synergistic. The company has established a cooperative relationship with Tigermed Group. Benefiting from the synergy with Tigermed Group, the company is able to provide Chinese customers with comprehensive clinical trial support solutions from Phase I to Phase IV, and Tigermed Group customers also have access to the company's services, especially bioanalysis services.

Initial coverage with “Accumulate” investment rating

We forecast that the company's FY19/FY20/FY21 income will be US$ 113/150/188 million, representing an increase of 35.96%/32.85%/25.01% YoY; net profit attributable to shareholders will be US$ 21.37/28.37/35.55 million; corresponding EPS will be US$ 0.01/0.02/0.02. We get target price of HKD 5.00. The corresponds to FY19/FY20/FY21 48.00x/36.17x/28.86x PE, which has an increase of +15.20% compared to the current price (HKD 4.34 as of February 11, 2020), giving an “Accumulate” rating.

Accumulate
(Initial Coverage)
CMP HKD 4.34
(Closing price at 11 February 2020)
TARGET HKD 5.00 (+15.20%)

COMPANY DATA

O/S SHARES (MN)	2,008
MARKET CAP (HKDMN)	8,512
52 - WK HI/LO (HKD):	5.83/2.89

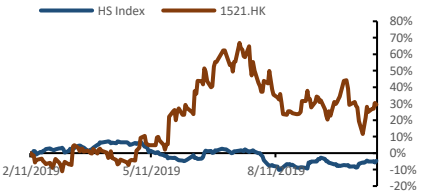
SHARE HOLDING PATTERN

Hongkong Tigermed Co., Limited	51.45%
Song Li	9.60%
Gaoling Fund, L.P.	7.20%

PRICE PERFORMANCE

	1M	3M	1Y
FRONTAGE	-0.23%	-9.21%	NA
HSI	1.97%	-4.66%	NA

RETURN & HSI



Source: Phillip Securities (HK) Research

KEY FINANCIALS

mn USD	FY17A	FY18A	FY19E	FY20E	FY21E
Revenue	70	83	113	150	188
NP attributable to shareholders	10	11	21	28	36
EPS USD	0.01	0.01	0.01	0.02	0.02
P/E	82.68	74.81	41.67	31.40	25.05
BVPS USD	0.02	0.03	0.19	0.21	0.23
P/B	27.81	19.27	2.94	2.69	2.43
ROE	41.49%	30.44%	12.33%	8.94%	10.18%

Source: Company, Phillip Securities (HK) Research

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Industry Analysis

Global pharmaceutical market grows rapidly

The global pharmaceutical market can be divided into two segments, the chemical drug market and the biologics market. According to Frost & Sullivan 's statistics, the scale of the global pharmaceutical market in 2018 is US$1,270 billion, which is expected to increase to US$1,600 billion in 2023, with a CAGR of 4.7%. Among them, the expected annual compound annual growth rate of biologics market will reach 9.0% from 2018 to 2023, and up to US$402.1 billion in 2023, growing faster than the overall pharmaceutical market. According to 2018 market size, the United States, China and Japan are the three largest pharmaceutical markets in the world, accounting for the global market of 38.7%, 18.3% and 7.5%, respectively.

Figure-1: Global Pharmaceutical Market Size (bn USD)

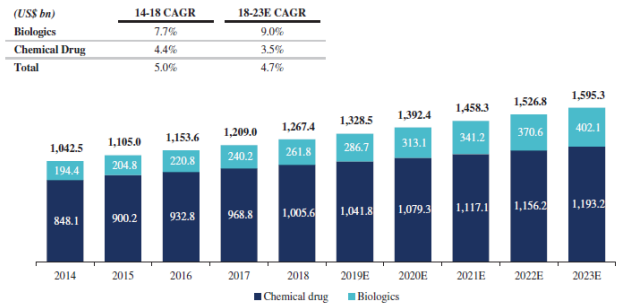
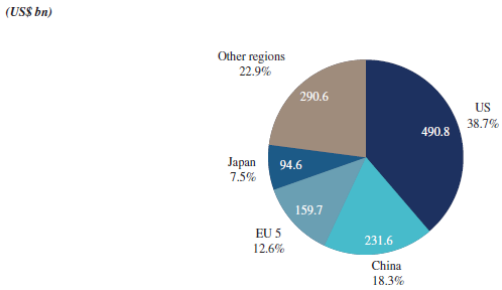


Figure-2: The Proportion of Global Pharmaceutical Market (bn USD)



Source: Phillip Securities (HK) Research, Company Report

Total research and development ("R&D") spending in the global pharmaceutical industry was US$174.0 billion in 2018 and is expected to grow at a CAGR of 4.5% during the period from 2018 to 2023, reaching US$216.8 billion in 2023. In 2018 R&D spending represented 13.7% of the total size of the global pharmaceutical market by revenue, the US and China accounting for 15% and 7.5%, respectively. But the R&D spending by Chinese pharmaceutical companies is not limited to China. An increasing number of Chinese headquartered pharmaceutical companies also spend a significant amount of their R&D budget to support applications in other jurisdictions, and in particular in the United States for IND and ANDA applications. Additionally, according to Frost & Sullivan estimates, the annual growth rate of China pharmaceutical market for R&D spending is 23.1% from 2018 to 2023, which will be much higher than the United States of 4% and the world average of 4.5%.

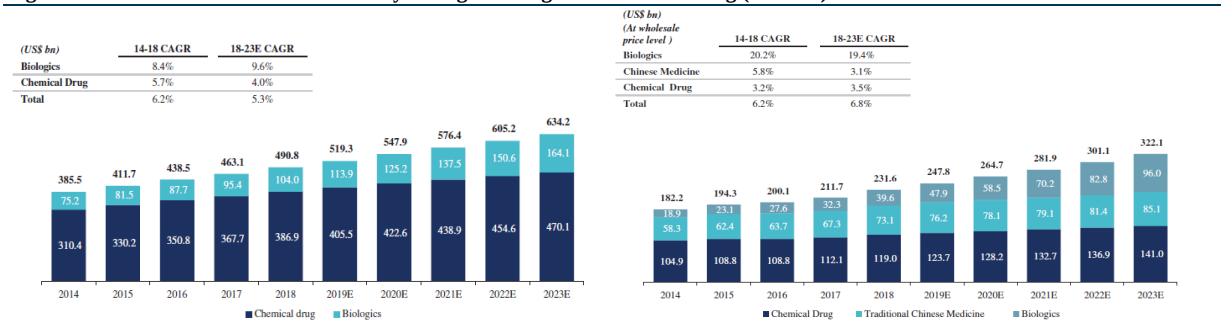
Comparison of pharmaceutical markets in China and the US

The United States is the world's largest pharmaceutical market. In 2018, the size of the market was US$490.8 billion, representing 38.7% of the entire global pharmaceutical market and a margin of more than 20% in terms of market share over China, the second largest pharmaceutical market globally. The size of the pharmaceutical market in the United States increased from US$385.5 billion in 2014 to US$490.8 billion in 2018 and is expected to grow to US$634.2 billion in 2023, representing a CAGR of 5.3% during the period of 2018 to 2023. The growth of this market is primarily driven by increases in both public and private spending on healthcare as new and more effective treatments for diseases become available. China is the second largest pharmaceutical market in the world, after the United States. The size of China's pharmaceutical market increased from US$182.2 billion in 2014 to US$231.6 billion in 2018 and is expected to grow to US$322.1 billion in 2023, representing a CAGR of 6.8% during this period. The growth is mainly driven by an ageing population and corresponding increase in the prevalence of chronic diseases, as well as favourable policies from the government of the PRC, aimed at developing the market for quality drugs and biologics in China and an increase in disposable income and improving insurance coverage.

Compared to the chemical drug market, there is expected faster rate of growth in the biologics market in the US. The size of the market for biologics in the United States was US$104.0 billion in 2018 and is projected to grow to US$164.1 billion in 2023, which would represent a projected 9.6% CAGR from 2018 to 2023, compared to a projected 4.0% CAGR for chemical drugs over the same period. The size of the market for patented drugs in the United States was US$379.7 billion in 2018 and is projected to grow to US$502.5 billion in 2023, which would represent 79.2% of the total pharmaceutical market in the United States in 2023. Relatively, policies in China are expected to continue to focus on encouraging the development of innovative patented drugs over the next five years from 2018 to 2023, which in turn is expected to lead to increased investment in patented drugs, whose market size is expected to grow at a CAGR of 7.5% during the same period to reach US$184.4 billion in 2023.

Figure-3: US Pharmaceutical Market by Biological Drug and Chemical Drug (bn USD)

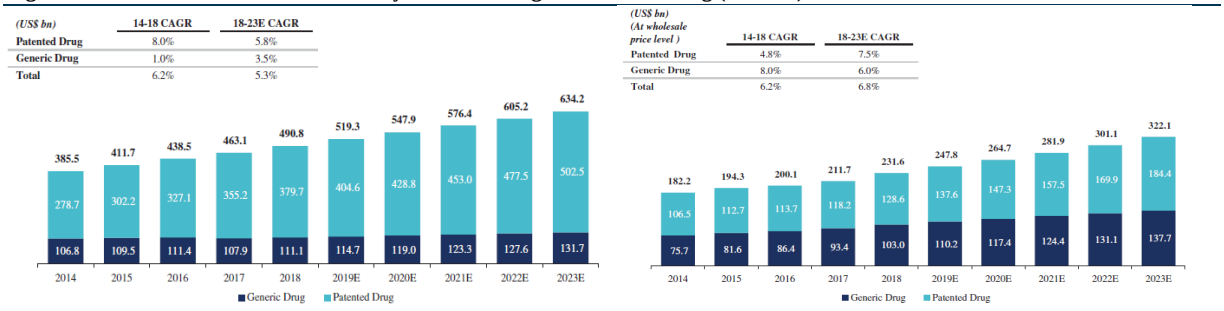
Figure-4: China Pharmaceutical Market by Biological Drug and Chemical Drug (bn USD)



Source: Phillip Securities (HK) Research, Company Report

Figure-5: US Pharmaceutical Market by Patented Drug and Generic Drug (bn USD)

Figure-6: China Pharmaceutical Market by Patented Drug and Generic Drug (bn USD)

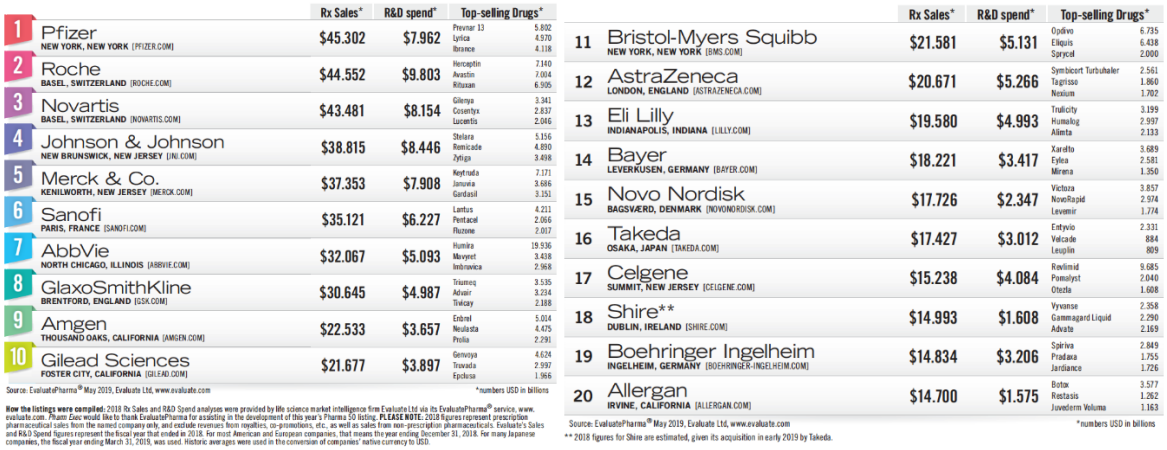


Source: Phillip Securities (HK) Research, Company Report

U.S. pharmaceutical companies lead the world

Magazine "Pharmaceutical Manager" (Pharm Exec) in US published 2019 annual sales of prescription drugs based on "global pharmaceutical companies 50 " (Pharm Exec's Top 50 Companies 2019). Pfizer still ranks first in sales of prescription drugs in the United States, while Roche and Novartis in Switzerland rank second and third. In terms of R&D expenditure, Roche of Switzerland still ranked first, and Johnson & Johnson of the United States and Novartis of Switzerland ranked second and third. This year for the first time two Chinese pharmaceutical companies into the global pharmaceutical companies 50 strong list of orders, including Sino Pharma (ranked 42), subsidiary of Chia Tai Group headquartered in Hong Kong, the and Jiangsu Hengrui Medicine (ranked 47).

Figure-7: Top 20 Global Pharmaceutical Companies



		Rx Sales*	R&D spend*	Top-selling Drugs*	
1	Pfizer NEW YORK, NEW YORK (PFIZER.COM)	$45.302	$7.962	Prevnar 13 Lyrica Ibrance	5.802 4.970 4.118
2	Roche BASEL, SWITZERLAND (ROCHE.COM)	$44.552	$9.803	Herceptin Avastin Rituxan	7.140 7.004 6.505
3	Novartis BASEL, SWITZERLAND (NOVARTIS.COM)	$43.481	$8.154	Gilenya Cosentyx Lucentis	3.341 2.837 2.046
4	Johnson & Johnson NEW BRUNSWICK, NEW JERSEY (JNJ.COM)	$38.815	$8.446	Stelara Remicade Zytiga	5.156 4.890 3.498
5	Merck & Co. KENILWORTH, NEW JERSEY (MERCK.COM)	$37.353	$7.908	Keytruda Januvia Gardasil	7.171 3.686 3.151
6	Sanofi PARIS, FRANCE (SANOFI.COM)	$35.121	$6.227	Lantus Pentacel Plavix	4.211 2.066 2.017
7	AbbVie NORTH CHICAGO, ILLINOIS (ABBVIE.COM)	$32.067	$5.093	Humira Mavyret Imbruvica	19.936 3.438 2.968
8	GlaxoSmithKline BRENTFORD, ENGLAND (GSK.COM)	$30.645	$4.987	Trumeq Advair Tivicay	3.535 3.234 2.188
9	Amgen THOUSAND OAKS, CALIFORNIA (AMGEN.COM)	$22.533	$3.657	Enbrel Neulasta Prolia	5.014 4.475 2.291
10	Gilead Sciences FOSTER CITY, CALIFORNIA (GILEAD.COM)	$21.677	$3.897	Genvoya Truvada Epclusa	4.624 2.997 1.966
11	Bristol-Myers Squibb NEW YORK, NEW YORK (BMS.COM)	$21.581	$5.131	Opdivo Eliquis Sprycel	6.735 6.438 2.000
12	AstraZeneca LONDON, ENGLAND (ASTRAZENECA.COM)	$20.671	$5.266	Symbicort Turbuhaler Tagrisso Nexium	2.561 1.860 1.702
13	Eli Lilly INDIANAPOLIS, INDIANA (LILLY.COM)	$19.580	$4.993	Trulicity Humalog Alimta	3.199 2.937 2.133
14	Bayer LEVERKUSEN, GERMANY (BAYER.COM)	$18.221	$3.417	Xarelto Eylea Mirena	3.689 2.581 1.350
15	Novo Nordisk BAGSVÆRD, DENMARK (NOVONORDISK.COM)	$17.726	$2.347	Victoza NovoRapid Levemir	3.857 2.974 1.774
16	Takeda OSAKA, JAPAN (TAKEDA.COM)	$17.427	$3.012	Entyvio Velcade Leuplin	2.331 884 809
17	Celgene SUMMIT, NEW JERSEY (CELGENE.COM)	$15.238	$4.084	Revlimid Pomalyst Otezla	9.685 2.040 1.608
18	Shire** DUBLIN, IRELAND (SHIRE.COM)	$14.993	$1.608	Vyvanse Gammagard Liquid Adynz	2.358 2.290 2.169
19	Boehringer Ingelheim INGELHEIM, GERMANY (BOEHRINGER-INGELHEIM.COM)	$14.834	$3.206	Spiriva Pradaxa Jardiance	2.849 1.755 1.726
20	Allergan IRVINE, CALIFORNIA (ALLERGAN.COM)	$14.700	$1.575	Botox Restasis Juvederm Voluma	3.577 1.262 1.163

Source: EvaluatePharma® May 2019, Evaluate Ltd, www.evaluate.com *numbers USD in billions

How the listings were compiled: 2018 Rx Sales and R&D Spend analyses were provided by life science market intelligence firm Evaluate Ltd via its EvaluatePharma® service, www.evaluate.com. Pharm Exec would like to thank EvaluatePharma for assisting in the development of this year's Pharma 50 listing. PLEASE NOTE: 2018 figures represent prescription pharmaceutical sales from the named company only, and exclude revenues from royalties, co-promotions, etc., as well as sales from non-prescription pharmaceuticals. Evaluate's Sales and R&D Spend figures represent the fiscal year that ended in 2018. For most American and European companies, that means the year ending December 31, 2018. For many Japanese companies, the fiscal year ending March 31, 2019, was used. Historic averages were used in the conversion of companies' native currency to USD.

Source: EvaluatePharma® May 2019, Evaluate Ltd, www.evaluate.com *numbers USD in billions

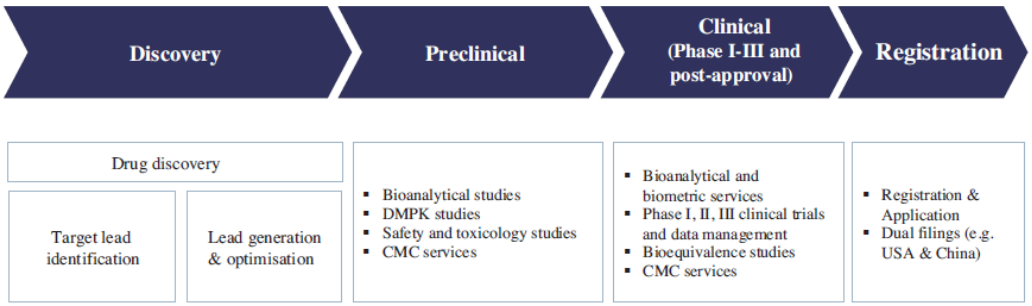
** 2018 figures for Shire are estimated, given its acquisition in early 2019 by Takeda.

Source: Phillip Securities (HK) Research, Pharm Exec

The market for pharmaceutical contract research organisations is growing rapidly

The complete process of drug development is generally categorized into four stages: discovery, preclinical testing and development, clinical development (e.g. phase I-III clinical studies) and post approval clinical studies (e.g. phase IV clinical studies). The type of, and objectives of, the research, analytical and development services offered by Contract Research Organisations (CROs) through the drug development process depends on the phase of development.

Figure-8: Drug Development Process



Source: Phillip Securities (HK) Research, Company Report

Table-1：Drug development process

	Content
Discovery Stage	At the drug discovery stage, research services focus on identifying potentially promising compounds (or 'leads') to progress for further testing as "candidates" for further research development.
Preclinical Stage	Throughout the preclinical stage, research, analytical and development services include studies on the interaction of these drug candidates within biological matrices, studies on how a drug candidate passes through and affects a living organism, studies on the physio-chemical properties of both the active pharmaceutical ingredient (API) of a drug and the end drug product, the design and formulation of a drug product to aid safe and effective transport through a living organism to optimise its effectiveness at performing its targeted activity, and safety and toxicological assessment. The purpose of research, analysis and development in the preclinical phase is to enhance the scientific understanding of the drug, its efficacy, potency and toxicity, with a view to optimizing the drug candidate for further testing in humans.
Clinical Stage	At the clinical stage, services include manufacturing services for clinical trial materials (for example, capsules or liquid versions of a drug to administer to human trial participants), specialised clinical testing on healthy volunteers and/or patients, statistical data generation and analysis and regulatory filing assistance (e.g. bioequivalence recognition for generics).
Registration Stage	After successful clinical trials, a CRO can assist their clients in the process of drug registration by providing registration and application services in which necessary data and documents are prepared for submission to relevant regulatory authorities. Regulatory support for foreign sponsors, and dual

filing services, can also be offered by CROs that have an established presence in multiple regions.

Source: Phillip Securities (HK) Research, Company Report

The size of the global pharmaceutical CRO market was US$55.2 billion in 2018 and is expected to grow to US$91.4 billion in 2023, representing a projected CAGR of 10.6%. The proportion of outsourcing services spending of the total spending on both outsourcing and in-house services, or 'rate of penetration', of the total global R&D expenditure by outsourcing services has continued to grow from 33.7% in 2014 to 37.7% in 2018 and is expected to grow to 49.3% in 2023. Among them, the size of the pharmaceutical CRO market in the United States increased from US$18.7 billion in 2014 to US$27.0 billion in 2018 and is expected to grow to US$41.1 billion in 2023, representing a projected CAGR of 8.8% over the period 2018 to 2023. The size of the pharmaceutical CRO market in China increased from US$2.1 billion in 2014 to US$5.5 billion in 2018 and is expected to grow to US$19.1 billion in 2023, representing a projected CAGR of 28.3% over the period 2018 to 2023.

Figure-9: Global CRO Market Size

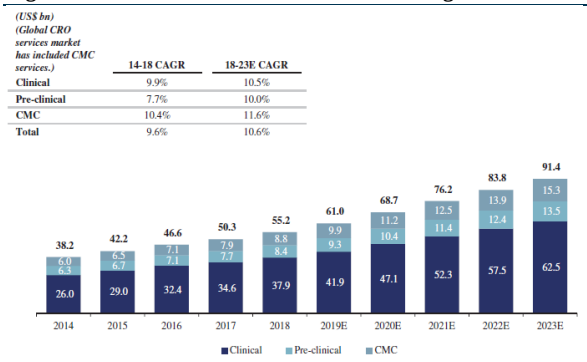
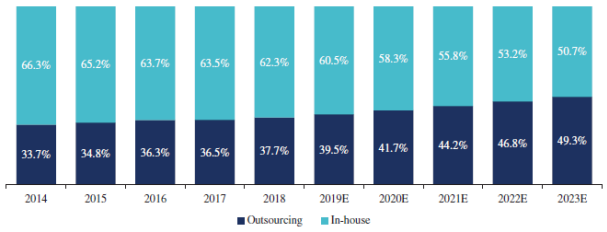


Figure-10: The Proportion of In-house and Outsourcing Services in the Global Market



Source: Phillip Securities (HK) Research, Company Report

Figure-11: US CRO Market Size

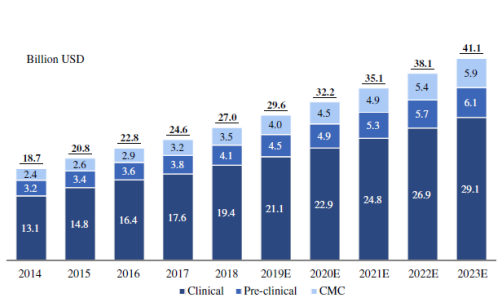
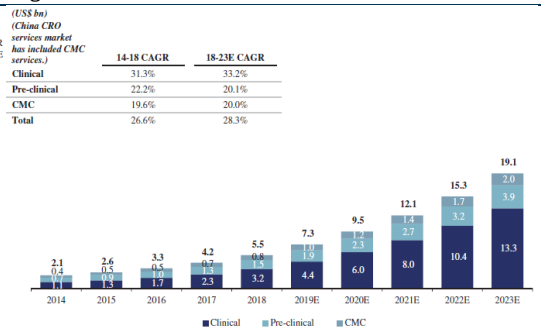


Figure-12: China CRO Market Size



Source: Phillip Securities (HK) Research, Company Report

Company Analysis

Company Introduction

The company is a fast-growing CRO providing integrated, scientifically-driven research, analytical and development services throughout the drug discovery and development process to enable pharmaceutical companies to achieve their drug development goals. The services of the company provide in the United States include DMPK, safety and toxicology, and CMC, in each case, throughout the drug discovery and development process. The bioanalytical services, which are the largest source of the revenue of the company (contributing 48.23%, 50.57% and 53.18% of revenue for the years ended December 31, 2016, 2017 and 2018, respectively), are offered throughout the drug discovery and development process in both the United States and in China. The company also provides bioequivalence and related services in China. Certain of our services are also offered to agrochemical companies.

In the United States, the company is recognised as a leader in the CRO industry. For example, in 1H2019, the company was awarded the CRO leadership award by "Life Science Leader" (a United States business journal targeted at life science executives) based on research conducted by "Nice Insight" (a leading United States market intelligence institution specialising in life sciences). The company has won this award many times since 2014, which reflects its leading position in quality system, technical capabilities, regulatory compliance and customer satisfaction. The company also won the 2019 China Top 20 CRO at the 2019 China Pharmaceutical Industry Development Conference, and the company's facilities have successfully passed multiple inspections by FDA, NMPA and other regulatory agencies. In 1H 2019, the company also successfully passed multiple inspections by the US Department of Agriculture, the US Environmental Protection Agency, and the Chinese State Drug Administration, indicating that the company continues to meet or exceed the strict standards implemented by the industry.

The company positions themselves as a value-add partner with a focus on solving their customers' most significant and complex drug discovery and development challenges. Their scientific knowledge base, technical expertise and reputation for high quality services have been integral to the ability to enter into strong long-term strategic relationships and partnerships with our key customers. The customers include Janssen, BeiGene, Blueprint, Fresenius Kabi, Celgene, Rhodes and Duke in the United States and Yangzijiang Pharma, Hisun Pharma, Luye Pharma, Simcere Pharma and Chia Tai Tianqing in China.

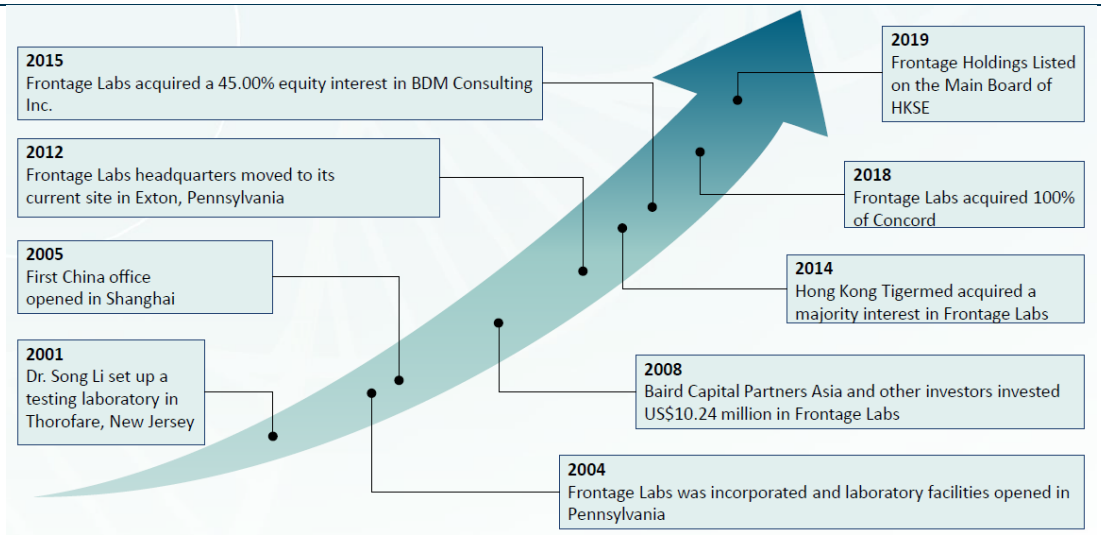
Figure-13: The Main Customers of the Company

Source: Phillip Securities (HK) Research, Company Report

The Company's controlling shareholder, Hong Kong Tigermed Co, Limited is a wholly owned subsidiary of Hangzhou Tigermed. Therefore, Hong Kong Tigermed and

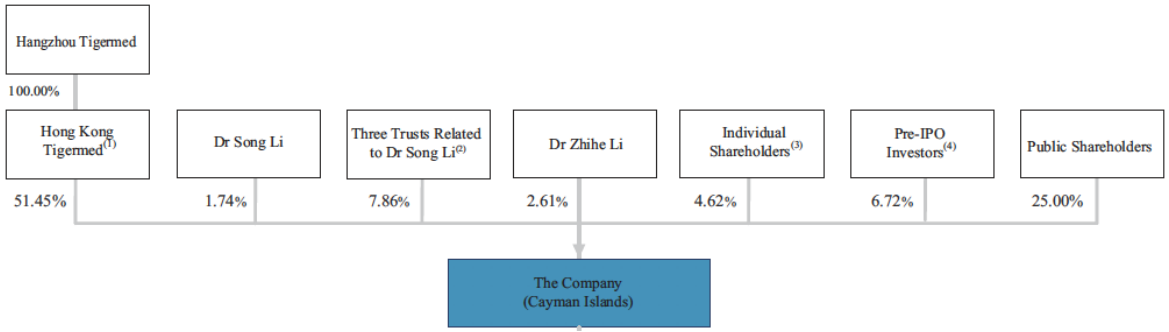
Tigermed, as a group, are the controlling shareholders of the company. The Listing will constitute a spin-off of the assets and businesses held by the company from Tigermed, a company listed on the ChiNext market of the Shenzhen Stock Exchange with stock code 300347. Tigermed Group is a global CRO headquartered in Hangzhou. China and is principally engaged in the provision of clinical trial services to meet the needs of pharmaceutical companies. The Tigermed Group has a leading reputation in late phase (Phases II-IV) clinical trials in China and other countries in the Asia Pacific region. Through more than 30 subsidiaries (including our Group), Tigermed and its subsidiaries have in excess of 3,000 employees globally. Moreover, in the United States, the Tigermed Group has no presence other than through its interest in our Company and its majority ownership of Tigermed-BDM Inc. (which is a joint venture between us and the Tigermed Group). In China, our Group's business is to provide bioanalytical services and bioequivalence services. The Tigermed Group does not offer these bioanalytical and bioequivalence services in China.

Figure-14: Milestone



Source: Phillip Securities (HK) Research, Company Report

Figure-15: Shareholders of the Company

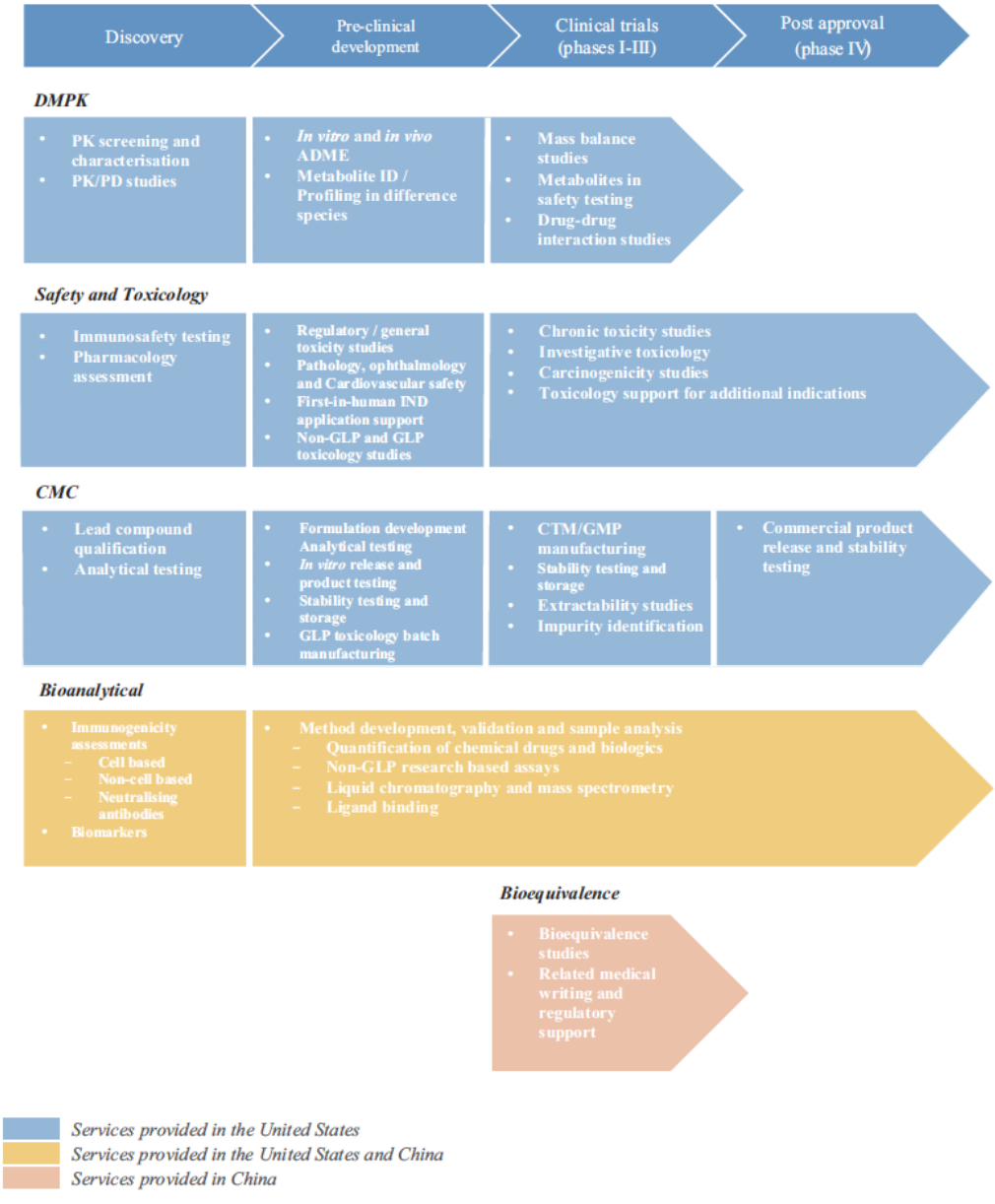


Source: Phillip Securities (HK) Research, Company Report

Business Introduction

The company is a fast-growing CRO providing integrated, scientifically-driven research, analytical and development services throughout the drug discovery and development process to enable pharmaceutical companies to achieve their drug development goals. The company benefit greatly from having operations in both the United States and China and are well placed to capture growth opportunities in both markets. The company implements the "Two Countries, one system" approach, which is also an important part of the company's commitment to high quality standards. The company serves customers' discovery and development goals by sharing technical expertise and personnel in two countries and using its knowledge of the two regulatory systems to stimulate the company's strengths in both markets. The company can support Chinese companies entering the US market through the use of Abbreviated New Drug Application regulatory submissions Chinese and US research data, and to seek support through conformity assessment and bioequivalence certification to enter the Chinese market and international companies that has been approved by Chinese market and Chinese companies that have approved by the United States and elsewhere.

Figure-16: Main Business of the Company



Source: Phillip Securities (HK) Research, Company Report

The company offer services primarily through the wholly owned subsidiary in the United States, Frontage Labs, and the wholly owned subsidiary in China, Frontage Shanghai. and also adopted through the acquisition of Concord in April 2018 to provide safety and toxicology services.

Table-2: Introduction of Main Services

	Introduction
Drug Metabolism and Pharmacokinetics ("DMPK")	The company offers standard and customised in vivo and in vitro DMPK services. This includes pharmacokinetic ("PK") and pharmacodynamics ("PD") studies throughout the development process. We also offer ADME studies. For the discovery phase, we also offer PK screening and characterisation to enable structure optimisation. We also offer metabolite identification in different animal species, Metabolites in Safety Testing ("MIST"), drug-drug interaction, and radiolabelling studies. These services are currently provided in the United States from our facility in Exton, Pennsylvania (700 Pennsylvania Drive).
Safety and toxicology	The acquisition of Concord in April 2018 allows the company to offer an extensive range of safety and toxicology services, including large animal testing, to our customers for the first time. These services include non-GLP and GLP toxicology studies to support regulatory submissions such as INDs. Additional toxicological assessments include pathology, ophthalmology and cardiovascular studies. The company also offers chronic toxicity and investigative toxicology studies, carcinogenicity studies and support for additional indications. The company also assists with the development of safety and toxicology testing plans, mainly for the pre-clinical stage, with the goal of identifying the pharmacological and toxicological effects of drug candidates. These services are currently provided in the United States from our facility in Concord, Ohio.
Bioanalytical	The bioanalytical services include non-GLP research based and GLP assays (both in vivo and in vitro) for small and large molecule drugs and biomarkers throughout the drug development process as well as immunogenicity and neutralizing antibody assessments. These assays support first-in-human dose justifications and Investigational New Drug ("IND") packages for pharmaceutical therapeutics. The company provides method development and validation services in addition to sample analysis services to assess pharmacokinetics, immunogenicity and pharmacodynamics effect. These services are currently provided both in the United States and China from our facilities in Exton, Pennsylvania (700 Pennsylvania Drive) and Concord, Ohio as well as our facility in the Zhangjiang Hi-Tech Park, Shanghai.
Chemistry, manufacturing and controls (CMC)	The portfolio of CMC services spans drug discovery to the post approval phase, including lead compound quantification and analytical testing for the discovery phase, formulation development, GLP toxicology batch studies, release and product testing, stability testing, CTM and Good Manufacturing Practice ("GMP") manufacturing, extractability and leachability studies and commercial product release following approval of an application. These services are currently offered in the United States from our facility in Exton, Pennsylvania (75 East Uwchlan Avenue).
Bioequivalence	The company provides bioequivalence ("BE") and related services (such as medical writing and regulatory support) in China. Bioequivalence is the term used to assess the expected in vivo biological equivalence of two preparations of a drug. Bioequivalence is generally defined as the absence of a significant difference in the rate and extent of which the active ingredient or active moiety in pharmaceutical equivalents or pharmaceutical alternatives becomes available at the site of drug action when administrated at the same molar dose under similar conditions in an appropriately designed study. These services are currently provided by our company in China from our facility in Zhengzhou, Henan, and 17 clinical research centres in our collaborating hospitals in China.

Source: Phillip Securities (HK) Research, Company Report

Table-3: Main Subsidiaries and Associated Companies of the Company

	Main Events
Concord	The company completed the acquisition of Concord, the holding company of Concord Biosciences, LLC and Concord Holdings, LLC on April 1, 2018 for a total consideration of US$5.00 million. The company believes that the strategic acquisition of Concord enhances our service offering by (i) increasing our capacity for DMPK and bioanalytical services generally, (ii) allowing the company to offer safety and toxicology services to our customers for the first time, including the introduction of large animal testing and (iii) enhancing our capability to provide services to agrochemical clients. Concord's facility is located in Concord, Ohio and is spread over more than 20 acres, with a gross floor area of the built up properties in excess of 90,000 sq. ft.
Frontage Clinical Services, Inc.	Provide clinical pharmacology services (including research design and implementation, pharmacokinetics, modeling and simulation medical writing services, protocol development, database development and data management services).
Frontage Suzhou	Providing chemical, manufacturing and control services in China, the company holds a 75 % stake. Other shareholders of Zhejiang Pharmaceutical Co., Ltd. Kyushu.
Hebei Frontage	As part of set up the Clinical Research Center with corporation of a hospital, the company holds shake of 20.00% , Baoding Chen Chang Pharmaceutical Technology Co., Ltd. holds 55.00% stake, Affiliated Hospital of Hebei University holds a 25.00% stake.
FJ PHARMA LLC	FJ Pharma LLC is a contract development agency that provides commercial manufacturing API development and support services to its customers in the United States at its facilities. The company holds a 49.00% stake, while the remaining 51.00% stake held by Zhejiang Pharmaceutical Co., Ltd. Kyushu .
BRI Biopharmaceutical Research, Inc.	BRI is engaged in providing scientific-driven drug discovery and researchable new drug and new drug applications for pharmaceutical and biotechnology companies .

RMI Laboratories, LLC	RMI is a contract research organization located in Pennsylvania, USA , which is mainly engaged in providing quantitative and qualitative drug metabolism services for pharmaceutical and biotechnology companies.

Source: Phillip Securities (HK) Research, Company Report

As of 30 June, 2019, the company has four facilities in the United States, including (i) two facilities located in Exton, PA; (ii) a facility located in Concord, Ohio , and (iii) one in New Jersey For Princeton facilities, the company also has four facilities in China, including (i) two facilities in Shanghai; (ii) one facility in Zhengzhou, Henan Province, and (iii) one facility in Suzhou, Jiangsu Province.

Table-4: Main Properties When the Company is Listed

Location	Exton, Pennsylvania (700 Pennsylvania Drive)	Exton, Pennsylvania (75 East Ewchlan Avenue)	Concord, Ohio	Zhangjiang Hi-Tech Park, Shanghai	Zhengzhou	Suzhou
Date of commencement of operations	2012	2007	1986	2005	2009	2014
Area (square feet)	69,968	31,645	Over 90,000	61,253	11,661	3,229
Operations conducted and services provided	Company Headquarters Bioanalytical DMPK	CMC Services	Safety and toxicology Bioanalytical DMPK	Bioanalytical	Bioequivalent	Bioanalytical

Source: Phillip Securities (HK) Research, Company Report

Table-5: Use of the company's listed financing funds

Funds	**Usage**
About HK $ 272 million (About 20% of net proceeds)	Used to enhance and expand production capacity to meet growing service demand
About HK $ 545 million (About 40% of net proceeds)	For organically expanding and expanding the scope of capabilities and services
About HK $ 408 million (About 30% of net proceeds)	Acquisition of companies providing related services and additional investments in existing associates
About HK $ 136 million (About 10% of net proceeds)	Working capital and general corporate purposes

Source: Phillip Securities (HK) Research, Company Report

Investment Highlights

Business covering China and the US markets, taking advantages of "Two Countries, One System"

The company is a fast-growing CROs that provides integrated, science-driven research, analysis, and development services throughout the pharmaceutical discovery and development process to assist pharmaceutical companies in achieving drug development goals. The company has business in both China and the United States, and can effectively capture the growth opportunities in both markets.

Table-6: The Main Business and Market of the Company

Market	Main Business
US Drug CROs Market	DMPK, safety and toxicology, bioanalytical, CMC
China Drug CROs Market	Bioanalytical and bioequivalence
US Pesticide CROs Market	DMPK, safety and toxicology, bioanalytical

Source: Phillip Securities (HK) Research, Company Report

In 2001, the founder, Dr. Song Li, set up a testing laboratory in Thorofare, New Jersey, dedicated to building a customer-first organization to help pharmaceutical companies overcome their complex drug development challenges through outsourcing solutions. In 2004, Frontage Labs was incorporated in Pennsylvania and established laboratory facilities. Since 2004, Dr. Song Li has led Frontage Labs to rapidly expand the scope and scope of the services it provides.

In China, with the chance of success in recent years, CROs increased opportunities for outsourcing opportunities, the income of the company in China has increased from US$7.18 million to US$28.45 million in 2018. The market for pharmaceutical CROs in China has achieved significant growth over the past five years, with a large portion of the market focused on the development of generic drugs. Under the Consistency Evaluation Opinion, all oral solid dosage drugs on the National Essential Drug List approved before 2007, were required to complete the consistency evaluation by the end of 2018. Failure to complete the consistency evaluation would have precluded a drug from reregistration. This policy, combined with enhanced regulatory standards on supporting data for these studies which were introduced at approximately the same time and subsequently, has led to a significant increase in demand for high quality bioequivalence and bioanalytical CRO services due to the historical lack of existing bioequivalence data and capabilities of conducting bioequivalence studies in house. For the long-term impact, the Consistency Evaluation Opinion is lead to a potential decrease in the number of pharmaceutical companies involved in the development of generic drugs operating in China and also increase levels of expenditure on research and development by pharmaceutical companies. Moreover, an additional growth driver has been direct support of the Chinese government for drug innovation that has resulted in an increased demand for CRO services. These policies include China’s Twelfth Five Year Plan for Pharmaceutical Industry in 2012 and the Notice on Construction of Pharmaceutical and Biological Contract Research Organization (CRO) Service and Contract Manufacturing Organization (CMO) Platform in 2018.

The company has implemented "Two Countries, One System" to ensure that customers in both China and the United States enjoy the same quality standards, operating procedures and systems, while also providing a detailed interpretation and experienced clients on drug development and regulatory requirements of the two countries. The company serves customers' drug discovery and development goals by sharing technical expertise and personnel in two countries and leveraging familiarity with the two regulatory systems.

Figure-17: The Business in China and the United States

Source: Phillip Securities (HK) Research, Company Report

Endogenous growth and extensional expansion work together to maintain stable growth

The company continues to expand their production capacity with operation of Shanghai Zhangjiang Hi-Tech Park of about 42,000 square feet of new bioanalytical laboratory; expansion of laboratory area of approximately 10,000 square feet in the United States 700 Pennsylvania Drive, Exton, PA and put into operation on December 2019; leases 71,000 square feet of new facilities in the United States Exton, PA, which will be used to expand the CMC and bioanalysis businesses after the renovation. The company also approved and purchased the expansion of existing business and production capacity: in October 2019, the company increased Fonda Suzhou stake from 49.04% to 75%, the main business includes analytical testing services, stability studies, preparation process development and clinical use of drugs production and expand the chemical, manufacturing and control capabilities and business in China; in November 2019, the company acquired RMI 100% stake, which is mainly engaged in the pharmaceutical and biotechnology to provide quantitative and qualitative drug metabolism surgery services company; in December , the company acquired a 100% stake of BRI. BRI has been more than 20 years since the establishment in Vancouver, Canada. The company hopes to use this to expand its business base to Canada and the west coast of North America, so that it can more conveniently provide customers with drug metabolism and pharmacokinetics as well as biological analysis services.

Through the above-mentioned business line new or upgrade initiatives, the company hopes to use BRI and RMI to expand its Canadian and North American West Coast businesses, establish DMPK centers across North America and China, and expand its CMC service capabilities in China through most of the shares of Fonda Suzhou. And business, and through the new laboratory in Shanghai Zhangjiang Science and Technology Park to establish a Chinese DMPK team and business line, expand production capacity, seize market opportunities, and continue to promote business growth in China and the United States.

Table-7: Acquisition and Investment of the Company

	Acquisition or Investment
December 2019	Acquisition 100% shares of RMI
November 2019	Acquisition 100% shares of RMI
October 2019	Acquisition shares of Frontage Suzhou to 75%
April 2018	Acquisition of Concord
October 2017	Invested and found Hebei Frontage
June 2017	Acquisition 19.40% shares of Frontage Clinical Services, Inc.
June 2016	Acquisition 49% shares of FJ PHARMA LLC

Source: Phillip Securities (HK) Research, Company Report

Complementary to the parent company's strengths to further enhance synergies in the future

Hangzhou Tigermed (stock code: 300347) is a CRO that focuses on providing professional services for the whole process of clinical trials for the development of new drugs. It mainly provides professional services for the whole process of clinical research of innovative medicines, medical devices and biotechnology-related products for domestic and foreign pharmaceutical and medical device innovation companies, aiming to reduce the risk of R&D, shorten the R&D cycle, save R&D expenses for customers, promote the marketization process of products, and enable patients to use newer and better medicine and medical treatment as soon as possible. The business division of Tiger Group and the company is clear and synergistic. The company has established a cooperative relationship with Tiger Group. Benefiting from the synergy with Tiger Group, the company is able to provide Chinese customers with comprehensive clinical trial support solutions from Phase I to Phase IV, and Tiger Group customers also have access to the company's services, especially bioanalysis services.

Table-8: Business Division between the Company and Tiger Group

	Main Business
Frontage	Provide laboratory services and related services (bioanalytical services) and bioequivalence services for pharmaceutical companies and pesticide companies
Tiger Group	(a) Provision of clinical trial services involving human research (provided in a hospital or clinical center) (b) Drug or medical device or medical device registration services that have successfully completed clinical trials (c) Clinical trial support services (including on-site management services) (d) Biometric technology services

Source: Phillip Securities (HK) Research, Company Report

Financial Analysis

The revenue of the company increased by 70.87% from US$48.64 million in 2016 to US$83.11 million in 2018, among which the operations in China increasing significantly from US$7.18 million in 2016 to US$28.45 million in 2018. However, the revenue from bioequivalence services in China decreased slightly from US$9.59 million in 2017 to US$9.49 million in 2018 due in part to the transfer of our interest in in our subsidiaries, Suzhou Frontage and Shanghai Frontage in April 2018, which offset the growth in our bioequivalence revenue in China in 2018 from existing and new customers. The revenue from the US operations increased from US$41.47 million in 2016 to US$54.66 million in 2018 due to consistent growth in our revenue from bioanalytical services as well as due to the contribution of Concord to the newly created safety and toxiology business segment and DMPK services in 2018. In 2018, the gross profit margin of excluded and included Concord were 45.42% and 40.78%, repectively, as Concord has reduced the overall gross profit margin. The company will continue to integrate Concord with the rest of the business and to take steps to improve the gross profit margin of Concord.

Figure-18: 2016-2018 Revenue (mn USD)

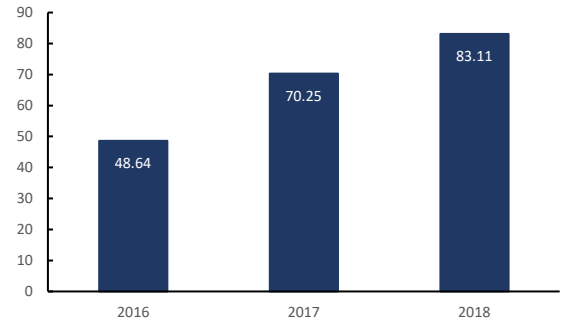
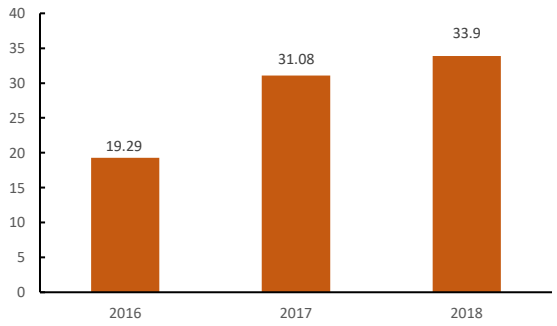


Figure-19: 2016-2018 Gross Profit (mn USD)



Source: Phillip Securities (HK) Research, Company Report

Figure-20: Revenue by Types of Services in US (mn USD)

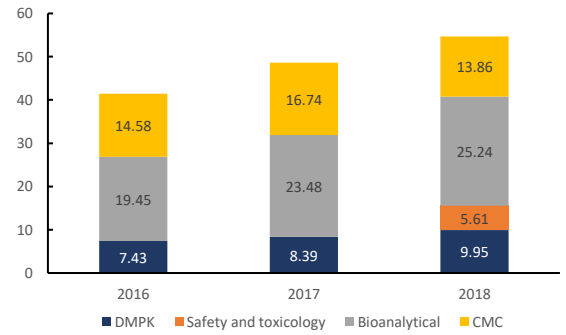
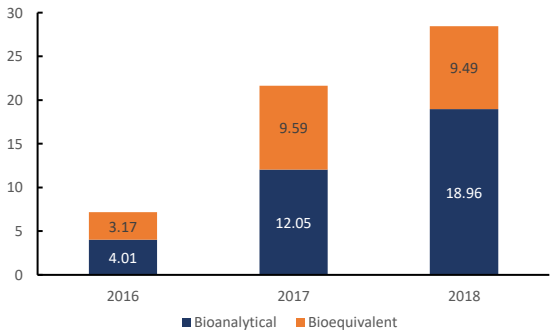


Figure-21: Revenue by Types of Services in China (mn USD)



Source: Phillip Securities (HK) Research, Company Report

Figure-22: Gross Profit and GPM in US (mn USD)

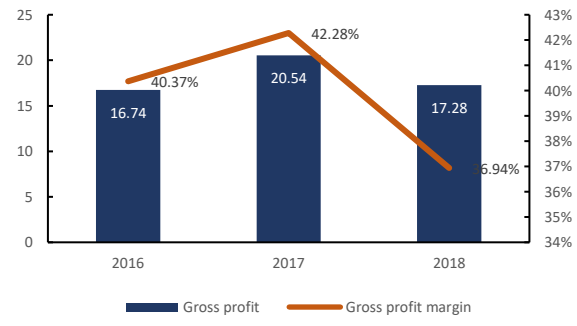
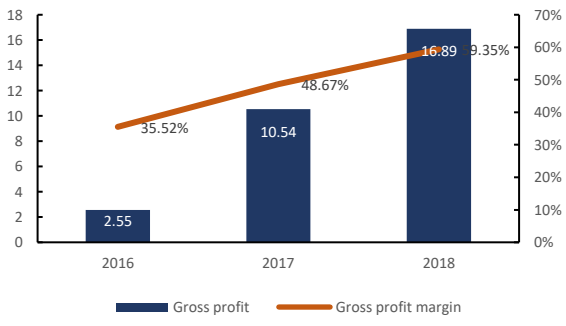


Figure-23: Gross Profit and GPM in China (mn USD)



Source: Phillip Securities (HK) Research, Company Report

We forecast that the company's FY19/FY20/FY21 income will be US$ 113/150/188 million, representing an increase of 35.96%/32.85%/25.01% YoY; gross profit will be US$ 46.78/62.77/79.25 million, net profit attributable to shareholders will be US$ 21.37/28.37/35.55 million; corresponding EPS will be US$ 0.01/0.02/0.02. We get target price of HKD 5.00. The corresponds to FY19/FY20/FY21 48.00x/36.17x/28.86x PE, which has an increase of +15.20% compared to the current price (HKD 4.34 as of February 11, 2020), giving an "Accumulate" rating.

Figure-24: Forward P/E Band

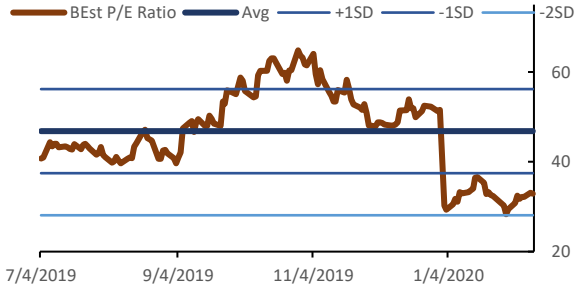
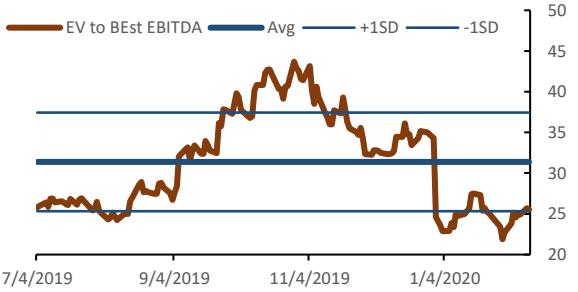


Figure-25: Forward EV/EBITDA Band



Source: Phillip Securities (HK) Research, Bloomberg

Table-5: Comparable peers

Ticker	Ticker	Mkt Cap	EV	EV/TTM EBITDA	EV/EBITDA FY1	EV/EBITDA FY2	P/E	P/E FY1	P/E FY2	P/FCF	Dividend
方達控股	1521	8.75	7.24	N.A.	28.94	21.35	74.54	50.82	32.88	48.22	N.A.
CNY (11 securities)											
Median		15.19	14.59	-	51.44	39.00	76.83	72.80	51.43	122.70	0.31
Mean		38.72	38.45	-	47.42	36.10	75.50	66.83	49.27	490.15	0.72
藥明康得	603259	190.57	188.26	N.A.	51.47	41.11	80.13	77.48	61.03	N.A.	0.40
泰格醫藥	300347	62.87	62.58	N.A.	58.48	43.82	83.06	76.36	54.62	122.70	0.31
康龍化成	300759	50.51	51.85	N.A.	51.42	39.70	N.A.	88.27	65.37	N.A.	0.19
凱萊英	002821	40.93	40.60	N.A.	48.75	36.29	68.08	64.47	48.98	N.A.	0.25
博雅生物	300294	18.07	18.27	N.A.	22.68	18.68	31.77	30.41	24.53	N.A.	0.41
博騰股份	300363	15.19	14.59	N.A.	40.44	31.20	87.40	76.18	55.87	79.18	0.19
昭衍新藥	603127	12.78	12.36	N.A.	52.48	38.47	89.75	72.80	51.43	2,302.86	0.30
藥石科技	300725	11.77	11.70	N.A.	53.63	39.52	66.84	61.95	44.81	481.04	0.21
雙林生物	000403	10.39	10.41	N.A.	N.A.	N.A.	73.53	53.50	36.82	321.42	N.A.
舒泰神	300204	8.46	8.31	N.A.	N.A.	N.A.	134.85	N.A.	N.A.	85.97	4.19
蔚藍生物	603739	4.35	4.07	N.A.	N.A.	N.A.	39.63	N.A.	N.A.	37.90	0.79
HKD (7 securities)											
Median		16.08	14.45	73.71	28.94	19.66	48.63	40.73	21.95	48.22	0.12
Mean		33.04	31.61	73.71	40.13	25.87	64.87	48.33	32.96	55.69	0.12
藥明生物	2269	144.42	141.26	127.73	89.86	57.68	146.86	118.07	84.82	N.A.	N.A.
三生製藥	1530	27.63	29.83	19.68	14.05	11.19	22.73	19.47	14.53	22.06	N.A.
康希諾生物	6185	16.57	15.83	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
昊海生科	6826	16.08	14.45	N.A.	24.78	19.66	15.37	12.57	10.61	96.80	N.A.
基石藥業	2616	11.44	7.64	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
維亞生物	1873	6.37	5.01	N.A.	43.00	19.47	N.A.	40.73	21.95	N.A.	0.12

Source: Phillip Securities (HK) Research, Bloomberg

Risk

R&D investment in pharma industry fails expectations; Production capacity increases fail expectations; Industry policy risk.

Financials

Table-10: Financial data

FYE DEC	FY17A	FY18A	FY19E	FY20E	FY21E
Valuation Ratios					
P/E	82.68	74.81	41.67	31.40	25.05
P/B	27.81	19.27	2.94	2.69	2.43
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%
Per Share Data in USD					
EPS	0.01	0.01	0.01	0.02	0.02
DPS	-	-	-	-	-
BVPS	0.02	0.03	0.19	0.21	0.23
Growth & Margins (%)					
Growth					
Revenue	44.41%	18.32%	35.96%	32.85%	25.01%
Operating Profit	91.83%	-35.46%	99.92%	41.10%	25.48%
Net Profit	52.95%	10.59%	90.15%	32.71%	25.32%
Margins					
Gross Margin	44.25%	40.78%	41.40%	41.81%	42.23%
Operating Profit Margin	28.38%	15.48%	22.76%	24.17%	24.26%
Net Profit Margin	14.47%	13.52%	18.92%	18.90%	18.94%
Key Ratios					
ROA	20.36%	16.70%	10.32%	8.08%	9.28%
ROE	41.49%	30.44%	12.33%	8.94%	10.18%
Income Statement in mn USD					
Revenue	70.25	83.11	113.00	150.12	187.66
GP	31.08	33.90	46.78	62.77	79.25
EBIT	16.45	14.47	28.38	37.38	46.62
Profit before tax	16.13	14.09	27.35	36.30	45.49
NP	10.17	11.24	21.37	28.37	35.55
Minority Interest	-	-	-	-	-
NP attributable to shareholders	10.17	11.24	21.37	28.37	35.55

Source: Company, Phillip Securities (HK) Research
(Financial data as of February 11, 2020, USD=7.77HKD)

PHILLIP RESEARCH STOCK SELECTION SYSTEMS

Total Return	Recommendation	Rating	Remarks
>+20%	Buy	1	>20% upside from the current price
+5% to +20%	Accumulate	2	+5% to +20%upside from the current price
-5% to +5%	Neutral	3	Trade within ± 5% from the current price
-5% to -20%	Reduce	4	-5% to -20% downside from the current price
<-20%	Sell	5	>20%downside from the current price

We do not base our recommendations entirely on the above quantitative return bands. We consider qualitative factors like (but not limited to) a stock's risk reward profile, market sentiment, recent rate of share price appreciation, presence or absence of stock price catalysts, and speculative undertones surrounding the stock, before making our final recommendation

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