

HEALTHCARE & LIFE SCIENCES REVIEW

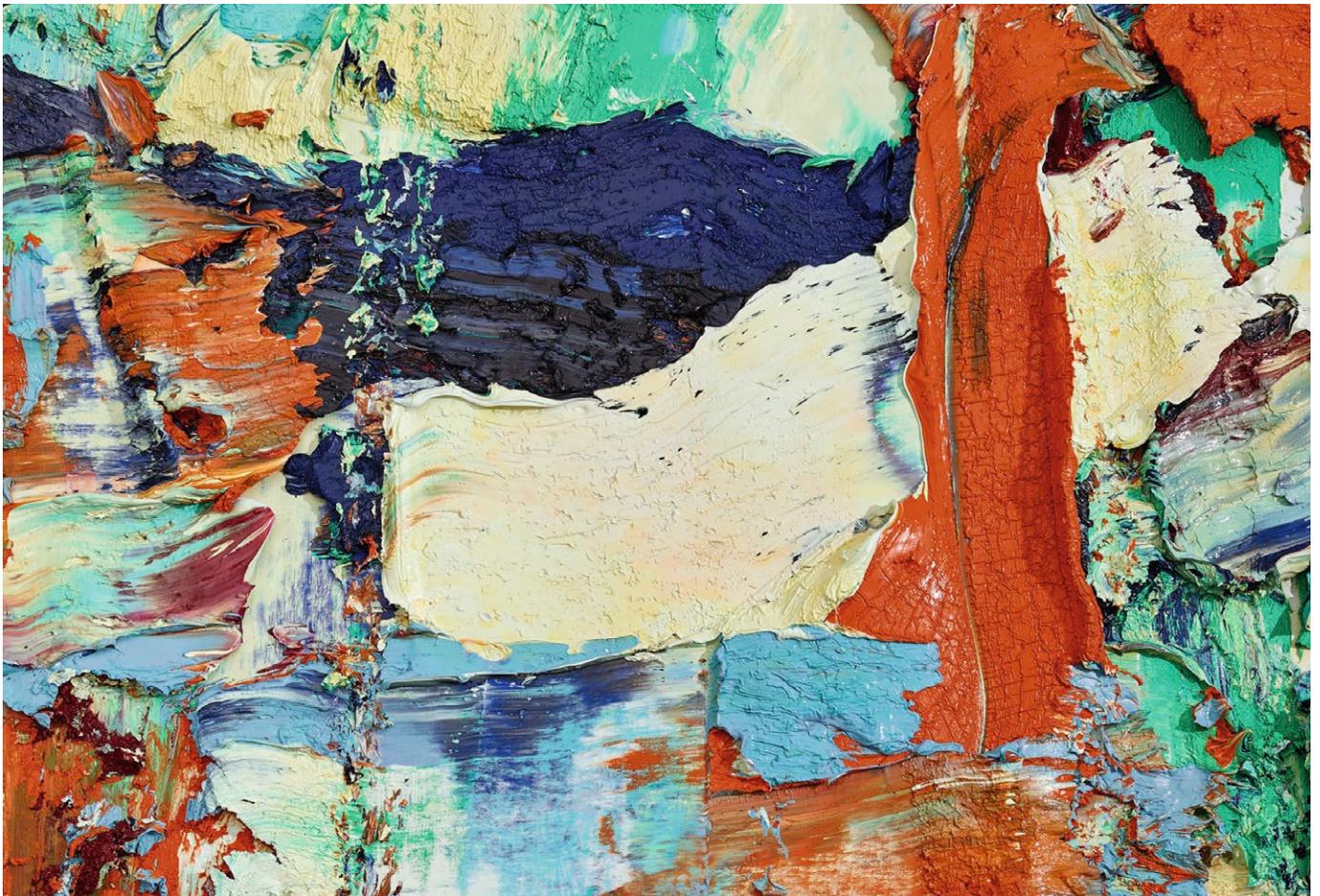


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HONG KONG

NOVEMBER 2018



Acknowledgements

PharmaBoardroom is profoundly grateful to...

Albert Yu, chairman, HKBIO

Sunny Chai, chairman, HKSTP

Joseph Tam, chairman, Pangenica

Kevin O'Reilly, president – Asia Pacific, Varian Medical Systems

Hye-ja Kim, pharmaceutical innovative head, Pfizer

for their continuous support, enthusiasm and encouragement in the compilation of this report.



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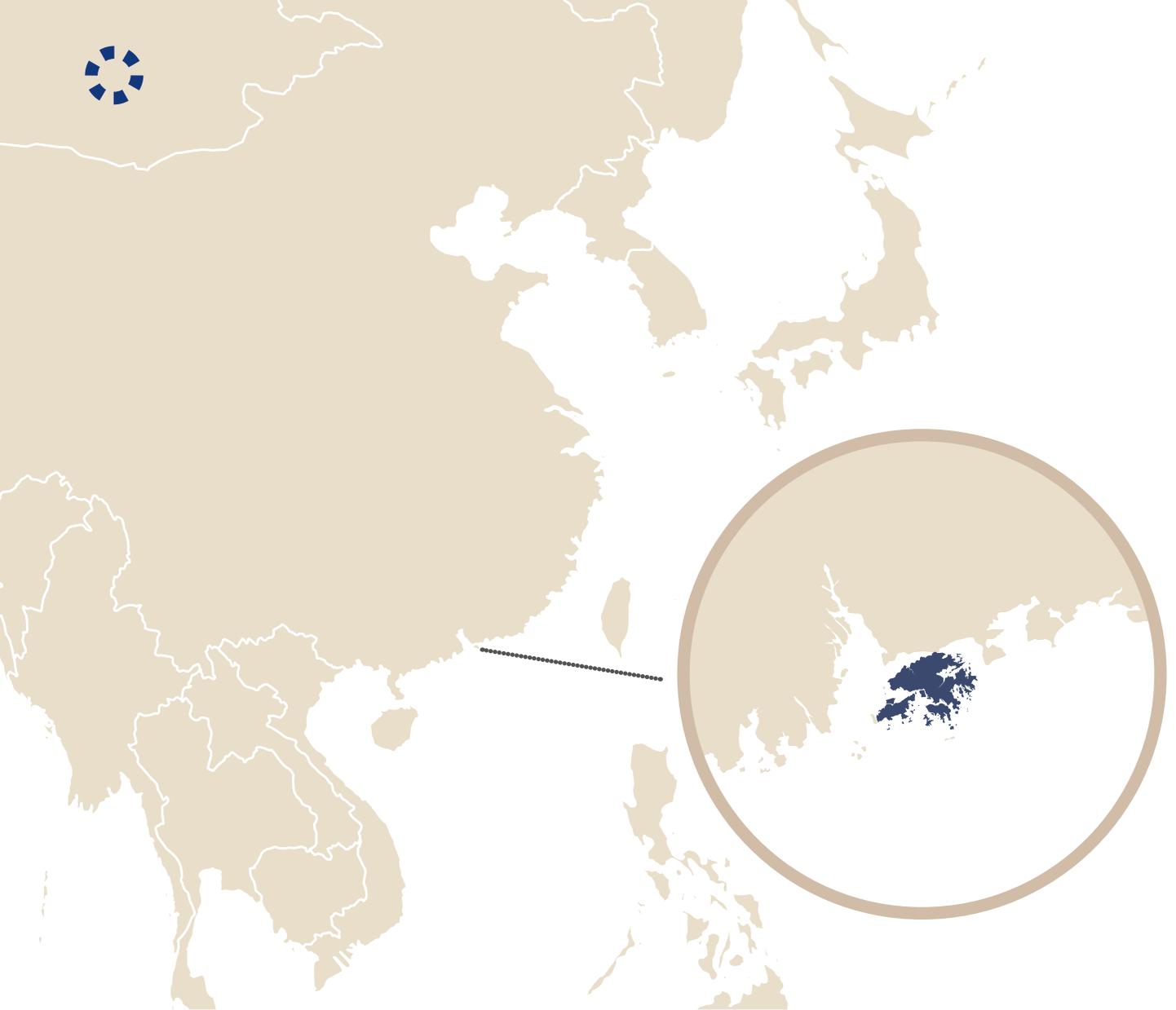
The Healthcare & Life Sciences Review was produced by PharmaBoardroom.

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Report Publisher: Diana Viola
Graphic Design: Miriam León, Irene de Aza

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Preface

Energetically touting itself as “Asia’s World City” as well as a connector between East and West with its inextricable links to both mainland China and the international community, Hong Kong is today seeking to augment her position as a global financial center by transforming herself into a biotech and biomedical innovation hub. With its mercantile and reactive nature, under the leadership of Chief Executive Carrie Lam, who designated biomedical sciences and healthcare as key national priorities when she assumed position in 2017, slowly but surely the entire city is adapting and rearranging itself to pivot in that direction.

Despite its small population size, Hong Kong has long held a strategic interest for the industry, whether as a testbed for innovative products and service delivery models as a result of its efficient regulatory approval system or as an incubator for start-up companies looking to penetrate both mainland Chinese and international markets, but now the industry can draw strength and support from a national framework for the development of the healthcare and life sciences sectors. Exciting and significant developments, such as Hong Kong Stock Exchange’s unprecedented decision to allow pre-revenues and pre-product biotech companies to list on a new board and the significant amounts sunk into biomedical innovation and the biotech start-up ecosystem by the government, coupled with a fundamentally robust and well-regarded healthcare system, are promising signs that augur well for Hong Kong’s long-term aspiration to become a global biotech hub. ❁



To the global healthcare and life sciences community,

As President of the Pharmaceutical Society of Hong Kong, I am very pleased to introduce the Hong Kong Healthcare and Life Sciences Review 2018, which seeks to showcase the strengths, opportunities and capabilities of the healthcare and life sciences ecosystem, profile key actors and entities driving its development, as well as share the value proposition of this region for the international healthcare and life sciences industry.

Since its inception in 1949, the Society has been led by many great Presidents in the support of the development and provision of pharmaceutical services in the interests of promoting a healthy population in Hong Kong. As a key player within the healthcare landscape in Hong Kong, we focus on the development of pharmaceutical services in the community; seize new opportunities for our young pharmacists; foster exchanges and cooperation with mainland China; forge closer international connections; and therefore enhance professionalism and recognition of our profession in all sectors.

Coordination and collaboration between all stakeholders from government to academia to industry all around the world are essential if we are both to tackle key challenges of rising healthcare expenditures, an aging population and speedy access to innovative treatments and therapies, as well as seize the exciting opportunities within the growth of the Greater Bay Area as the largest mega-city in the world and an economic powerhouse within Greater China, in addition to being a rising innovation hub.

Therefore, I invite all readers to take a look at the immense potential within the Hong Kong healthcare and life sciences environment and welcome all interested parties to join us on our mission to become a global healthcare delivery and innovation hub.

PONG Scarlett Oi Lan, BBS, JP
President
The Pharmaceutical Society of Hong Kong



HEALTH FACTS OF HONG KONG

MID-YEAR POPULATION ('000) **7,391.7** POPULATION DENSITY: **6,830**

MID-YEAR POPULATION BY AGE GROUP ('000)

844.8 BELOW 15 YEARS **5,332.3** 15-64 YEARS **1,214.6** 65 YEARS AND ABOVE

LIFE EXPECTANCY AT BIRTH (YEARS)

81.7 MALE **87.7** FEMALE

Source: Hong Kong Department of Health

HONG KONG HEALTH EXPENDITURE



ANNUAL EXPENDITURE ON HEALTH: **HKD 123.8 billion**



AS PERCENTAGE OF GDP: **5.7**

PER CAPITA EXPENDITURE ON HEALTH: **HKD 17,228**

Source: Hong Kong Department of Health

HEALTH FACILITIES

42 PUBLIC HOSPITALS AND INSTITUTIONS UNDER HOSPITAL AUTHORITY

12 PRIVATE HOSPITALS

65 NURSING HOMES

21 HOSPITALS UNDER CORRECTIONAL INSTITUTIONS

28,329 HOSPITAL BEDS IN HOSPITALS IN HOSPITAL AUTHORITY

4,644 HOSPITAL BEDS IN PRIVATE HOSPITALS

5,830 HOSPITAL BEDS IN NURSING HOMES

880 HOSPITAL BEDS IN CORRECTIONAL INSTITUTIONS

Source: Hong Kong Department of Health

NUMBER OF REGISTERED DEATHS BY TEN LEADING CAUSES OF DEATH (2017)

1	MALIGNANT NEOPLASMS	14,310
2	PNEUMONIA	7,957
3	DISEASES OF HEART	6,117
4	CEREBROVASCULAR DISEASES	3,123
5	EXTERNAL CAUSES OF MORBIDITY AND MORTALITY	1,063
6	NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS	1,651
7	CHRONIC LOWER RESPIRATORY DISEASES	1,505
8	DEMENTIA	1,451
9	SEPTICAEMIA	950
10	DIABETES MELLITUS	396
	ALL OTHER CAUSES	7,360
	ALL CAUSES	45,883

Source: Hong Kong Department of Health

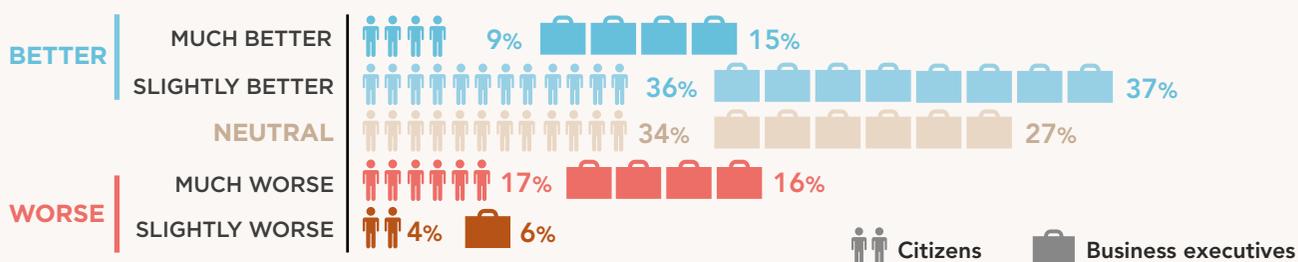


REGISTERED HEALTHCARE PROFESSIONALS (END 2017)

	TYPE OF PROFESSIONAL	TOTAL	HEALTHCARE PROFESSIONALS TO POPULATION
	DOCTORS	14,290	1 : 519
	CHINESE MEDICINE PRACTITIONERS		
	REGISTERED CHINESE MEDICINE PRACTITIONERS	7,425	1 : 998
	CHINESE MEDICINE PRACTITIONERS WITH LIMITED REGISTRATION	38	-
	LISTED CHINESE MEDICINE PRATITIONERS	2,623	1 : 2,825
	DENTISTS	2,500	1 : 2,964
	DENTAL HYGIENISTS	433	1 : 17,113
	NURSES	54,231	1 : 137
	MIDWIVES	4,611	1 : 1,607
	PHARMACISTS	2,753	1 : 2,692
	MEDICAL LABORATORY TECHNOLOGIES	3,567	1 : 2,077
	OCCUPATIONAL THERAPISTS	2,070	1 : 3,580
	PHYSIOTHERAPISTS	3,091	1 : 2,397
	OPTOMETRISTS	2,198	1 : 3,371
	RADIOGRAPHERS	2,293	1 : 3,231
	CHIROPRACTORS	218	1 : 33,990

Source: Hong Kong Department of Health

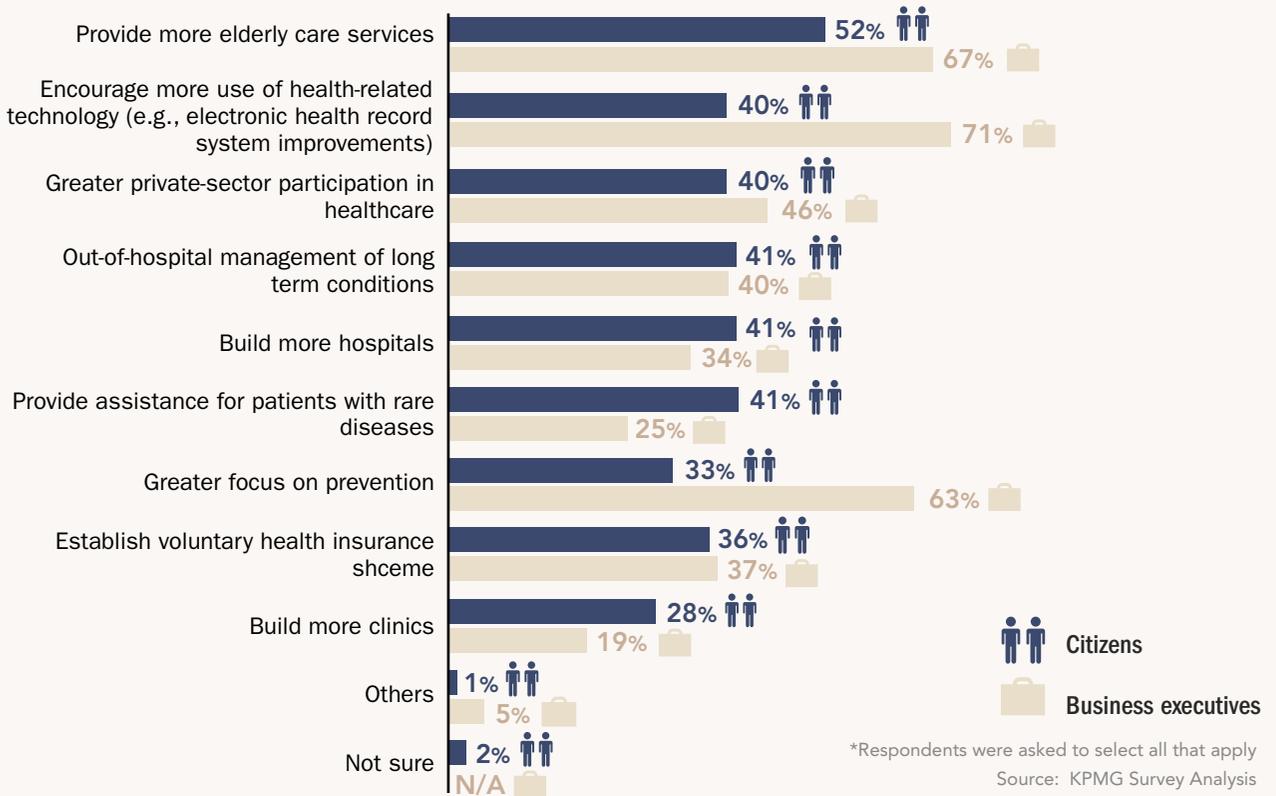
HONG KONG HEALTHCARE SYSTEM COMPARE WITH OTHER DEVELOPED CITIES



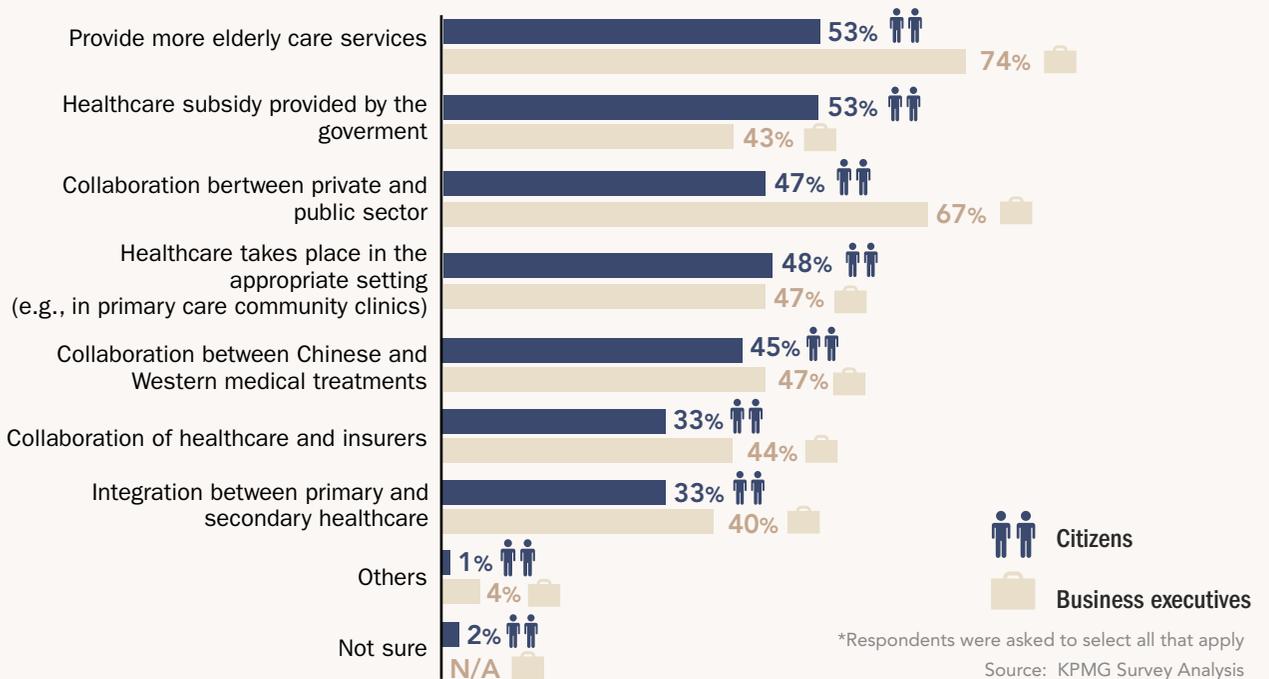
Source: KPMG Survey Analysis



WHAT ACTIONS ARE IMPORTANT TO ACCELERATE THE DEVELOPMENT OF THE HEALTHCARE SYSTEM IN HONG KONG IN THE NEXT 10 YEARS?*



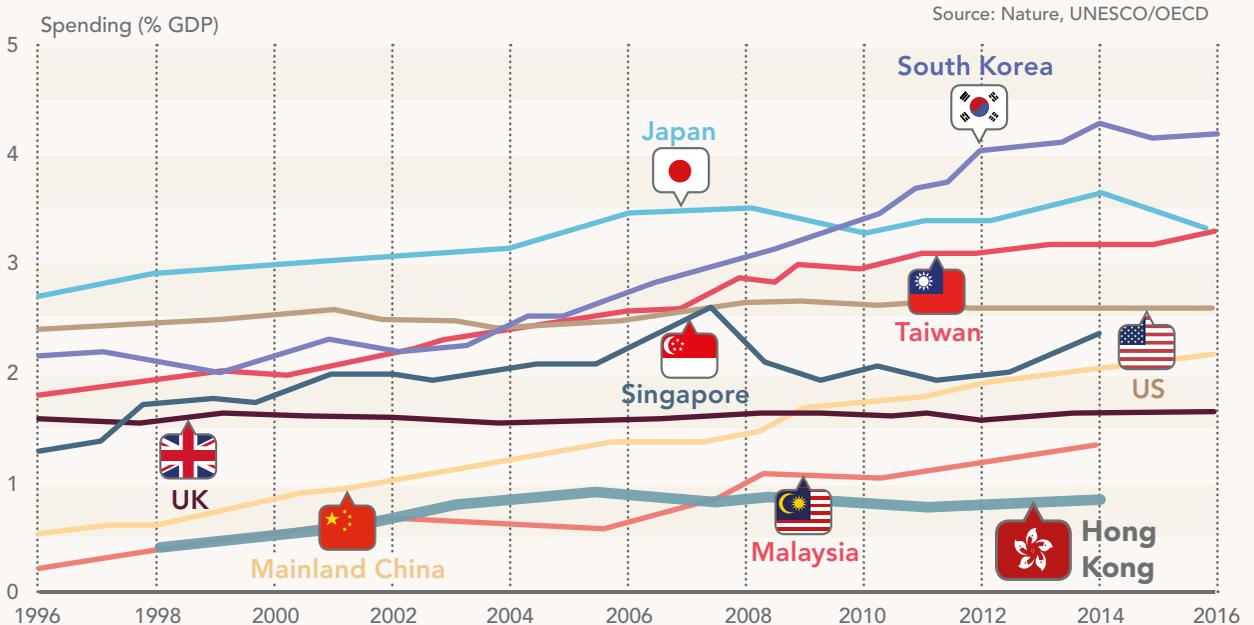
WHAT NEEDS TO BE CHANGED TO BETTER DEVELOP HONG KONG'S HEALTHCARE SYSTEM IN THE NEXT 10 YEARS?*



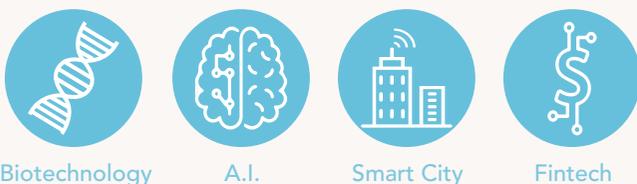


R+D SPENDING IN ASIA AND BEYOND

Research and development (R&D) investment is rising rapidly in South Korea, Taiwan and Malaysia - albeit from different bases. In two decades, South Korea has close to doubled the share of its economy spent on research. Taiwan's proportion is not far behind, as it overtook Japan in 2016. Singapore's spending was keeping pace with Taiwan's, but has dropped off because of a decline in business R&D spending. Only Hong Kong's investment has plateaued in the past decade or so.



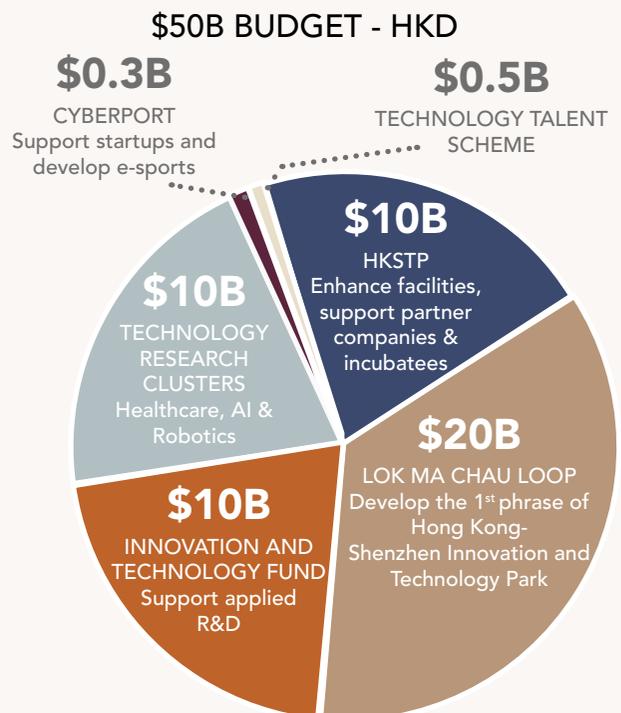
HONG KONG FUNDING SUPPORT - 2018/19



R&D / GDP Double spending on R&D as percentage of GDP **by 2022**

ADDITIONAL TAX DEDUCTION for R&D expenses by firms
 300% for first HKD 2 million
 200% for remainder

\$2B INNOVATION & TECHNOLOGY VENTURE FUND
 Co-invest in start-ups with selected VC partners targeted matching ratio of 1.2 (Government/VC)





WORLD CLASS UNIVERSITIES AND RESEARCHES

LOCAL UNIVERSITIES

Source: HKSTP

QS RANKING (16-17)	OVERALL	ENGINEERING AND TECHNOLOGY SUBJECTS	
The University of Hong Kong	26 th	27 th	26 CAS Hong Kong Fellows
HKUST	30 th	15 th	6 CAS Foreign Fellows
香港中文大學 The Chinese University of Hong Kong	46 th	50 th	7 CAS Foreign Fellows
香港城市大學 City University of Hong Kong	49 th	76 th	4 CAE Foreign Fellows
THE HONG KONG POLYTECHNIC UNIVERSITY	95 th	51 th	25 IEEE Fellows in HKUST alone

16
state key laboratory
partner laboratories

3
national industrialization
partner base

6
national engineering
technology research
centres

1
national incubator
(HKSTP)

INTERNATIONAL RECOGNITION

Winners of the Grand Prix Award at the International Exhibition of Inventions of Geneva in 4 years

Source: HKSTP

2012 **2015** **2016** **2018**

"Hand of Hope"

By Rehab Robotics, spin off from PolyU

"Fish Embryo Toxicity Testing Technology"

By Vitargent, spin off from CityU

"Scratch-proof Thin Film on Glass"

By Hong Kong Baptist University

"Defocus incorporated Multiple Segments Spectacle for Myopia Control"

By PolyU

WORLD'S MOST COMPETITIVE CITIES

1	NEW YORK	8	SAN JOSE US	15	GUANGZHOU
2	LOS ANGELES	9	MUNICH	16	MIAMI
3	SINGAPORE	10	DALLAS	17	CHICAGO
4	LONDON	11	HOUSTON	18	BOSTON
5	SAN FRANCISCO	12	HONG KONG	19	DUBLIN
6	SHENZHEN	13	SEOUL	20	BEIJING
7	TOKYO	14	SHANGHAI		

Source: UN, Chinese Academy of Social Sciences



LOCAL CONVERSATIONS **GLOBAL** **CONNECTIONS**

We are present in more countries than anyone else.

We speak directly with healthcare leaders and pharmaceutical executives.

We are ready to share their insights and experiences with you.

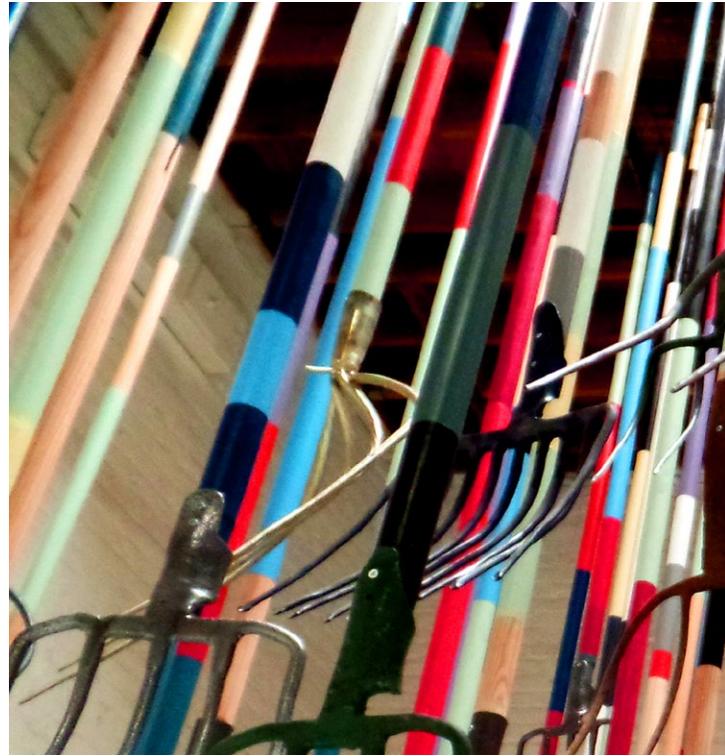


PUTTING PATIENTS FIRST

Despite spending only 6 percent of GDP on healthcare, Hong Kong boasts the longest life expectancies in the world. While credit is definitely deserved by the public healthcare system managed under the Hospital Authority, which covers 90 percent of public healthcare expenditures, Hong Kong has also benefited from a great ecosystem of world-renowned academicians and physicians, often sitting on the boards of global healthcare organizations as well as leading companies, and the great work done by various patient organizations. These form lessons that could be shared across the Greater Bay Area, especially as the young mainland Chinese healthcare system is under strain to meet existing and projected patient needs. In particular, Hong Kong patient associations have seen extraordinary success bringing together all stakeholders from government, patients, caregivers and industry players in a way often viewed as impossible in other countries.

Professor Anne W.M. Lee, vice-chairman of the Hong Kong Anti-Cancer Society, the biggest non-government organization (NGO) in Hong Kong dedicated to cancer, shares, “As a patient organization, a perennial focus is also on fostering close collaboration and cooperation with all stakeholders from patients, healthcare practitioners, care-takers, government and industry.” Impressively, the Society has taken it upon itself to offer a wide range of services including patient support and counseling, public education, research, advocacy, and even the operation of a nursing home for cancer patients.” Lee herself is on the board of directors for the UICC Union for International Cancer Control).

A uniquely laudable initiative from HKACS is the Professor H.C. Ho Memorial Medical Assistance



Program, named after the founder of HKACS, himself a great pioneer in cancer research. Prof Lee says, “when he passed away, just over HKD 0.5 million (USD 64,102) was collected at his funeral [and] donated to the HKACS. With that money, we started this drug assistance program to help needy patients to finance the high costs of self-financing drugs.” Given how expensive cancer drugs tended to be, however, Prof Lee adds, “we developed another source for sustainable support: we invited pharmaceutical companies to donate drugs through the HKACS. While it was difficult at first, we built our relationships with industry and we have had up to 19 companies support the program. We have also managed to receive support from the Hospital Authority to allow such products to be dispensed to patients within the public healthcare system.”



ANNE W.M. LEE

vice-chairman,
Hong Kong
Anti-Cancer Society



WHILE IT WAS DIFFICULT AT FIRST, WE BUILT OUR RELATIONSHIPS WITH INDUSTRY AND WE HAVE HAD UP TO 19 COMPANIES SUPPORT THE PROGRAM

— Anne W.M. Lee HONG KONG ANTI-CANCER SOCIETY



Lee specifies, “Over the past twelve years, [this program has] helped more than 5,700 patients. The total value of the drugs donated through this program exceed HKD 0.35 billion (USD 45 million) – far outstripping the original donation. Effectively, we have created a third safety net for cancer patients.” For Lee, such initiatives have greater impact beyond the patients that benefit from accessing cancer drugs. She projects, “looking to the future, we believe Hong Kong can be the bridge between China and the rest of the world for healthcare development. My message is, ‘if Hong Kong can, the rest of China and the other Asian countries can too.’ Other countries in the region may feel that medical provisions and achievements in Europe or the US are too distant ... Hong Kong offers a more relevant experience to share within the region. Asia has the potential to initiate, develop and achieve our own health objectives and initiatives.”

Despite the great work done and great outcomes for Hong Kong’s small population, there are still areas for improvement, particularly in the area of rare diseases. K P Tsang, president of the Hong Kong Alliance for Rare Diseases (HKARD), laments, “In Hong Kong, there is no clear definition of rare disease or any domestic rare disease programs. The government has no rare disease resource planning initiatives in hospital or universities

and, the Hospital Authority has, no dedicated initiative or resources to address the issue of rare disease. In many cases, a diagnosis can take more than five years. In the process, patients are sometimes misdiagnosed several times.” For him, the first step is that “the government needs comprehensive planning to address issues related to rare diseases”.

He illustrates, “we are advocating for the government establish a case managers’ program to deal with rare diseases. Currently, many patients have to navigate ten or even more different disciplines within the hospitals. If the government could arrange it, case managers would be able to assist patients by assessing their needs, scheduling consultations, making referrals, and also arrange other care sessions like occupational therapy.”



“**ONE OF OUR PROUDEST ACHIEVEMENTS HAS BEEN BRINGING THE ISSUE OF RARE DISEASES INTO THE MEDIA SPOTLIGHT.**

— K P Tsang HKARD



**SZE-FAI
YIP**

chairman,
Hong Kong Society
of Haematology
(HKSH)



**JAMES CS
CHIM**

founder and
chairman, Hong
Kong Society of
Myeloma (HKSOM)

HKARD has campaigned tirelessly for rare disease patients over the past few years and Tsang is justifiably proud of their achievements. He highlights, “one of our proudest achievements has been bringing the issue of rare diseases into the media spotlight. In the past, there was very little coverage on rare disease but now every week, we see some news stories on rare diseases in HK, from newspapers to magazines to television and electronic media.”

Dr. Sze-Fai Yip, chairman of the Hong Kong Society of Haematology (HKSH), expresses similar sentiments. He praises, “Hong Kong is a pioneer in working towards improving the treatment of acute promyelocytic leukaemia (APL), a subtype of acute myeloid leukemia (AML).

All-trans Retinoic Acid (ATRA), and later on, arsenic oxide, which are now broadly used in the treatment of APL, was first developed in China. Specialists here have revolutionized the treatment of this kind of leukaemia in Hong Kong through therapies like bone marrow transplantation. There are many transplant centers in Hong Kong providing stem cell transplantation as treatment for myeloma, lymphoma, and leukaemia.” Nevertheless, he admits, “government involvement within the haematology field is very minimal. There is currently no dedicated policy to haematology or haemato-oncology disease and no formal communication channels exists between society and government.” He adds, “the public healthcare system is heavily congested due to the high demand for care. Resources and funding are prioritized to meet the demands of the greater general public and common diseases, while specialties like haematology are merely an afterthought.”

Dr. Yip opines, “we should speed the introduction of not only mature technology, but also support new therapeutic and technology development in Hong Kong. Other Asian countries like Singapore, Korea, and Taiwan are quicker to grant innovative

treatments market access so Hong Kong should strive to meet this regional benchmark.”

Hong Kong Society of Myeloma (HKSOM) founder and chairman Professor James CS Chim concurs regarding areas for improvement, particularly for the treatment of myeloma. He echoes, “Hong Kong does not have a national rare disease program and therefore no national standard on how to treat diseases like myeloma. Myeloma is not a common disease and only comprises around 350 new cases a year, but due to the aging population of Hong Kong, there has been a steadily increasing number of cases, and surprisingly, an emerging trend of occurrence in younger demographics as well. Before the establishment of the society, we found that the protocols of treatment for myeloma patients varied from hospital to hospital.

“
**HONG KONG DOES NOT HAVE
A NATIONAL RARE DISEASE
PROGRAM AND THEREFORE NO
NATIONAL STANDARD ON HOW TO
TREAT DISEASES LIKE MYELOMA**

— Professor James CS Chim HKSOM

This was partly what inspired Professor Chim to establish HKSOM in 2010. He states, “the HKSOM hopes to give new doctors who are interested in the field of myeloma an opportunity for international development and create a culture of global knowledge transfer.” For instance, HKSOM has launched is a biennial symposium partnered with Mayo Clinic from the United States, beginning in 2014, where the first symposium was attended by six speakers from Mayo Clinic, including Dr. Robert Kyle, a renowned myeloma expert, with the third one scheduled for November 2018. Professor Chim supplements, “our first priority was to share with our colleagues the most updated information on myeloma treatment and unify the treatment protocols of the disease across the health institutions of Hong Kong. This way we could solidify best practices and ensure that all patients are receiving the same level of treatment and best care possible. Despite the challenges of limited resources, we aim to establish Hong Kong as a premier leader in the treatment of the disease.” ❄️



A BIOMEDICAL HUB FOR ASIA

Hong Kong, as a leading city in Asia, offers unprecedented opportunities for biomedical technology (BMT) companies from around the world – fuelled by increased funding and support from the Hong Kong Government and industries. Clinical trials in the city’s two fully fledged clinical trial centres at the University of Hong Kong and the Chinese University of Hong Kong are recognised by regulatory authorities globally as well as the China Food and Drug Administration (CFDA).

HONG KONG SCIENCE AND TECHNOLOGY PARKS CORPORATION (HKSTP) - AN ADVOCATE FOR BIOMEDICAL TECHNOLOGY

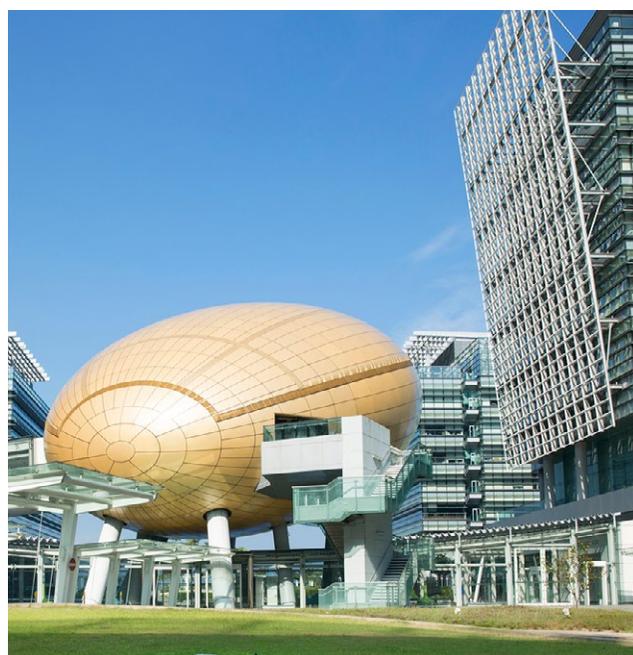
HKSTP puts its strategic focus on areas where Hong Kong boasts a distinct edge, especially in BMT. The HK\$10 billion from the latest government funding earmarked for HKSTP will be invested in building research and advanced production facilities as well as boosting support measures for BMT. The increased funding is a testament to HKSTP’s hard work.

HKSTP’s BMT-related park companies are supported by HKSTP’s state-of-the-art facilities at Hong Kong Science Park – including the Biomedical Technology Support Centre (BSC) and Healthcare Devices Innovation Hub (HDIH). BSC provides shared equipment, a cell culture room, genomics laboratory and other R&D tools, affordable technical support for local research and enables knowledge sharing and networking among partner companies. HDIH launched in March 2018, offers shared facilities and business development support for accelerating product development of healthcare devices, from prototype testing to clinical evaluation, and it provides a platform for bringing together biomedical device researchers and companies. Also, a four-year Incu-Bio programme – supporting programme members with office space facilities, technical and management assistance, promotion and development assistance, business support and financial aid packages – is custom-made to groom biomedical start-ups.

The efforts are delivering results as the biomedicine cluster has been growing rapidly. Around 100 of the over 680 companies at Hong Kong Science Park are doing work that promises to expand biomedical frontiers. Some of them are already seeing encouraging outcomes.

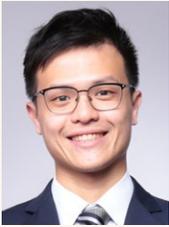
HONG KONG EMBRACES INNOVATORS FROM AROUND THE WORLD

As the Hong Kong Government is making a stronger commitment to build innovation and technology as a key pillar of the city’s diversified economy, favourable policies are being implemented to attract local and overseas start-ups and technology talent. As a key connector in the city’s innovation and technology ecosystem, HKSTP welcomes all innovators to establish a foothold in the city, which is an integral part of the Greater Bay Area comprising 11 major cities in southern China and is sure to present a multitude of opportunities to access the vast mainland China market. 🌐





BIOTECH COMPANIES AT HONG KONG SCIENCE PARK



STANLEY SY

—
CEO, Sanomics

Sanomics Limited (Sanomics), a park company since 2005, has developed an innovative genetic testing service which is able to quickly and safely diagnose cancer. The liquid biopsy solution separates the blood plasma and blood cells in blood samples to test for abnormal genetic materials released by cancer cells into the blood plasma. The quick diagnoses help doctors determine effective treatment regimes and save valuable time and money.

Stanley Sy, CEO and Executive Director of Sanomics, said, "we have gained HKSTP's help in connecting with targeted investors, establishing partnerships with hospitals and R&D partners and winning government policy support." Its solution has been adopted by more than 80% of the private hospitals in Hong Kong and is being extended to specialist hospitals in other parts of Asia. Sanomics is developing Asia's first liquid biopsy centre in Hong Kong and looking to expand the liquid biopsy service beyond lung cancer to breast cancer and other forms of cancer.

"Hong Kong is the ideal base for the company because it offers an open market with unique strengths in precision medicine. It is also a good location for pharmaceutical and technology suppliers to test the market response to new products and develop their business. The approval process for new cancer drugs is faster in Hong Kong than in Mainland China, and patients are willing to travel from overseas to Hong Kong for diagnosis or treatment," added Stanley.



LANGSTON SUEN

—
founder and
CEO, Opharmic

Opharmic Technology (HK) Limited (Opharmic), a member of HKSTP's Incu-Bio Programme since 2015, has been working on an ocular drug delivery device using non-intrusive ultrasound technology to replace needle-injected eye drugs, so patients no longer need to endure intravitreal injections and risk injury. It also makes eye drug delivery much easier, through a 5- to 15-minute procedure that can be administered by nurses.

"We received financing and market development assistance from HKSTP. Leveraging HKSTP's extensive network, we were able to participate in international exhibitions to explore cooperation opportunities. Our innovation garnered multiple awards at the 45th Geneva International Exhibition of Inventions in 2017," stated Langston Suen, Founder and CEO of Opharmic. The company will conduct clinical trials and obtain regulatory approvals on the use of the technology for the treatment of retinal and corneal diseases, on the road to becoming a holistic eye care platform covering both human and animal eye care.



LOUIS SZE

—
chief executive
officer, Persona
Surgical
Modelling Co.

Persona Surgical Modelling Co., Ltd. (Persona), which has made Hong Kong Science Park its base, is delivering personalised healthcare through 3D printing, 3D modelling, 3D scanning, tissue engineering and material science. The company produces customised anatomical models, surgical tools and wearable devices after conducting individual medical image and body scans. Such personalised tools and materials are the most effective for applications in orthopaedics, neurology, cardiology and plastic surgery.

"Our research is supplemented by the state-of-the-art facilities at HKSTP, especially facilities for complex 3D modelling, material testing and small batch production. HKSTP's Healthcare Devices Innovation Hub (HDIH), which is fully equipped with 3D drawing and simulation software, 3D printers and testing facilities, are all available for our use. We also gained support from HKSTP in connecting with partners in the medical field and academia. We are ready to diversify our products and services to other vertical markets such as dentistry, rehabilitation science and bioprinting," commented Louis Sze, Chief Executive Officer of Persona.

HKSTP

A VIBRANT INNOVATION AND
TECHNOLOGY ECOSYSTEM IN HONG KONG

Comprising Science Park, InnoCentre and Industrial Estates, Hong Kong Science & Technology Parks Corporation (HKSTP) is a statutory body dedicated to building a vibrant innovation and technology ecosystem to connect stakeholders, nurture technology talents, facilitate collaboration, and catalyse innovations to deliver social and economic benefits to Hong Kong and the region.

Established in May 2001, HKSTP has been driving the development of Hong Kong into a regional hub for innovation and technology. We enable science and technology companies to nurture ideas, innovate

and grow, supported by our R&D facilities, infrastructure, and market-led laboratories and technical centres with professional support services. We also offer value added services and comprehensive incubation programmes for technology start-ups to accelerate their growth.

Technology businesses benefit from our specialised services and infrastructure at Science Park for applied research and product development; enterprises can find creative design support at InnoCentre; while skill-intensive businesses are served by our three industrial estates at Tai Po, Tseung Kwan O and Yuen Long.

700+

Technology
Companies at Science Park



550+

Graduated Incubatees
since Inception

13,000 Working
Population

21 Countries/Regions
of Origin for Park Companies



9,000
R&D
Practitioners



3.5+ Millions sq ft
Lab & Office space

FIRST
Unicorn-
SenseTime



HK\$1,2 Billion Investment
Raised by Park Companies
(2017-18)



190,000
Lab Utilised Hours
(2017-18)





A GREAT FIT FOR APAC

Kevin O'Reilly, president Asia-Pacific at Varian Medical Systems, shares what his company is bringing to the populous, dynamic and fast-changing Asia-Pacific region.

HCLS: What makes Varian a great fit for the Asia-Pacific region? KEVIN O'REILLY (KO):

Diversity has been a major factor in our interest in this region, and by becoming closer to the region, we can offer better support. The technology available is common throughout the diverse markets, but the combination of training, financial services and other services necessary for people to tap into that technology differ from country to country.

The burden of diseases is higher in Asia, driven by emerging markets where they have large populations. Moreover, we are seeing a global shift towards aging society with the silver economy booming. With cancer fundamentally being a disease of age, we are seeing an increase in demand for advanced oncology services in this region.

When it comes to radiation therapy, we have always been an integrated cancer-care company, so the strategy has not changed. Varian is one of the largest providers of software in oncology in the world because radiation therapy is a software-intensive field. Our software is used to help with patient management and help clinicians to understand image guidance, which can treat the tumor whilst sparing healthy tissue. We probably employ more physicians and mathematicians per capita than any other companies that are of similar size to us. It is extremely complex, and our

global software business is now worth over half a billion US dollars. We prosper in this integrated environment, giving our customers both software and hardware solutions for treatment and patient management.

At a broader level, we are positioning ourselves as an integrated oncology company with a patient-centered focus, rather than solely in the radiation oncology space. Looking at the trends in the oncology landscape, we have a lot to offer in terms of emerging techniques, for example theranostics, which combines both therapeutics and diagnostics. In theranostics, we can not only identify the location of the tumor but also go one step further and treat the tumor simultaneously. As an expert in image guidance and treatment planning, Varian can play an important role in further advancing this field.

As cancer evolves to more of a chronic disease, we aim to support patients in their engagement with the healthcare system regarding their treatment for numerous years, maybe decades, undergoing check-ups and reporting the side effects of care, including the economic and social effects.

HCLS: What is the legacy you want Varian to leave behind in Asia?



KEVIN O'REILLY

PRESIDENT ASIA-PACIFIC,
VARIAN MEDICAL SYSTEMS

KO: Our main goal is to double the number of patients we impact. With 75 years of success cherishing our commitment to our shareholders and to patients, we gained more expertise and raised investments into R&D. Varian has the highest R&D spending in this segment in the market.

There are four million patients worldwide that are treated with radiation therapy and we treat almost three quarters of them. Moreover, there are 16 million patients a year worldwide who are being treated for cancer and that number is increasing every day. We treat roughly 25 percent of this cohort, so we are only touching the surface.

The legacy I want Varian to leave behind is the knowledge that we tried to reach every single cancer patient in the Asia Pacific, increasing the accessibility to radiation therapy in these markets. We have the ability to make an impact for millions of patients here, if only we lower the barriers of access. Our equipment can be used for decades, so one installation can affect thousands and thousands of people.

Our role is to remain a provider of technology to support the clinicians and caregivers. 50 years ago, cancer was a death sentence. Now, it can be a curable or a chronic disease, so we will continue to push for a world without fear of cancer. ✨

A WORLD WITHOUT FEAR OF CANCER

TO COMBINE THE INGENUITY OF PEOPLE WITH THE POWER OF DATA AND TECHNOLOGY TO ACHIEVE NEW VICTORIES AGAINST CANCER

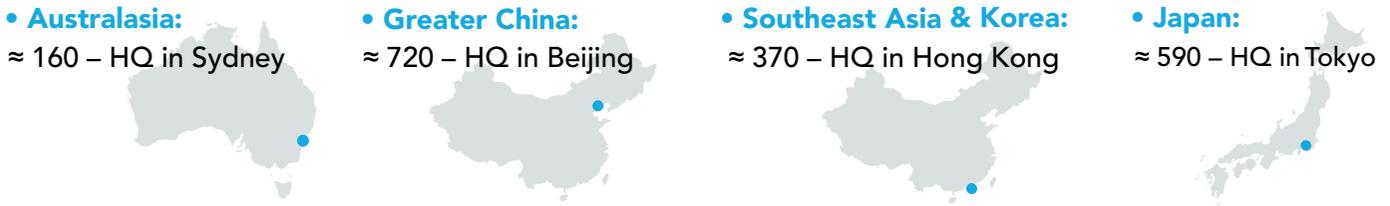
VARIAN MEDICAL SYSTEMS IN ASIA PACIFIC

A global leader in developing and delivering multidisciplinary cancer care solutions comprised of medical devices and software for treating cancer and other medical conditions with radiotherapy, radiosurgery, proton therapy and brachytherapy



MEDICAL LINEAR ACCELERATOR INSTALL BASE IN ASIA PACIFIC

As of September 30, 2018



RADIATION THERAPY (RT): ESSENTIAL IN THE FIGHT AGAINST CANCER

25M New cancer cases per year by 2030

6:1 Return on Investment in RT (over a 20-year period)

\$2.5T Global cancer burden annually

10% Of patients have access to RT in low income countries

50-60% Of patients with cancer need RT

<5% RT spending relative to total cost of cancer care

One single RT machine can treat 5,000-10,000 patients over a 10-year lifespan

BRIDGING THE GAPS - LANCET ONCOLOGY CALL TO ACTION

5 Keys to Expanding Global Access to Radiotherapy



PLANNING

Incorporate RT into the population-based cancer control plans for 80% of countries by 2020



"25 x 25"

Increase RT treatment capacity by 25% by 2025



TRAINING

Training thousand more RT professionals in LMICs by 2025



FINANCING

Invest US\$46 billion by 2025 to established RT infrastructures and training in LMICs



AFFORDABILITY

Include RT services as part of the universal health coverage plans in 80% of LMICs by 2020

DELIVERING INNOVATION TO CLIENTS

Hong Kong's moniker 'Asia's World City' aptly reflects the city's privileged position in the middle of Asia, four hours' flight from major regional cities and right next to mainland China. Still today, Hong Kong maintains its role as regional hub, boasting the busiest air cargo hub in the world and one of the top ten busiest cargo ports. With the boom in the healthcare industry, existing players in the logistics and distributor space are keen to not only support their clients' needs but to drive the industry forward to bring innovations to their clients even before they ask.

Geodis Greater China's managing director Simon Yam declares, "this sector is very important to our overall business at the moment, across healthcare, pharmaceuticals, cosmetics and beauty, and medical devices and instruments." More importantly, he adds, "we understand that the healthcare industry is evolving continuously, with highly diversified and increasingly complex products, technologies and therapies being introduced at almost breakneck speed. At the same time, regulations are changing as well. We therefore aim to position ourselves as a key strategic resource that truly understands the evolution of the sector."

Having spent nearly two decades in this industry, he offers, "our industry has undergone a spate of M&A activity in recent years and many companies have disappeared in that process. Many of our competitors also work on a three-month reporting structure. Geodis benefits immensely from the stable and long-term platform that SCNF, France's national state-owned railway company, provides. We benefit from very strong, long-term shareholder support providing a very stable foundation for our future growth and development. With a proven healthcare track record, we are able to meet industry-specific challenges through cost-efficient and reliable solutions – globally." Another trend he has noticed is that

multinationals prefer to work with the same providers globally. This benefits Geodis, as Yam shares, "as an international company with a strong brand and reputation, Geodis is able to leverage on an extensive global network with direct operations in nearly 70 countries covering around 120 countries in total. We have access to a large clientele base globally - [who]



trust Geodis as a global brand with the familiar faces and service solutions they rely on globally."

For newly rebranded DCH Auriga - previously LF Asia - CEO Tim Collins admits that while competition is fierce, opportunities abound for those with a keen eye. He reveals, "the traditional competitive landscape is very active but we have found that the big global players tend to be less specialized while smaller players can have difficulty meeting the exacting standards required by the healthcare industry. That said, we are also closely monitoring the activities of new competitors, particularly those from the digital space." Following its acquisition by Dah Chong Hong Holdings (DCH), a leading FMCG and automotive distributor based in Hong Kong with a 70-year history, in July 2016, Collins is confident that DCH Auriga is ready to take on the market. He explains, "after we joined the DCH family, we captured the synergies in FMCG distribution through consolidation with existing DCH businesses and defined a pure-play healthcare focus to strengthen management and investment opportunities."

He posits, "our value proposition is: we have a 'challenge accepted' mindset and business culture. For example, recently in Hong Kong, we maintained operations during the Typhoon Manghut, one of the strongest tropical storms that Hong Kong faced in decades, delivering life-saving medicines to hospitals as needed. I know our team hand-delivered emergency medicine to the Hong Kong-mainland border to help a patient who had a sudden illness. Challenge culture means empathizing with patients, principals and healthcare providers to deliver the





**ANDI
UMBRICHT**

CEO, Zuellig
Pharma (Hong
Kong and Macau)

best possible solution.” Among other things, he cites, “DCH Auriga is the only healthcare distributor permitted by the Hospital Authority in Hong Kong to offer mobile ordering and home delivery to patients for certain types of prescription medicines.” With over 50 years of healthcare distribution experience within Asian markets and today backed by the strong

CITIC and DCH networks, Collins is confident that “DCH Auriga has the flexibility, expertise, and hunger to offer market management solutions that go beyond a traditional distribution service.”

From service providers to partners, clients today expect logistics and distribution companies to be collaborators instead of merely suppliers. This means that they must understand intimately the specialist and complex needs and trends within the healthcare space. For Andi Umbricht, CEO of Zuellig Pharma Hong Kong and Macau operations, this goes without saying. He claims, “given Zuellig Pharma’s specialist focus on healthcare, we are able to leverage the deep industry knowledge and expertise to focus on exploring any and all opportunities. In the past, markets were quite individual and standalone, but now we see a convergence of quality expectations brought by regulators such as US FDA or EMA as well as internationalization of business. On behalf of our clients, we must continuously and consistently ensure that we provide the quality and traceability through the entire healthcare process that they expect, in accordance to the stringent regulations of the sector.” This is why Zuellig Pharma has undergone a structural re-shuffle within the company, stationing a head of quality in Singapore to centralize this area of the business. This step reassures international clients that proper processes and investments are done on our part to ensure the best global quality standard.”

Yet even this is not enough. He expounds, “my outlook is that the pharmaceutical industry requires more progression. Amazon’s business model, for instance, is miles ahead of ours. We continue to work towards advancing various technical aspects of our business. We have started to build an ecosystem involving more data [and] we now hope to transfer this data to real-world applications. We have started to implement this with the

Hospital Authority and hope to offer Big Data solutions to more clients.”

Even smaller companies see opportunities to offer value-added solutions to industry. As Matthew Man, CEO of Myndar, encapsulates, their value comes from “low-cost solutions for cold chain logistics throughout the whole supply chain journey”, elaborating, “our data is a real-time analysis of the temperature conditions, uploaded to our data storage platform. Our devices can store up to 90 days of data for every five minutes of recordings, even when on airplane mode.” He qualifies, “while there are many technology companies from China and the US that have similar products, these devices do not come with the service offering of real-time data, or a platform to create reports and provide analysis.”

In other words, Man supplements, “Myndar offers intelligence that transforms health.” However, he cautions, “The logistics landscape in the healthcare sector is fragmented and must become aligned in order to progress. It is a shame that even the regulators do not know our technology exists. We have proven that our technology in cold chain temperature monitoring is successful, not only in recording temperatures but also in reducing waste and ensuring patient safety. I want to create a new standard with Myndar.” ❄️



**MATTHEW
MAN**

CEO, Myndar

**WORLD'S TOP TEN BUSIEST
CARGO PORTS**



1		SHANGHAI
2		SINGAPORE
3		SHENZHEN
4		NINGBO-ZHOUSHAN
5		BUSAN
6		HONG KONG
7		GUANGZHOU
8		QINGDAO
9		DUBAI
10		TIANJIN

**WORLD'S TOP TEN
BUSIEST AIR CARGO HUBS**



1		HONG KONG
2		MEMPHIS TN
3		SHANGHAI
4		INCHEON
5		ANCHORAGE AK
6		DUBAI
7		LOUISVILLE KY
8		TOKYO
9		TAIPEI
10		PARIS

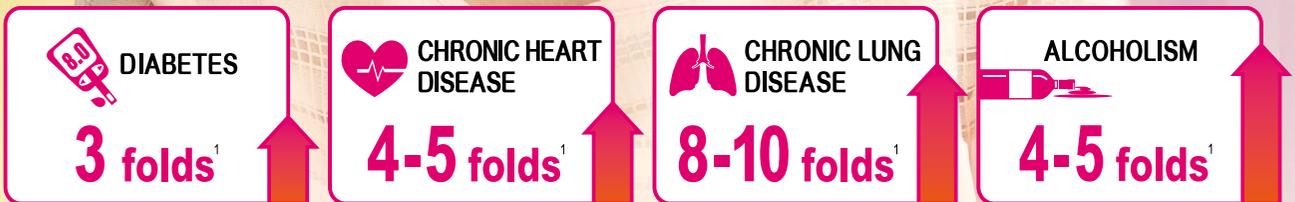
Chronic Disease Patients — High Risk of Pneumonia^{1#}



Advanced Protection to Yourself^{2*}



Individuals with chronic diseases are more likely to develop pneumococcal pneumonia[#]:



Vaccination Helps Protect against Pneumococcal Pneumonia² — Take Action Right Now!

[#] Compared with healthy individuals aged ≥ 18 years old

^{*} Conjugate vaccine induces immune memory and provides long-term protection^{3,4}

References: 1. Shea KM, et al. Open Forum Infect Dis. 2014. 2. Pneumococcal polysaccharide conjugate vaccine, 13-valent adsorbed Prescribing Information, Pfizer Corporation Hong Kong Limited, (Version Dec 2015). 3. Pollard AJ et al., Nature Reviews, Immunology, 2009; 9: 213-220. 4. Goldbatt D. Clin Exp Immunol. 2000; 119:1-3.

Pneumococcal 13-valent conjugate vaccine is a prescription only medication. The effectiveness and side effects to medication may vary among individuals. Please consult your doctor or your pharmacist for more information.



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HONG KONG

GAZING AHEAD

Ever since the Hong Kong government decided to select the healthcare and life sciences sector as a strategic industry for the city-state's future development, the government has put its money where its mouth is. Budget 2018 earmarked HKD 50 billion (USD 6.3 billion) for the support of innovation and technology across four sectors, of which one was biomedical sciences and health-

care. Notably, Chief Executive Carrie Lam also attended the 50th Anniversary dinner of the Hong Kong Association of the Pharmaceutical Industry (HKAPI), which represents the vast majority of the pharma multinationals overseeing the Hong Kong and Macau markets, as Guest-Of-Honour, in addition to paying a visit to Swiss giant Roche's global HQ during her Head of State visit to Switzerland.



Other stakeholders are also banding together. Early this year, the Hong Kong Stock Exchange (HKEx) changed its listing rules to allow pre-revenues biotech companies (even those without a product) to list on a special biotech board (subject to a list of criteria). With a market capitalization of USD 4.4 trillion, HKEx is the seventh largest stock exchange in the world. Within four months, 14 companies have already taken advantage to file for an IPO, including Chinese biotech darling BeiGene, which raised USD 903 million. This was bolstered by a number of initiatives from the mainland Chinese government, which in 2018 designated Hong Kong as its first ever international city of innovation and technology and opened its massive funding sources from the Ministry of Science and Technology (MOST) to Hong Kong universities and educational institutions for the first time.

The Greater Bay Area initiative, launched in 2017 by the governments of mainland China, Hong Kong and Macao SARs, also kicked into gear, with the Hong Kong Biotechnology Organization (HKBIO) organizing the first ever Greater Bay Area biotechnology conference in the end of September. Transport links between the three regions have also been strengthened with the opening of the Hong Kong-Zhuhai-Macao bridge, the longest sea-bridge in the world, and also the West Kowloon train station connecting Hong Kong and Shenzhen in just 15 minutes.

As new Roche general manager Dr. Daniel Thurley shares, “the opportunities that Hong Kong offers within the healthcare and life sciences sector are unique globally. CE Carrie Lam’s visit demonstrates the willingness and

eagerness of the Hong Kong government when it comes to embracing innovation, bolstered by the recent announcement by the mainland Chinese government that Hong Kong will be China’s international innovation and technology hub, acting as the gateway in and out of China for both foreign and domestic companies.”

Hong Kong seems keen to position itself as not just a historically established bridge between China and the world but a globally recognized biotech hub par excellence. However, with the mainland itself driving healthcare reforms and pushing for the development of a local healthcare and life sciences innovation ecosystem through initiatives like “Made in China 2025”, how relevant does Hong Kong’s proximity to mainland China remain – and can Hong Kong catch up fast enough to challenge leading hubs like Cambridge, San Francisco, Singapore and Shanghai? In order to do so, a more nuanced and comprehensive understanding of the potential within Hong Kong healthcare sector needs to be understood by stakeholders, success stories need to be shared, and all stakeholders, from start-up entrepreneurs, SMEs,



DR. DANIEL THURLEY
general manager,
Roche



ANDROS CHAN
president (until
November 2018)
Hong Kong Medical
and Healthcare Device
Industry Association
(HKMHDA)





multinationals, policymakers and investors, need to band together.

DAVID AND GOLIATH

Hong Kong shares linguistic and cultural ties with mainland China, most notably the southern region. Trade and economic linkages are supported by the Closer Economic Partnership Agreement (CEPA), and Hong Kong entrepreneurs, limited by the seven million population size in the city, dream about the vast hinterland with its 1.3 billion market size. While for many start-up entrepreneurs the mainland Chinese market is merely an ambition, for Hong Kong's local medical devices manufacturers and traders, the 'Greater Bay Area' is not a new concept and they have long since taken advantage of the hungry market to their north.



THE MEDTECH INDUSTRY IN THE REGION IS NOT NEW OR EVEN NASCENT.

— **Andros Chan** HKMHDIA

However, as Ir. Prof. Andros Chan, president of the Hong Kong Medical and Healthcare Device Industry Association (HKMHDIA) cautions, "we need to be aware of the challenges as well. Everyone speaks about China's 1.3 billion population size representing a huge market opportunity ... for a start-up to become a unicorn, you just have to sell into China! Yes and no. Not all of the 1.3 billion people are sick, firstly. Not all of the sick can afford treatment. Per capita expenditures are still quite low compared to developed countries. People need to be realistic about what the numbers really mean." Having worked for a number of multinational companies prior to establishing his own business upon his retirement, he is able to clarify, "The medtech industry in the region is not new or even nascent. Shenzhen and Guangzhou are always ranked within the top ten Chinese cities for medical devices and technologies, and there are also other hubs in the rest of China. The Chinese market is already extremely competitive."

He is quick to reassure that there are opportunities for Hong Kong companies to shine. "In terms of educational standards, research output and innovation in general, Hong Kong undeniably has the edge. What is positive is

that a clear strategy from the Chinese government to implement healthcare reforms like the launch of the "two-invoice" system in drug distribution on a trial basis in 2017, to make the public healthcare system more transparent, fair and efficient, will give Hong Kong companies more space to compete," he adds.

For Benjamin Chan, managing director of local medtech CMO MediConcepts, collaboration, not competition, is critical. He explains, "Hong Kong medtech companies should be able to compete not with price, but with more value-added service offerings to their potential customers in GBA. We should collaborate with the local GBA companies to compete with other provinces for export. Our low tax rate, free port trades, English-language proficiency, capital, and financial tools and strong international linkage environment should be utilized to add value to the GBA companies."

Despite decades of cross-border activity, Hong Kong and the mainland still possess two separate administrative and regulatory systems, and challenges remain when it comes to navigating those, leading to many Hong Kong stakeholders to express that much more work still needs to be done to facilitate closer collaboration.

HKMHDIA's Ir. Prof. Chan outlines, "It may surprise you that despite Hong Kong's world-class healthcare standards and systems, we do not have our own medical device registration listing system! Without our own market registration and approval regulation, we cannot even negotiate accelerated approval with the Chinese FDA. Hong Kong-manufactured products are still considered imports and currently go to the federal CFDA entities in Beijing for approval." This is a lingering problem not just for the Chinese market for international markets, with Prof Chan lamenting, "when companies ship products to foreign countries, they are often asked for product registration from their home country or region, and usually people are very surprised to find out that Hong Kong does not have its own product listing regime." Good news is on the horizon, however, as after 14 years of lobbying by the association and other industry stakeholders, Hong Kong's Legislative Council has finally discussed a Bill to introduce a medical device product listing regulatory regime in Hong Kong. In





ANDI UMBRICHT

CEO, Zuellig Pharma
Hong Kong and
Macau

addition, Prof Chan reveals, “the Chinese FDA has expressed an interest to the HKMHDIA in establishing a pilot regulatory regime within the Greater Bay Area,” which will surely accelerate both product innovation and market access within the region.

Another medtech industry veteran, Rupert Mok, president of Metos, his own consultancy, shares the mental hurdle inhibiting start-up growth in Hong Kong. Having

mentored and worked with a number of local start-ups, he explains, “many start-up companies or even smaller companies do not have a commercial mentality, mainly due to a lack of resources. Most of them have not done the market research needed to identify what the market need for their products is, who their consumers would be, what competition is there, and so on. Many entrepreneurs are truly passionate about their technology and focus wholeheartedly on product development but fail to consider that the product itself may not fully meet market needs.” In particular, he has observed a generational trait: “Many of the younger generation are very focused on their knowledge or technical expertise but lack commercial acumen or the willingness to find a solution to commercial challenges. If they face a technical problem, they have no problem trying and trying until they find a solution, but often, when it comes to a non-technical challenge, they tend to give up more easily.”



MANY OF THE YOUNGER GENERATION ARE VERY FOCUSED ON THEIR KNOWLEDGE OR TECHNICAL EXPERTISE BUT LACK COMMERCIAL ACUMEN OR THE WILLINGNESS TO FIND A SOLUTION TO COMMERCIAL CHALLENGES.

— **Rupert Mok** METOS

Nevertheless, as Andi Umbricht, CEO of Zuellig Pharma Hong Kong and Macau, encapsulates, “Hong Kong is a highly strategic and exciting market. It is a developed market with high growth, mainly driven by mainland China and the comparative gap between Hong Kong and mainland Chinese healthcare standards. Close to 50-70 percent of the private healthcare demand in Hong Kong actually comes from China. Due to the boom in medical tourism and an influx



JOSEPH TAM

chairman, Pangen
Group

of mainland Chinese using our healthcare facilities, Hong Kong does punch above its weight.” Most encouragingly for him, “Hong Kong is definitely leading investments in innovative healthcare solutions, particularly in digital healthcare. Chief Executive Carrie Lam has implemented many positive policies and initiatives in this regard, as well as addressing important issues such as the aging population” – certainly putting Hong Kong and Hong Kong companies in good stead for the future.

LOCAL SUCCESSES

It would be a grave mistake to imagine that Hong Kong lacks homegrown companies playing within the healthcare space. Perhaps due to inherent advantages due to its proximity to Shenzhen, China’s longtime hardware and electronics capital, and the lower barriers to entry, Hong Kong has a number of promising diagnostics companies, chief among which must be Pangen Group. Founder Joseph Tam decided to return to Hong Kong in 1973 to commercialize the flowthrough hybridization technology he had developed in the US. As he shares, “I first initiated the technology transfer of my patents through the University of Hong Kong (HKU) and established a JV named Hong Kong DNA Ltd (subsequently the Medical Gene Center (MGC)), who eventually commercialized the technology by developing the DNA diagnostic kits and devices first sold in Europe and Southeast Asia. A company, HybriBio was later established to focus on mass production and also expansion into the mainland Chinese market.”

Pangen Group (established initially as DiagCor in 2006) is certainly one of – if not the – earliest biotech company in Hong Kong. Dr. Tam explains, “[DiagCor] was already offering molecular diagnostics products based on the flowthrough hybridization technology we developed, as well as laboratory testing services. This generated a steady revenue stream to fund our R&D efforts.” The company grew from strength to strength over the next few years. Dr. Tam charts, “in 2012, we established 22Plus Genomic Information Technology



DiagCor

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Capture-PRO



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DESMOND HAU
CEO, Pangenia Group

to provide professional genetic test. In 2015, we established Pangenia Life Sciences to provide genetic testing and advisory services using next-generation sequencing (NGS) technology. In 2016, we expanded into Guangzhou, with the establishment of the Guangzhou Baigao Medical Laboratory Company – all of which now come under the Pangenia Group.”

For Dr. Tam, who stepped down as CEO this year, the achievement is monumental: “Today, we have a global distribution network across the five continents. We also have the largest R&D department of any diagnostics company in Hong Kong. I feel happy that I have achieved my initial objectives: to bring international expertise and facilitate tech transfer into Hong Kong and China, to develop the biotech ecosystem in Hong Kong, and to create job opportunities for younger people entering the generation.

Having taken over the reins, Dr. Desmond Hau, newly appointed CEO of Pangenia Group, shares the future he envisions for the company: “We position ourselves as a high-tech company, offering not only products but also health management services to our customers, who are end-customers, doctors, and distributors alike. Our laboratory services are specialized in genetic testing, including prenatal diagnosis, parentage investigation, cancer testing, infectious disease identification, and various hereditary risk assessments.”

Already, he stresses, Pangenia is one of only four laboratories in Hong Kong to receive a license from the Department of Health [Hong Kong] to conduct preimplantation genetic testing (like PGS, PGD, genetic traits screening, etc.) services”, boasting, “we are also the first private commercial laboratory providing this kind of service to the patients in Hong Kong.”

An astute businessman, he is well-aware that the diagnostics segment is fiercely competitive, but he states, “Competition from China now reaches internationally, it does not matter where you are. We are a Hong Kong based company and no one can argue that Hong Kong has a well-defined healthcare system, quality care, and a strong regulatory framework.” So confident is he in Pangenia’s future that he has already set lofty goals for the company: “IPO is on the agenda, in order to bring further investment for the group to reach a different maturity level,” proclaiming, “I hope to see more innovation not only within the group, but also to see Hong Kong itself becoming a hub for biotechnology in Asia in the next five years.”

Companies seeking to build successful businesses providing genuine value to the international healthcare ecosystem could do well to take a leaf from MediConcept’s book. Managing Director Benjamin Chan introduces, “MediConcepts is a Hong Kong-based medtech CDMO providing a one-stop-shop design and comprehensive,



BENJAMIN CHAN
managing director,
MediConcepts

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Modernizing Traditional Chinese Medicine



ABRAHAM CHAN

Chairman & Founder, PuraPharm

When I founded PuraPharm in 1998, my mission was to modernize and internationalize Chinese medicine. Twenty years on, we have made great strides in the former. This is why we invest significantly in basic science and academic research, much more than other Traditional Chinese Medicine (TCM) companies.

Hong Kong is the ideal location to undertake this work because we have both Western medicine and TCM here, and it is through their exchanges and interactions that the modernization of traditional medicine can happen productively.

Our main business has focused on developing the Concentrated Chinese Medicine Granules (CCMG). We are one of the pioneers in CCMG in the Greater China, as the only company in Hong Kong and one of the first three in the whole of mainland China itself, and represent over 70 percent of the CCMG market in Hong Kong.

In the long run, we hope to diversify more into other areas, like our own chain of clinics under the NONG'S brand. We currently have 67 clinics in Hong Kong and three in China, and we hope to grow this further in the next few years. We also carry over 60 mobile clinic vans serving the whole of Hong Kong, reaching out to patients in more rural areas.

We are also moving upstream to integrate and secure our supply chain. We have very stringent and specific requirements for the herbs and we are already the largest TCM seeds and seedlings company in China, well-equipped with the best technologies.

One of the most important areas for our future is new drug development. I hope Hong Kong can further leverage on our strategic position next to mainland China and align our regulatory and market registration processes better. We shall also expand overseas operations. In five years' time, you will see PuraPharm in the US, Canada, Australia and even Europe, to achieve the mission of internationalization of Chinese Medicine.

processes." Most tangibly, he emphasizes, "through our competences and expertise, we can usually ensure that their products successfully receive market authorization in key markets like the US, EU, Japan, and Australia. Virtually all of our clients have been able to successfully receive more investments or been acquired by multinationals through our work with them." This, as he rightly notes, gives their customer "a foot in the door!"

This success is derived in large part to their hard work and consistency within the industry. Chan expresses, "we are fortunate that we have been exposed to many kinds of medical devices, such as handheld instruments for laparoscopic surgery to cardiovascular surgery; non-surgical projects such as electronic wearable devices, automated pharmaceutical packaging solution, laboratory devices, and IV infusion projects ... The spectrum also covers preventive, diagnostic, intervention and medicinal devices. Very few CDMOs can boast of this breadth across therapeutic areas and market segments."

For him, their value proposition is simple yet priceless: "If you give us the idea, I will give you the product."



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Chinese Medicine Modernized

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PuraPharm Corporation Limited
Listed on the Main Board of the Hong Kong
Stock Exchange (Stock code: 1498)

Source: Euromonitor Report on Concentrated Chinese Medicine Granules (CCMG) market (in terms of prescription revenue in 2017) in HK and number of Chinese medicine clinic chain offering consultation services, September 2017

Enquiry: (852) 2840 1840
www.purapharm.com



MARTHA HAO
business consultant,
Wise Ally

Biotech success does not have to rely on new companies starting from scratch. Lured by the heavy investments entering the healthcare space, well-established companies are now thinking of diversifying into the healthcare space. For instance, Hong Kong electronics manufacturing behemoth Wise Ally, with total revenues of around USD 200 million, is pivoting into the healthcare space. Former vice-president and now business consultant Martha Hao, shares, while “medical healthcare remains a relatively small portion of our revenue. With more medical & healthcare projects being planned, we believe that it will grow rapidly in the next few years. To support the foreseen growth, we have equipped our facilities in Hong Kong headquarter and China Manufacturing Site, under international standard governance, for example ISO 13485, ISO 14971, GMP., etc.”

Having a well-established business also enables them to draw from their previous manufacturing experience. As she explains, “we are not simply a manufacturing service provider: we can undertake joint development with our customers. We help our customers to turn concepts into reality.” Now, they are hoping to move up the value chain by developing and launching their own products, starting with a new TCM inhaler. Hao offers a preview of the innovative product that hopes to take Traditional Chinese medicine into the 21st century, “it contains two parts: a smart and portable digital inhaler, and a disposable pod with a special, patented formulation that offers targeted delivery of vaporized herbal bioactive substances via upper respiratory tract administration for the treatment and relief of symptoms”.

Hoping to be the locus of Hong Kong innovation is the Hong Kong Science and Technology Parks (HKSTP). Established since 2001, it can point to a longstanding track record of successfully fostering innovation and igniting industrial development. As new Chairman Dr. Sunny Chai proclaims, “HKSTP has always occupied a

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Turning Accident Into Inspiration



DR. PATRICK LEUNG

—
CSO and
cofounder,
eNanoHealth

For a small start-up in an expensive city not known for its biotech ecosystem, being adaptable is fundamental to an aspiring biotech's success. eNanoHealth is well familiar with this, as cofounders Winnie Lun, CEO, and Dr. Patrick Leung, CSO, recount.

"We are both originally from Hong Kong but had studied and subsequently worked in California for many years. We tried to establish a Bio Lab and a Nano Lab in the US but it was extremely difficult to find the right environment. On a visit to Hong Kong, a serendipitous wrong turn led us to HKSTP, and we discovered the wonderful ecosystem here for start-up companies. Even more importantly, the university based here, the Hong Kong University of Science and Technology (HKUST), was open to letting us use their nanofabrication lab, which had the specialist equipment we needed. HKSTP also provided some funding to start. Thus, eNano Health was born," Lun chuckles.



WINNIE LUN

—
CEO and
cofounder,
eNanoHealth

What happened next could have been disastrous for the small company, however. Leung laments, "an unforeseen laboratory incident made that equipment unavailable for us for almost a year. This made it impossible for us to continue working on that initial project. We decided to design another, much simpler, product: the Kiss and Tell Glucose Meter. It is something simple yet innovative that meets a very genuine health management need. Many of the elderly confessed that they do not like to use the finger prick method. It was very painful for the elderly and the prick was too small for them to see!" The founders took their technology to community health clinics in Hong Kong, and as Lun exults, "the reception was great!"

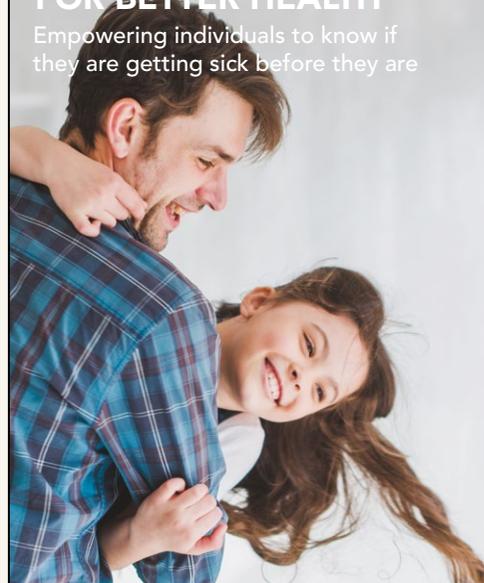
Today, eNanoHealth has a portfolio of four products, which hopes to offer consumers a holistic, multi-dimensional look at their health conditions, and continues to innovate. Their adaptability should serve them well in the future as they seek to develop commercial partnerships and expand into new markets.]

to position Hong Kong as an international innovation and technology hub, supported by both the mainland Chinese and Hong Kong governments, we will continue to facilitate collaboration between government, industry, academia and research institutions to nurture and sustain the development of talent and resources not only in Hong Kong but within the Greater Bay Area." Concretely, he highlights, "this means offering incentives and support measures for technopreneurs across different stages of the talent lifecycle. We believe that Hong Kong is the best city location for overseas companies hoping to expand their business presence in Asia and China, as well as Chinese companies going overseas." With his personal background as a successful industrialist with public service experience and a pioneer in the use of artificial intelligence, Dr. Chai hopes to preside over the next era of HKSTP's flourishing.

Perhaps most importantly, HKSTP is able to point to concrete achievements in its nearly two decades of operations, from hosting over 680 technology companies, raising HKD 1.2 billion in direct investment in FY

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2017/2018, and incubating three unicorn start-ups. In this way, Hong Kong's Achilles' heel of space constraints and sky-high real estate costs, may actually have been instrumental in ensuring that HKSTP focuses its investments and resources wisely. Without the luxury of space and cheap real estate, there is no chance of falling prey to the 'build it and they will come' mentality, resulting instead in purposeful, results-driven progress.

For this reason, the Hong Kong 2018-19 Budget has not only earmarked HKD 10 billion (USD 1.3 billion) for enhancing research and incubation at HKSTP, it has also promised HKD 20 billion (USD 2.6 billion) for the Hong Kong-Shenzhen Innovation and Technology Park in the Lok Ma Chau loop, which comes under HKSTP management. Situated on a 87-hectare piece of land between Hong Kong and Shenzhen, Dr. Chai outlines, "this will be the largest innovation and technology platform in Hong Kong, with the mission being to generate and exploit R&D synergies between Hong Kong and Shenzhen." This will ultimately further complement

Guangdong province's recent innovation-driven development strategy with the Guangzhou-Shenzhen Science and Technology Innovation Corridor.



ANNE W.M. LEE
vice-chairman,
HKACS

HONG KONG'S HEALTHCARE: FROM GOOD TO BETTER

Hong Kong's healthcare system is one of the most effective and value-for-money in the world, with healthcare spending accounting for only six percent of GDP yet boasting the longest life expectancy in the world. Part of this is through the great public healthcare system under the Hospital Authority, which overs 90 percent of public healthcare expenditures. But Hong Kong has also benefited from a great ecosystem of world-renowned academicians and physicians, often sitting on the boards of global healthcare organizations as well as leading companies, the great work done by various patient organizations, and the strategic focus multinational pharma companies have placed on Hong Kong – and underlying it all, the willingness of all these stakeholders to collaborate in pursuit of better patient outcomes.

Professor Anne W.M. Lee, Vice-Chairman of the Hong Kong Anti-Cancer Society (HKACS) the biggest non-government organization (NGO) in Hong Kong dedicated to cancer, shares, "as a patient organization, a perennial focus is on fostering close collaboration and cooperation with all stakeholders from patients, healthcare practitioners, care-takers, government and industry." Perhaps the most noteworthy example is their Professor H.C. Ho Memorial Medical Assistance Program, which receives pharmaceutical product donations from various multinational pharma companies (the likes of Pfizer, Merck Serono, Roche, AstraZeneca, etc.) to be dispensed within the public healthcare system. Over the past 12 years, Professor Lee estimates, the program has helped over 5,700 patients with the total value of donations exceeding HKD 350 million (USD 45 million).

Fundamentally, the role of Big Pharma is critical when it comes to bringing urgently needed new innovations and therapies. As Hye-ja Kim, Pfizer Pharmaceutical Innovative Health (Hong Kong and Macau Lead), stresses: "Pfizer actively pursues category leadership [across

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**HYE-JA KIM**Pfizer pharmaceutical
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our] very broad portfolio: from head to toe, as we say, and across prevention to late-stage disease. We have an extremely strong and innovative pipeline that we expect to bring to Hong Kong over the next few years, especially in oncology and rare diseases.” She analogizes, “I sometimes make the comparison to a department store: we may have a very large portfolio, but we are highly specialized within each floor

(i.e. specialty area!)”

No surprise that Pfizer has already brought some exciting product launches in Hong Kong recently, with Kim enthusing, “in early 2017, we launched Ibrance®, the first CKD4/6 inhibitor approved by the US FDA. We now have nearly 300 patients on this medication, which demonstrates its value to patients. Another great launch was Prevenar 13®, the pneumococcal vaccine, which we extended to a new indication for all age population. With the aging population in Hong Kong, this was a clear unmet medical need, and in particular, to at-risk populations like patients with diabetes or cardiovascular disease.”



PFIZER ACTIVELY PURSUES CATEGORY LEADERSHIP [ACROSS OUR] VERY BROAD PORTFOLIO: FROM HEAD TO TOE, AS WE SAY, AND ACROSS PREVENTION TO LATE-STAGE DISEASE.

— **Hye-Ja Kim** PFIZER

She highlights a key point: “a pharmaceutical company works in a solution-based industry. It is not simply about giving patients a drug.” This explains why the Prevenar 13® launch has seen Pfizer, she adds, “for the first time in Asia, collaborate with the government on a subsidy program for both public and private patients.” Ibrance® was also launched with “a risk-sharing program”. Ultimately, for Kim, Pfizer’s mantra is simple yet encompassing: “Our mission is to find and fill any gap within the patient journey, from awareness, to diagnosis, seeking treatment and to being on treatment. This is a very long process, and we hope to take patients ‘from sick care to health care’ with self-management.”

For this reason, she hopes Pfizer can continue to go the extra mile, especially when it comes to collaboration

with government. She outlines, “with the excellent healthcare infrastructure here and the public payer taking a very reasonable approach to new innovative drugs and solutions, we see the government as good partners. They do see the value of the innovation that we bring, we respect the agenda they have put forth in terms of healthcare reform, particularly in areas like rare diseases and oncology, where they understand that patient access to innovation needs to be accelerated. We hope to continue to act as a good partner to government efforts in this regard and we believe we have the expertise and solutions to offer.”

The theme of ‘fast and furious’ product launches continues with British giant AstraZeneca’s affiliate in Hong Kong. New general manager, Gwenael Meneux exults, “AstraZeneca strongly believes in the mission of pushing the boundary of science to bring innovative medicines to meet patients’ needs as fast as possible. We have the grand ambition to launch up to ten new molecular entities, as well as develop 20 more indications, in Hong Kong by end-2021. Hong Kong is one of the most active markets when it comes to product launches globally for AstraZeneca, partly because of the government’s support for making new innovations accessible quickly, and also partly because AstraZeneca is committed to meeting patient needs, even if that means launching in more ‘niche’ therapeutic areas or indications with smaller patient populations.”

A prime example is AstraZeneca’s vaccines portfolio in Hong Kong. As Meneux points out, while “vaccines are not one of our core focus areas but we see a high unmet need in Hong Kong. For this reason, we plan to relaunch Flumist, a flu vaccine. It is quite innovative because it is a nasal spray targeted at kids. We expect the impact to be significant, not only in children but also in the elderly population – when you vaccinate kids, you protect their grandparents.”

Hee-sun Lee, general manager of Merck Pharmaceuticals, echoes her peers: “as we celebrate Merck’s 350 years’ anniversary, we are excited to continue driving innovation to create, improve and prolong life. Hong Kong is a strategic market for Merck globally because the government supports the need of bringing innovative

**GWENAEL MENEUX**general manager,
AstraZeneca



HEE-SUN LEE

general manager, Merck Pharmaceuticals



YVETTE CHU

general manager, CooperVision

drugs to market, which makes it one of the earliest market registrations within Asia.” But she is also eager to drive home the advantage of Hong Kong’s small size for the testing of new innovative solutions, adding “as Hong Kong is technologically advanced with a sophisticated market, many global initiatives are easily brought into Hong Kong. Hong Kong is also a great place to pilot new initiatives. For instance, within the pre-diabetes space, we have plans to introduce a new technology offering integrated solutions ‘beyond-the-drug’ to patients in Hong Kong. Even in terms of sales, we have introduced creative ideas like using Augmented Reality IPAD detail aid that helps visualize the structure of our unique pill. We

continuously look for more interesting ways of doing things and delivering our message.”

Another example is Merck’s growth hormone treatment Saizen, which has an injection device called EasyPod™. Lee reveals, “it is the only injection device on the market that tracks adherence. The EasyPod™ Connect system is able to transmit patient adherence data directly to the relevant healthcare practitioner so that they can monitor their patient’s medication adherence. It also has many features such as an alarm function and growth charts to provide more benefits and value to the treatment experience.”

Market access, while essential, is less impactful without patient access. While one of the richest cities in the world with a robust public healthcare system, Hong Kong also has one of the highest rates of income inequality in the world, with the world’s second-highest Gini coefficient in 2018 – and patients sometimes fall through the gap. This is also why, as Lee outlines, Merck is “part of the Samaritan Fund, which helps the underprivileged access medicines.” In addition to providing funds and medicines, she adds, “in August, we successfully expanded the criteria for access to [Erbitux, one of Merck’s oncology products]. Previously, the fund was only offered to liver-limited mCRC patients but now it covers most mCRC patients. This means that more patients can benefit from [Erbitux].”

For CooperVision, prioritizing the Hong Kong market when it comes to product launches has indubitably paid off handsomely. General manager Yvette Chu exults, “CooperVision has seen double-digit growth over the past three years, especially impressive given that in the past year, the overall contact lenses market in Hong Kong has been flat. We are happy to have outperformed the Hong Kong market.” She lists, “Our success is driven by three ‘P’s: products, partnerships, and people. CooperVision focuses on launching new products based on consumer needs. For instance, in 2014 and 2015, we launched our first series of daily silicone hydrogel (SiHy) contact lenses under the clariti® 1 day family, with three major products (spherical, toric and multifocal) covering most of the contact lenses users’ needs in Hong Kong.”

Chu is careful not to launch products for the sake of launching products. She highlights, “There is a large range of contact lenses options in Hong Kong, including daily disposable, biweekly and monthly disposables, so consumers have many options. It is very important

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REFERENCES:
1. Chamberlain P, Back A, Lazon P, et al. 3 year effectiveness of a dual-focus 1 day soft contact lens for myopia control. Presented at the 40th British Contact Lens Association Clinical Conference and Exhibition, 10 June 2017, Liverpool, United Kingdom. *Compared with a standard single-vision, one-day lens over three-year period.



for us to launch products that fit the market.” For this reason, she says, “we pay close attention to the market. We will periodically work with focus groups and undertake some market research. For instance, this year, we have started working with the City University of Hong Kong’s Marketing Department, enlisting some students’ help to conduct market research. We also conduct market visits to our optometrists and I personally do such meetings twice a month.” Chu summarizes, “CooperVision’s strategy is very clear: use innovative products to win the market and to drive partnerships. In five years, I would like to see CooperVision with the second-largest market share in Hong Kong.”

A REGIONAL HUB

A good insight into the potential and attractiveness of Hong Kong as a healthcare and life sciences hub can be gained by looking at the continued decisions of companies to choose it as regional headquarters. While Singapore has long been established as the regional headquarters of large pharma and medtech companies, Hong Kong continues to offer a unique proposition for newer, mid-sized companies implementing a new Asia-Pacific or Greater China strategy.

Kevin O’Reilly, president Asia-Pacific at Varian Medical outlines, “what is striking about Asia is the diversity of markets. We see highly developed markets with similar ecosystems that you might find in Europe or the US; developing markets that are in transition, [having] undergone incredible amounts of investment over the years, like China; and true emerging markets like Vietnam, at the beginning of their journey to tackle non-communicable diseases. Hong Kong is a historical location, and we have been present here since the early 80s, bringing us proximity to our critical markets. The country offers strength and value to the company on a global scale because we can focus on neighboring mainland China with more ease. Our goal was to always step closer to our customers, so we are able to capitalize on the GBA initiative and other opportunities that present themselves in the territory.”

Moreover, he adds, “Hong Kong straddles multiple cultures, and has an ease of doing business. It undergoes the flexibility of movement of people and capital, overall

highlighting it as a business-friendly location.”

Laurence Frémy, Director Asia Pacific for Expanscience and in charge of setting up the company’s new regional affiliate, concurs: The Hong Kong affiliate is the latest of 16 to be opened. Although APAC already accounts for a quite significant part of our export sales, the opportunities in the region let us believe that the business is set to double within the next five years. Strategically speaking, Hong Kong is a buoyant laboratory, because it is made of a mix of many different populations and experiences. This means that new trends can be identified. We can also rapidly adapt and validate options that can then be implemented in other markets.” One of the most notable example is probably Hong Kong being the location for Expanscience’s first flagship Mustela store in the world.



HONG KONG STRADDLES MULTIPLE CULTURES, AND HAS AN EASE OF DOING BUSINESS. IT UNDERGOES THE FLEXIBILITY OF MOVEMENT OF PEOPLE AND CAPITAL, OVERALL HIGHLIGHTING IT AS A BUSINESS-FRIENDLY LOCATION.

— Kevin O’Reilly VARIAN

Drawing on Hong Kong’s proximity to other markets in the region, she points out, “it is a stepping stone into new markets. We are continuously pushed to remain competitive in these markets and strengthen our own brand presence here, in addition to becoming more coherent around the world in terms of pricing and branding.”

While the Hong Kong affiliate is still new, Frémy has very ambitious visions and long-term goals, sharing, “my vision for the affiliate is to create something that headquarters in France could see as a benchmark. Here, the brand is mature, we have a good business outlook, and will continue to push our new and exciting brands into the market. To be a modern brand, Laboratoires Expanscience provides not only products but also services, expanding our horizons and moving into more entertaining moments for our customers, involving digital services. I envision Hong Kong being the catalyst for this and thus a flagship affiliate for the future operations of the global organization.”



LAURENCE
FRÉMY

export director, Asia-Pacific, Expanscience



SIMON YAM
managing director
(Greater China)
Geodis

As mentioned, Hong Kong’s small market is well-compensated for by its strategic nature. Frederic Charles, CEO, Pierre Fabre Hong Kong and Macau, admits: “in terms of turnover, Hong Kong is still a minor contributor for Pierre Fabre Dermo-Cosmetique.” However, he emphasizes, “looking at other parameters, Hong Kong is geographically strategic with a strong regional influence. We have around 60 million visitors a year. Hong Kong has for the eighth consecutive year been the most visited city in the world and will remain the top destination for Chinese tourists in the years to come. Hong Kong enjoys the world highest cosmetic spending per capita, far ahead of Japan which ranks second. If we consider international brand presence, retail mix & concepts, customer knowledge, in my opinion, Hong Kong remains the leading skincare market in Asia and the most strategic one in terms of image. Our main

regional retail partners are all Hong Kong-based companies.’

It seems obvious to Charles that Pierre Fabre group decided to invest in making Hong Kong our regional hub for Asia Pacific gathering local and regional teams as well as corporate functions under the same roof. We have a high ambition to establish our brands and thus dermo-cosmetics in Hong Kong as a showcase of our expertise.”

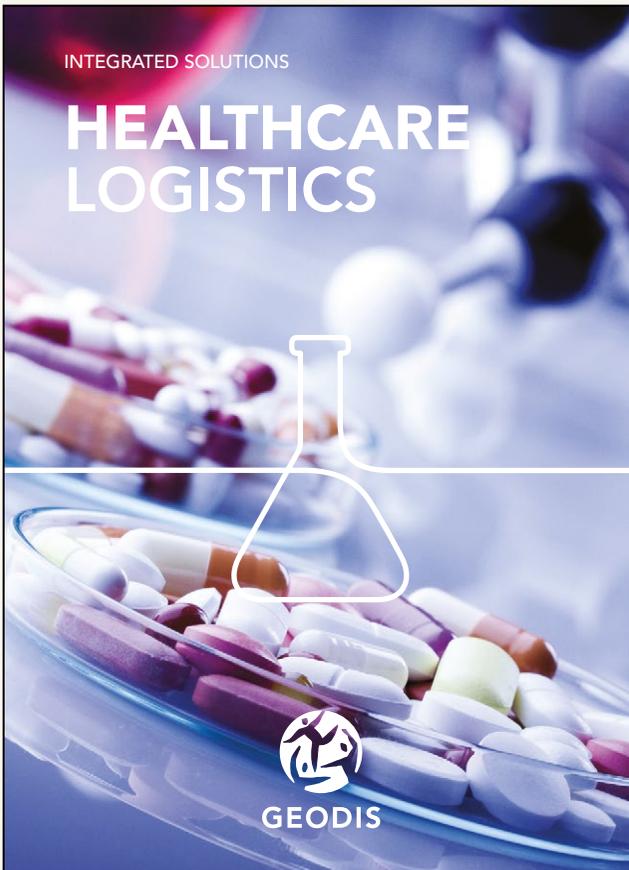
Hong Kong’s strategic role is perhaps even more helpful within the logistics space. Hong Kong has long been an important trading hub in the region and even today its port and airport rank among the busiest in the world. This explains why leading global logistics service provider Geodis has its Greater China headquarters located in Hong Kong. Simon Yam, managing director (Greater China) at Geodis, notes, “Geodis has 23 offices in the Greater China region. Hong Kong acts as a gateway into and out of China as a receiving and distribution hub, and also as a distribution hub for the entire Asia region. We have an extensive hospital and clinic distribution network across the Greater China region and even from Hong Kong into the entire Asia-Pacific region.”



FREDERIC CHARLES
CEO, Pierre Fabre
Hong Kong and Macau

“ I ENVISION HONG KONG BEING... A FLAGSHIP AFFILIATE FOR THE FUTURE OPERATIONS OF THE GLOBAL ORGANIZATION. — Frederic Charles PIERRE FABRE

With the recent GBA development, Yam is even more excited. “We anticipate even more opportunities for Geodis here. the Greater Bay Area is generally more affluent than the rest of the country, with many leading cities like Hong Kong as China’s international hub, Shenzhen as a young and vibrant city as well as more touristic hotspots like Zhuhai and Zhongshan, all of which are connected by a very developed transport infrastructure with high-speed trains and a few international airports. Furthermore, the seaports of Hong Kong, Shenzhen and Guangzhou rank amongst the busiest in the world so in terms of logistics, this region is clearly highly dominant. On top of that, you have a strong manufacturing base in this region with investment from foreign, domestic and oversea Chinese businessmen plus Hong Kong being





TIM COLLINS

Global CEO, DCH
Auriga

one of the top financial centres in the world.

In conclusion, for Yam, “Hong Kong along with this Greater Bay Area itself is very strategically located in the center of Asia so we are very well-placed to capitalize on all the growth opportunities in this part of the world.”

Tim Collins, global CEO of DCH Auriga, another logistics provider, adds, “Hong Kong is an enabler of capital markets with the free movement of capital encouraging investment and entrepreneurship. For DCH Auriga, Hong Kong provides a stable governance environment, a strategic logistics hub, and a doorway into China. From a policy perspective, the Greater Bay Area Initiative and the One Belt One Road Initiatives provide a great deal of opportunity.” This is precisely why, he elaborates, with DCH having “a focus on being the healthcare distribution service provider of choice for Asian geographies, we are carefully positioning DCH Auriga across the region.”

In particular, he shares, “in Hong Kong, we have leveraged our relationship with the CITIC Group and are pleased to announce that we will be opening an entire 13-floor building as a healthcare-dedicated distribution center complete with a wide range of specialty capabilities to better serve the local market.”

He provides a bit of a global perspective. “Considering that the population of the Greater Bay Area could be listed alongside the world’s top 20 economies, the potential to leverage existing infrastructure to serve a much wider customer base is tremendous. There are also interesting implications for the wider regulatory environment as industry rules are adjusted to better integrate the region. This is the time to rethink boundaries and work progressively towards cooperative agreements, envisioning the requirements of integration. We see a lot of potential for DCH Auriga as well as the industry in general in terms of market space and investment opportunities.”

A SECOND CHANCE

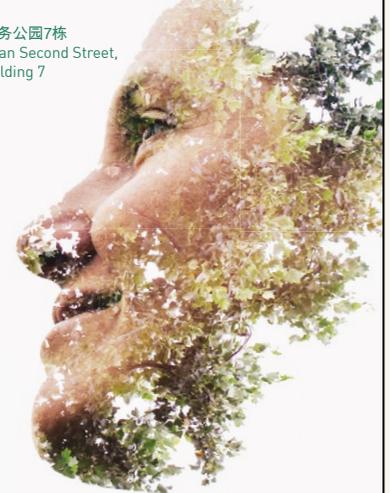
For Hong Kong industry veteran Dr. Joseph Tam, founder and Chairman of Pangen Group, looking back over

the past two decades is bittersweet. He reminisces, “upon handover in 1997, Hong Kong was in the perfect position to become an international biotech hub the way countries like Israel and even Singapore have. We had all the right elements: timing, money and talent. Unfortunately, we did not seize that opportunity and we lost that first chance.” Today, however, he continues, “I am proud that the Hong Kong biotech environment is now at least 200 times better than when I first returned to Hong Kong. In 2018, everyone says you can smell technology in the air in Hong Kong. Hong Kong has a second chance to transform ourselves and offer the next generation a better economy and a better life.”

MediConcepts’ managing director, Benjamin Chan, who has also seen the tides ebb and flow in the past two decades, exhorts, “we have very little time to waste and we need to fast track everything in order to reinforce our foundation ... and then enrich our core competencies – bearing in mind that we are not in the lead, but we are catching up. There needs to be concerted effort to invest in this because global competition is fierce.” ❄️

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FROM BRAZIL TO HONG KONG

Laurence Frémy, export director Asia-Pacific at Laboratoires Expanscience, outlines her journey and key learnings in opening the group's APAC headquarters in Hong Kong, having previously established the Brazil affiliate.

HCLS: Having previously established Expanscience's Brazilian affiliate, what learnings have you brought over to Hong Kong?

LAURENCE FRÉMY (LF): I had the opportunity to analyze



LAURENCE FRÉMY

EXPORT DIRECTOR, LABORATOIRES
EXPANSIENCE



emerging markets when I first joined Expanscience, which involved identifying new products, markets and opportunities. I began working on how to help expand our presence in the world through a deep analysis of both India and Brazil. This helps in the decision-making process of whether we should enter the market through a partner or as an independent affiliate. At the time, Brazil was the third largest market for baby skin care and the route to market was in line with our global strategy, so I recommended that we enter this market independently.

I developed two main skills: how to become operational in the country by creating a team made of local talents and learning key business specificities like financial or administrative rules, and how to expand the company in the market. For me, a deep insight into the market requires a local team, especially in areas such as sales, marketing, and communication. Although I spoke Portuguese, there is always the obstacle of language barriers and miscommunication. So, having a local team is key to fully understand the market, as much as any research or prior observation.



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THE CHALLENGE IS TO MANAGE DIVERSITY AND BE ABLE TO DEVELOP A BRAND IN LINE WITH CORPORATE GUIDELINES BUT ADAPTED TO LOCAL REALITIES.



HCLS: What are the main similarities between Brazil and the APAC region?

LF: There are a lot of similarities despite the distance between the two regions. An emerging market like Brazil actually covers both highly-developed state cities with high-income levels, and emerging regions. Asia Pacific shows similar market situations with wealthy countries and emerging neighbours. In both cases, the challenge is to manage diversity and be able to develop a brand in line with corporate guidelines but adapted to local realities. It requires the

right mix between a deep understanding of the company's strategy and some agility/creativity in daily operations.

Another example lies in people management and commitment. My belief is that many professionals also want to be part of an exciting story, with a long-term vision and a career plan. I had the chance to share my vision for Laboratoires Expanscience in Brazil and convince my employees there is a great job to be done in the region. I am proud to say that my key team players are still with the affiliate 5 years later. Similarly,

I believe that young talents in Asia can be very attached to a company's vision and values and deliver their best over many years.

HCLS: What have been your main priorities since becoming Director of APAC?

LF: My main priorities are to enhance our position and presence in the Asian markets, along with strengthening our relationship with our distributors.

Previously we only had a direct affiliate in Australia, with distributors in the other countries. In order to progress, it was important to create a regional team here and strengthen our Asian identity. Another big step came with acquiring our distributor in charge of our baby skincare brand Mustela on the Hong Kong market and establish a direct anchor through a fully owned affiliate. ❄️



BUILDING A DIAGNOSTIC EMPIRE

Dr. Joseph Tam is indisputably one of the pioneers of Hong Kong’s biotech industry, having returned to Hong Kong in 1973 following an illustrious career in the US to bring in novel technologies to the city. He reminisces, “I was born in 1938 in a little Chinese village during the Japanese occupation. In 1949, my eldest brother brought me along to Hong Kong to pursue a better life. I am deeply grateful for the opportunities that Hong Kong has given me and have always considered Hong Kong my home.” He laughs, “when I retired in 2001, I still had a home in California and my children were there. Many Bay Area investors actually approached me to commercialize some of the technologies I had developed. I am sure that I would be very rich now if I had started my company in California! But I told myself, Hong Kong is my home, so if I am

going to start a company, I should do it there.”

Pangenia Group was initially established as DiagCor in 2006, long before biotech became a buzzword in Hong Kong. Tam reflects, “people were very skeptical about high-tech enterprises, because they think, high-tech, high-yield but also high-risk. I wanted to disprove this and I think DiagCor’s successful growth in the past decade, along with the many jobs we have created, is testament to our success. Over the past 12 years, DiagCor has worked hard to train and invest in the next generation of industry leaders and talents, some of which have in fact gone on to work for our competitors. But I see this as my contribution to the industry. It is critical that Hong Kong is able to foster the broader biotech ecosystem.”

Over a decade later, he concludes, “I feel happy that I have achieved my initial objectives: to bring international expertise and facilitate



DR. JOSEPH TAM

chairman,
Pangenia Group

tech transfer into Hong Kong and China, to develop the biotech ecosystem in Hong Kong, and to create job opportunities for younger people entering the generation. I have since stepped down as CEO to hand over the reins to the next generation, a highly capable executive team committed to leading DiagCor and Pangenia Group into the next stage of success and continue the legacy!

Dr. Tam’s legacy and entrepreneur spirit resonates strongly with his successor, Dr. Desmond Hau, who reveals his childhood dream to work in a high-tech industry: “During my student days, I had always imagined myself entering



“
DIAGCOR'S SUCCESSFUL GROWTH IN THE PAST DECADE, ALONG WITH THE MANY JOBS WE HAVE CREATED, IS TESTAMENT TO OUR SUCCESS.



an industry of high-technology and science, but there was no possibility at that time in Hong Kong. Hence, I decided to create my own company, Bio-Gene Technology Ltd (Bio-Gene), a well-established laboratory equipment, reagents and consumables distributor that has been collaborating with Pangenia for years.” Hau exults, “in 2017, I was offered the CEO position for Pangenia Group. It is exactly the company I wanted to work for years ago and I finally got a chance now!”

He is eager to continue Dr. Tam’s legacy and take the business into a new era. He outlines, “I have a mission to grow Pangenia’s business and set the right strategic direction for the group. The best way moving forward to continue high quality

R&D is to transfer technology from overseas to Hong Kong, and push this further into mainland China and Asia.”

Offering some insights into the booming - and increasingly competitive - diagnostics market, he details, “More often than not, the large multinationals operating in Hong Kong are focused solely on sales and marketing operations for particular instruments and reagents. However, we are more than a test provider. Our services come with high-quality reports and analysis. On the other hand, some local companies have tried to replicate our business model with overseas technology and a partner abroad that provides the analysis. This results in much longer waiting



DR. DESMOND HAU

CEO, Pangenia Group

times for patients. Our expertise is developed in-house and therefore much more efficient in a long run.”

Looking ahead, Hau emphasises, “we are very open to partnerships and we welcome anyone looking at Pangenia to approach us to create new partnerships. I hope to see more innovation not only within the group, but also to see Hong Kong itself becoming a hub for biotechnology in Asia in the next five years.” ❄️



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UNIQUE PERSPECTIVES

With Hong Kong established as a key stepping stone market for general managers of multinational pharmaceutical affiliates, who have to manage small but strategic and very commercial operations for global headquarters, we hear from two managers on patient-centricity in Hong Kong, the building of corporate culture, and what leadership means to them

Pfizer Pharmaceutical Innovative Health Hong Kong and Macau Lead Hye-ja Kim recounts, “my past experience with this portfolio has helped me instinctively put patients first. Most of the time, you simply study the disease from textbooks, but I remember that I went to see some patients with hemophilia and it really stunned me when I arrived to see very young boys. At their age, they naturally are very active but they had to live with this condition that impacts their enjoyment and freedom. Then you consider the feelings of their parents, who may not know anything about the condition or how to handle it. For instance, a treatment involves an injection but think about how a parent might feel if he or she has to stick a needle into their one-year-old boy? This experience really opened my eyes to the patient journey.” This gives her the personal commitment to supporting the Hong Kong government in their rare disease agenda. She stresses, at Pfizer, “we partner very closely with them in order to offer solutions and our expertise.”

For Merck Pharmaceuticals general manager Hee-sun Lee, it is her passion for the organization that drives her to deliver the best leadership for her team. She remembers, “at the beginning of my career, I had applied to a few multinational pharma companies to pursue a global career. Merck was one of my first job interviews. When I entered the Merck office and had a long discussion with the interviewers to learn more about Merck, I absolutely fell in love with Merck’s culture and was so convinced it was the right fit for me that I cancelled all my other interviews with other companies. I hope that other people would have the same experience at Merck.”



HEE-SUN LEE
general manager, Merck Pharmaceuticals

For both companies, with such long histories and track record of success, it is little wonder that corporate culture is a very critical aspect of the general manager’s remit. Kim reveals, “Pfizer stresses a strong ownership culture with our ‘OWNIT!’ corporate slogan. Internally, we work collaboratively and we contribute to the company from our areas of expertise, so this builds a strong sense of ownership and also engagement with our colleagues. Externally, we commit to learning from the patients as well as partnering with key stakeholders, so everyone in the organization needs to ‘OWNIT’ and be empowered to do that. All these have contributed to a strong talent pipeline within Pfizer Hong Kong and in general, there is usually staff longevity within Pfizer affiliates globally. I myself have been with Pfizer for nearly ten years!”

Merck’s Lee concurs, sharing, “Merck has a strong brand driven by the idea of ‘curiosity’. We must always have curiosity in the way that we do things, whether it is R&D, sales, marketing, or business strategy. We can always improve, and I want our team here to keep exploring new ways to bring more value. New channels, new technologies for treatment solutions are also very important and helps us not only to differentiate ourselves as a leading science and technology company, but also to bring more benefits to patients.” For her, it is a matter of personal philosophy: “never think that you have all the correct answers. With the right people in the right place, and established trust within the team, you will be able to work together and achieve greater success ‘as one’,” she counsels. 🌟



HYE-JA KIM
Pfizer pharmaceutical innovative lead Hong Kong and Macau



THE FUTURE IS DATA



Andy A. Liu
CEO, CW DATA
TECHNOLOGIES

HCLS: Andy, across your extensive industry experience, could you share some of the industry trends of greatest interest to you?

ANDY A LIU (AL): Interest in healthcare has definitely grown over the past two decades, which you can see from the number and scale of investments in this industry, particularly in China as well as Asia Pacific. Many PE and VC funds are now set up to take advantage of the healthcare investment opportunities.

On the technology side, I firmly believe that this is the most exciting time for healthcare because of the technology we have at our disposal right now, be it drug discovery, genomics, big data, wearables, digital health and so on. We are reaching the intersection between technology and healthcare. These technologies will ultimately change the way patients interact with the healthcare ecosystem.

The complexity of the healthcare ecosystem – many stakeholders in the healthcare industry from hospitals, pharmaceutical companies, insurance companies, drug stores, physicians, patients – means an abundance of opportunities for companies to contribute. To be a healthcare company in the past, you had to have significant funding and perhaps a large R&D infrastructure and strong commercial capabilities. That is no longer the case. Now, even small, start-up companies can participate in this ecosystem by leveraging technologies to improve collaboration between the various stakeholders. Specifically, big data and AI companies will have significant opportunities to help integrate a highly fragmented ecosystem.

Thirdly, the opportunities in China are especially interesting. The 19th Party Congress has clearly put a



priority on healthcare and focuses on drug and medical device innovation, healthcare system reform and primary care development. The changes in the CFDA have already driven an increase in the number of molecules being granted priority review and approval. This will result in a wave of new product launches in the next few years. In addition, China has also put a focus on the promotion and development of healthcare big data. The importance of big data will be critical to begin to understand and connect the diverse platforms in the country.

HCLS: With this huge potential for change, in large part coming from the digitalization of society, we see traditional pharma companies entering the digital innovation space, and tech companies like Facebook and Google entering the healthcare space, along with a plethora of start-ups. Who is best positioned to benefit from these opportunities?

AL: Everybody is trying to get involved in the healthcare space. I even know few a companies that are in traditional areas like real estate and construction that have now created a business unit to explore healthcare opportunities. In addition, there are large tech companies that are heavily vested in these areas as you mentioned. In my opinion, this is great news. This is a positive outcome for the ecosystem: the reason is that the winner out of all of this, and the ultimate beneficiary will be: the patient. The patient will benefit from all these improvements.



ative extends Hong Kong's primary market, so that is hugely positive.

However, its success boils down to how well it is executed and whether all stakeholders are willing to play together to make it successful. At the end of the day, healthcare and treatment is very local. Each country has their own unique healthcare system and healthcare policies. The question will be how we can balance reaching our local objectives with working as a unified region to solve problems that will allow us to reduce costs and more efficiently in bringing new drugs and technologies to the region.

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THE QUESTION WILL BE HOW WE CAN BALANCE REACHING OUR LOCAL OBJECTIVES WITH WORKING AS A UNIFIED REGION TO SOLVE PROBLEMS THAT WILL ALLOW US TO REDUCE COSTS AND MORE EFFICIENTLY IN BRINGING NEW DRUGS AND TECHNOLOGIES TO THE REGION.

HCLS: How suited is Hong Kong to develop into a biotech hub as seems to be the national strategy being implemented in the past year or so?

AL: I truly believe that Hong Kong is well-positioned. I think there are a lot of opportunities for Hong Kong and many areas where Hong Kong can contribute. In particular, Hong Kong has already done a lot of things right. I have served on the two important organizations. The first is as Vice-Chairman of the Hong Kong Biotechnology Organization (HKBIO) and the second is as a Board of Director for the Hong Kong Applied Science and Technology Research Institute (ASTRI), a research institution under the Hong Kong government. These two organizations are testaments to Hong Kong's belief in the importance of healthcare and current prioritization of these areas.

People often compare the various countries in the region and debate who will be the “hub.” My perspective is a little different. Each country will have a role to play. The smaller countries will have their role and the larger countries will have their role. What matters most is if the country is taking the investment in healthcare seriously and if it is executing programs to improve healthcare ecosystem. Hong Kong is definitely doing all of these things, if not more. ❄️

But, to also be clear, while the patients are the ultimate beneficiaries, they are not a stagnant group. In fact, many of these changes are driven by the patients themselves. Existing healthcare practitioners and entities are sometimes very risk-averse and have very little incentive for them to change their modus operandi.

Fundamentally, the patient sits in the middle of the healthcare ecosystem as the most important stakeholder. Everyone else is focused on supporting and meeting the patient's needs.

The one stumbling block is the existing fragmentation within the healthcare industry, which makes it very difficult to obtain holistic patient information across the entire patient journey. This is where big data will play an important role. This is a key part of the puzzle we have to figure out in order to better meet patient needs and drive more effective dialogue between healthcare stakeholders.

HCLS: Focusing on Hong Kong now, what do you make of this Greater Bay Area initiative, from a healthcare perspective, and in particular, the value proposition of Hong Kong in this region?

AL: I think the Greater Bay Area is a critical program and an important driver for healthcare in the region. For Hong Kong, it is definitely a great way to access and participate in the massive opportunities occurring in the region. The Greater Bay Area initi-

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