Interview: Albert Cheung-Hoi Yu – Chairman, Hong Kong Biotechnology Organization



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Albert Yu, Chairman of the Hong Kong Biotechnology Organization, shares his insights on Hong Kong's potential to become an innovation hub for the region while positioning Hong Kong as the 'Chinese City outside of China.' In addition, he discusses the main trends that will drive development of HK's biotechnology sector in the future.

Looking at the biotech landscape in Hong Kong, we know there are a lot of inherent positives for the industry, for example easy access to all of South East Asia. What do you believe are the other benefits that Hong Kong offers the industry?

Hong Kong is very international and is arguably the most westernized Asian location. It has the best mix of Western and Asian cultures and influences. The multicultural environment fosters a strong global sense and allows foreigners to feel comfortable being in Hong Kong especially as there is no language barrier. Hong Kong's reputation as the freest economy in the world is matched by a high degree of business integrity and ethics. A stable economic and political environment makes Hong Kong an appealing ground for capital funding as well as talent aggregation. The transport infrastructure we have built is convenient, extensive and sophisticated while the legal system is simple, fair and transparent. In the next ten years, Hong Kong will be a different place – a world-class city offering great connections to China. We describe ourselves as a Chinese city outside of China. China treasures our geographic location and our value as a gateway to the rest of the world. Closely connected to the world in the heart of Asia, Hong Kong is 5 hours of flight away

from half of the world’s population. In addition, being a free port at the mouth of the Pearl River Delta (PRD), Hong Kong naturally takes on the role of a catalyst in realizing China’s “going-out” initiative. Consequently, a lot of Chinese people come to Hong Kong to experience the world.

Leveraging factors to the industry’s success such as opportunities, security, and a multilingual environment – can all be found in one place: Hong Kong. These beneficial conditions arise from the tendency to focus on high-tech industries. Our excellent education system featuring great universities – some of which are ranked in the world’s Top 50 – focuses on creating a multilingual talent-pool. Moreover, we have the advantage of familiarity and direct accessibility to the Chinese market – one of the biggest markets in the world with extensive technological resources. In effect, the connections and partnerships we can build with the Chinese society are beneficial to international individuals looking to start or expand their business in China.

We see there is support from the government for the development of the industry, for example with Hong Kong Science & Technology Parks Corporation, which focuses heavily on biotech. Do you believe there is enough support and collaboration coming from the government?

Looking back historically, governmental policies have changed vastly. Nowadays, R&D driven companies can initiate projects and receive support from the government of up to ten million Hong Kong dollars (USD 1,300,000 (EUR 1,100,000)) per project on a 1:1 matching basis [note: there is no lower limit]. Also, subject to the vetting panel, a company can receive government support for more than one project (Enterprise Support Scheme) [note: The Enterprise Support Scheme (ESS) is a major funding initiative under the Innovation and Technology Fund (ITF) to encourage private sectors to invest in R&D. Funding support for project period normally no longer than two years, with full ownership of any IP rights arising from the project to the funding recipients].

Local business is strongly supported by the government. Local small and medium enterprises can apply for a subsidy, each of value up to 0.2 million Hong Kong dollars (USD 25,000, ca. EUR 23,000) in using technological services and solutions to upgrade, improve or transform their business processes (Technology Voucher Programme) [note: The Technology Voucher Programme (TVP) was launched by the Innovation and Technology Commission (ITC) in 2016 with the aim of providing support to local SMEs].

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Are young companies facing any financial challenges?

Everybody is facing financial challenges. Nevertheless, high quality and valuable products or technologies will not lack in investments. In line with such rationale, being a good scientist is not enough; knowledge and expertise in business and fundraising are equally crucial. Many companies from different industries invest in pharmaceutical or biotech companies. Even though they do not have an extensive knowledge in this industry, they believe this is the market of the future. Hong Kong is a small city offering easier connection with people from the industry – this is our advantage. In the meantime, showing potential and value is prerequisite for building connections and receiving financial support.

Having worked with a number of young entrepreneurs, what do you see as their main aim – to break into China or to achieve global exposure?

They have global ambitions. However, global ambitions imply challenges in meeting regulatory aspects. Regulatory policies create a gap between the level of technology and the level of technology translated into a product. The USA and China have the most demanding regulatory systems (the FDA and CFDA respectively) for biotechnology products. A lot of effort and money have been invested into science but ultimately both of the mentioned markets do not have enough products. In view of regulatory imperfections, they are investing into modernising the policies. For example, China is revising CFDA regulations without sacrificing safety. With regard to Hong Kong, we have a sound regulatory framework on par with international standards and our regulatory policies are more lenient – this is our advantage.

One of the key objectives of HKBIO is to promote awareness of the Hong Kong biotech industry. Have you seen progress in this regard?

Admittedly, Hong Kong’s status as the world’s leading commercial and financial center has inevitably overshadowed its emerging success in the biotech industry. Looking at the government’s policies and the number of people interested in biotechnology, the percentage of interest and enterprise has critically improved. Even traditional businesses are beginning to acknowledge the power of biotechnology. The Chinese Manufacturers’ Association of Hong Kong (CMA), a traditional trading association in Hong Kong, has recently recognised biotechnology as one of Hong Kong’s major industries. This is a good indicator of growing interest as the general public and associations are recognising the existence and importance of this industry.

What needs to be done for awareness levels to increase even more?

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Increasing the level of education and organizing activities. Our organization is involved in promoting science within the high school environment. Two years ago we organized for a Nobel Prize laureate to visit a high school – this was a first of its kind in Hong Kong. We want to build a community that acknowledges the importance of science at an early age. Organising science lectures is another strategy we use for building science awareness. Last year we organized a brain conference that counted over thousand attendees from 30-70 years old. One surprising fact was that not a single person left the lecture in the entire afternoon! The event was a great experience that led the Hong Kong general public to gain confidence in science and technology. They were not afraid of technology, but instead were ready to receive it and embrace the benefits it would bring along. In addition, we organized two popular science lectures last November; one for high school age and another one for elderly population on how to live happily with the development of technology. We came to a similar conclusion: people did not feel perplexed when talking about technology and they appreciated the fact that technology improved life and made it simpler and happier.

What about the upcoming biotech conference in Hong Kong this November, why should life science community members attend this conference?

This year marks the 20th year since Hong Kong's handover to China in 1997 and the biotech conference this November will be held as part of a series of celebrations to commemorate the event ("HK20", www.hk20.org). It will be an international event and the conference will be bilingual. Additionally, experts and policy-makers from China will be some of the attendees. Hopefully, we will also attract foreign key opinion leaders from the pharmaceutical and biotech industries to use this platform for exchanging ideas on entering the Chinese market. Not only will we help foreigners enter the Chinese market, but we also invite Chinese to expand internationally, starting with Hong Kong. China is a big market with a big source of investment. The occasion will offer an opportunity for the hard-working Chinese people to gain exposure to international experience and information so they can apply the knowledge to China to work more efficiently. Being in the heart of Asia as well as the super-connector between China and the rest of the world gives Hong Kong the ability to serve the occasion of a biotech conference to the maximum effect. I believe Hong Kong will be an excellent platform for local companies to connect with the rest of the world and vice versa. In regard to this, we have recently signed an MoU (Memorandum of Understanding) with Taiwan and Australia who are supporting organizations of this event.

Last May, the Hong Kong Science and Technology Parks Corporation, Medical Valley EMN, HKBIO and the Hong Kong Medical & Healthcare Device Industries Association

Limited also signed a Memorandum of Understanding (“MoU”) to “accelerate the development and collaboration of the biomedical industry between Germany and Hong Kong”. What have been some of the key milestones that you have seen over the course of the last year with regards to this new collaborative partnership?

Yes, we signed the memorandum focusing on several priorities; one of them being healthy aging. Promoting and advancing healthy aging implies integration of science to make life healthier. German technology is very advanced and there is much we have to learn from them. Germany, on the other hand, is very keen on expanding its presence in the biomedical market in China. Therefore, exchanging ideas is mutually beneficial for both countries. Along the same line, Hong Kong is never short of communication and engagement with the rest of the world. As an example of that, we collaborate regularly with the French Chamber of Commerce in Hong Kong with whom we organize exchange visits every two years to get a better comprehension of advancing technology abroad.

On the note of collaborative partnership, biotech has been highlighted as one of the strategic emerging industries in China’s National 12-5 Plan and has remained a major area of development in the present National 13-5 Plan [note: China’s National 12-5 and 13-5 Plan: the12^{th} 5-year Plan (2010-2015) and 13^{th} 5-year Plan (2016-2020) for National Economic and Social Development of the People’s Republic of China]. In particular, collaboration in areas of technology and innovations between China and Hong Kong is to be strengthened as mentioned in the 13-5 Plan. It is reasonable to expect that China will not hold back in its support and funding for the plan’s implementation, in particular in its dedication to foster development and collaboration in biotechnology both nationally and globally. The regional integration and development of the 9 Guangdong provinces, Hong Kong and Macau in the Greater Bay Area of the Pearl River Delta (PRD) will eventually yield the world’s largest bay area. This promises to bring about major economic changes in SE Asia. Hong Kong happens to be favourably situated in the Greater Bay Area and hence it has the ability to exercise a pivotal role in complementing China’s 13-5 Plan to great effect. As such, it is truly one of the best times for biotech development in Hong Kong with opportunities to be seized and advantages to be fully taken of. I believe the importance of the Hong Kong market will continue to grow and will be especially crucial in helping China’s developing endeavours in the Belt and Road countries, which are areas with major importance for the pharma and biotech industry in the future.

Have you seen any trends in terms of growth within certain specific segments?

Stem cell will be a growing field globally. In the healthcare sector, significant growth in medical diagnostics and devices is observed. The emergence of proper molecular diagnostics is vitally important for the effective diagnosis of infectious disease, especially multiplex detection of multifactorial response of a combination of bacteria, viruses and other microbes. In order to develop the diagnostics sector, support in the area of medical device is indispensable. A plethora of medical devices are produced in Hong Kong for the big industry players. The medical device industry is the potential driving force for future growth. Hong Kong prides itself in having advanced cancer diagnostics, as well as DNA and genetic diagnostics. Current biotech innovations in Hong Kong focus on healthy aging and preventive medicine, with medical devices, e-health and Traditional Chinese Medicine (TCM) amongst some of the major areas of development. In particular, the power of modern Chinese Medicine and its essence in prevention of disease by strengthening immunity should not be underestimated.

In terms of market, China is the main driver and the major market. Regional companies from Taiwan are looking to expand to China. Although it is relatively convenient for them due to a lack of language barriers, foreigners experience an easier start in Hong Kong due to an international environment with global ambitions.

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Looking forward to the coming three to five years, where do you hope to see the biotechnology sector in Hong Kong?

Hong Kong is able to attract foreign companies and the government’s support is guiding the local business in the right direction. Within the Asian market, we are still waiting for the “star” company to attract foreign investment. Competitive markets include Taiwan, Korea, Hong Kong and Singapore – the Four Asian Dragons. Discovering the “star” company will mark the commencement of a new era for the regional hub, one which will attract all the foreign investment. However, it is still unclear which country it will be. Korea has a developed infrastructure as well as biotech industry, and Taiwan has an active pharmaceutical industry. However, none of the mentioned countries is as international as Hong Kong. Doing business successfully means integrating science, engineering and business – Hong Kong offers excellence in integrating these. Hong Kong is small in size, but our close connection with Mainland China and our insiders’ insight to the Chinese market offer unique competitive advantages to starting up and expanding the biotech industry in Asia. In the past 20 years under the governing principle of “One Country, Two Systems”, Hong Kong has

reaped the benefits of both worlds and demonstrated unequivocal economic growth alongside China while at the same time retains its common law system and enables an efficient, stable and secure environment for individuals and businesses. The unique convergence of global and China's advantages allows Hong Kong to be China's gateway to overseas markets and vice versa. Therefore, I believe we have a good potential to become a regional hub.

Given your extensive experience (more than 20 years) in the neuroscience and biotechnology industry, how have you been able to leverage this in your current position as Chairman of HKBIO?

As a professor, I always try to motivate my students to be persistent and never give up. However, individuals looking to enter the industry should ensure the appropriate timelines and the fact that their money is not being misused or wasted. Our culture is young in the biotechnology area. However, young people should be motivated to enter this field for the industry to keep moving. I strongly believe that we can showcase our strong talent-pool that can achieve great things of global impact. Belief in local talents was my motivation to start a company in China and not in other countries.

On a more personal note, over your time as chairman here at HKBIO, what are one or two accomplishments that you are proudest of?

I feel very satisfied being a scientist that can translate research outcome from the traditional science setting into tangible products and solutions. My role is not only to create knowledge in the university, but also to translate my gained knowledge into something that can benefit the patients and the public in general. Currently, I am developing a technology that can be of great benefit for people living in rural areas. Nowadays, the advanced technology is usually located in big cities, leaving the countryside without sufficient technology to provide proper medical care. I had a chance to visit Indonesia while the bird flu was being spread. A patient was treated for the infectious disease by being isolated in the room for the entire treatment period due to a lack of appropriate knowledge and support for the treatment process. People in rural areas are under-diagnosed and do not have a great understanding of diseases. The problem is the lack of a good diagnostic tool that is both economical and user-friendly for local people. We offer a solution for this problem that will be simple, user-friendly and inexpensive. I am very proud to be a part of this powerful process of translating knowledge into solutions that can benefit people.

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