

PharmAsia News

Drugs - Biologics - Devices

July 3, 2012

Singapore's Bio*One Capital Eyes Services, Data and Devices In Investment Push: An Interview With PharmAsia News

The biomedical investment arm of Singapore's state-run investment firm EDBI, gives PharmAsia News insight into where its next round of investments are aimed.

SINGAPORE – Bio*One Capital, an arm of Singapore state-run investment firm EDBI, has its eye on medical devices used in cardiology and ophthalmology, diagnostics for molecular and personalized medicine, digital health and specialized clinical or ancillary services aimed at Asian patients as it enters its second decade in operation under a mandate to jump-start a biomedical industry in Singapore.

Bio*One Capital has an aggressive strategy to compete in the region as countries such as South Korea roll out plans to attract investment dollars needed to create an integrated biomedical community competent in everything from finding new drugs to state-of-the-art manufacturing and medical services. Bio*One Capital manages an investment portfolio estimated at more than \$790 million, according to an industry source ([“As Asia Gets Richer, Singapore's EDB Turns Investments To Tech-enabled, Remote Monitoring Start-Ups” — PharmAsia News, Apr. 15, 2011 10:00 AM GMT](#)).

Bio*One Capital CEO Chu Swee Yeok, answered questions by email about the strategy going forward after one of its portfolio companies, **MerLion Pharmaceuticals Pte. Ltd.**, became the first Singaporean company to initiate a Phase III trial ([“MerLion Becomes Singapore's First Biotech To Reach Phase III Trials” — PharmAsia News, May 2, 2012 6:48 PM GMT](#)).

Another portfolio company, the Singapore firm **SBIO Pte. Ltd.**, was also recently in the news, selling rights to Phase-III-ready JAK2 inhibitor **pacritinib** to **Cell Therapeutics Inc.** for \$30 million upfront, up to \$132 million in milestones, and single-digit royalties. That deal salvaged the compound after **Onyx Pharmaceuticals Inc.** declined an

option to develop **pacritinib** and another JAK2 inhibitor – a deal which could have been worth up to \$525 million to S*BIO ([“Singapore's S*BIO Finds Ideal Partner In CTI For Its JAK2 Inhibitor Abandoned By Onyx” — PharmAsia News, Apr. 20, 2012 2:18 PM GMT](#)).

PharmAsia News: Can you start with how and what Bio*One Capital is doing now within EDBI?

Chu Swee Yeok: The biomedical sector is one of the key investment themes within EDBI. Investments in this sector continue to be undertaken under Bio*One Capital, which has been investing since the beginning of Singapore's push into the biomedical sector in the early 2000s. One of the key goals then was to catalyze high-value added activities such as R&D in the private sector. There was no commercial biomedical sector R&D in Singapore at that stage of development; hence, Bio*One's role in investing in smaller or discovery-stage companies to jump start this process.

PharmAsia News: Most of your investments seem to be aimed at bringing along smaller firms or ideas – often that have a long lead time. Is that accurate? What kind of horizons do you look for when evaluating an investment idea?

Chu: Over the years, we have built up a diversified global portfolio of biomedical investments. Our current investment focus is on commercial-stage companies with innovative products and services, which are ready to implement their Asia strategy out of Singapore. These later-stage companies have products and services that will contribute to strengthening downstream development activities and initiating new growth sectors in Singapore. While the focus is on later stage companies, long-term

investment continues to be a priority for Bio*One, both in terms of our perspective on the overall industry and also our relationship with investee companies.

PharmAsia News: *Can you update us on where Singapore-based S*BIO and MerLion Pharmaceuticals fit in – and if such local based firms are priorities?*

Chu: In an environment where it is necessary to screen 5,000 to 10,000 compounds to get one drug to approval, our drug development companies have done very well in advancing several compounds to Phase III clinical trials. Our investment in S*BIO, Singapore's first private sector drug discovery company, yielded a Phase III-ready oncology compound, pacritinib, with good safety and efficacy results in myelofibrosis. Similarly, MerLion Pharma has initiated Phase III studies in acute otitis media to evaluate its lead anti-infective – finofloxacin. Up to 1,000 patients will be involved in these studies.

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These companies have made positive contributions towards the development of private sector R&D in Singapore's biopharma sector, particularly in pre-clinical development. Over the years, they have trained biopharma professionals in multiple specialized areas such as medicinal chemistry, PK/PD and analytic chemistry.

PharmAsia News: *What kind of partnerships are you most comfortable with – private industry or academic? What is your broader relationship to the biomedical complex being built up in Singapore – A*Star, Biopolis, and the National University of Singapore?*

Chu: Together with EDB [Economic Development Board] and A*Star, our investments have helped support the development of additional areas in the biopharma sector. For example, on the biologics front, we invested in **Lonza Singapore**, which was the first commercial-scale biologics manufacturing facility in Singapore, establishing critical bioprocessing capabilities here. This had a multiplier effect, with Lonza Singapore's initial capacity attracting interest and subsequently an acquisition by **Roche/Genentech Inc.**, bringing them into Singapore.

We also started Singapore's first vaccine company, **SingVax Pte. Ltd.** (subsequently combined with **Inviragen Inc.**), which has progressed its hand, foot and mouth disease and dengue vaccines to Phase II on the back of

strong immunogenicity and safety data. Both diseases are endemic to Asia. Beyond training and establishing key development capabilities to progress its promising pipeline, Inviragen's presence also strengthens the local R&D ecosystem through collaborations such as its R&D partnership with Duke-NUS Medical School in the area of infectious diseases (*"GSK And Singapore's Economic Development Board Finance Asian Public Health Research Through Public-Private Fund"* — *PharmAsia News, Jul. 23, 2010 5:27 AM GMT*).

We have also invested to establish specialized services for the biopharma sector, such as Singapore's first non-human primate CRO – **Maccine**. Aside from its work with global pharma clients, Maccine has been active in establishing impactful partnerships with local research institutes. In 2011, Maccine entered into a strategic collaboration with the A*Star Singapore Bioimaging Consortium to establish a comprehensive preclinical imaging lab. Such capabilities are critical in building Singapore as a key center for translational clinical research.

Looking back, large pharma companies had in the past considered Singapore only as a location for manufacturing activities. Today, private sector R&D has achieved a certain critical mass in Singapore and has gained its own momentum in areas such as translational research. This includes companies such as Roche, **Aslan Pharmaceuticals Pte. Ltd.** and **Bayer HealthCare LLC**.

PharmAsia News: *How do therapeutic focus areas fit into investment decisions, particularly lifestyle diseases like diabetes and cardiovascular disease?*

Chu: Going forward, EDBI/Bio*One's focus is on strengthening downstream development activities and initiating new growth sectors. We are looking at opportunities across multiple segments. These include: medical devices, where we have a focus on cardiology and ophthalmology; diagnostics: practical applications of molecular diagnostics and personalized medicine; digital health; services: specialized clinical or ancillary services meeting the needs of the Asian healthcare customer.

In the area of digital health, EDBI led a financing round investment in 2011 in **Sotera Wireless Inc.**, a groundbreaking platform for wireless, body-worn patient monitoring, with strategic co-investors including **Intel Capital**, **Qualcomm Ventures**, **West Health** and **Cerner Corp.** Sotera is now initiating commercial efforts in APAC with a long-term intention to coordinate APAC activities out of Singapore, and its Singapore office is due to open by the end of the year. We are also sourcing for further investment opportunities within digital health in areas such as health workflow and clinical analytics/big data. These areas both leverage on and strengthen Singapore's position as a premier medical services hub.

PharmAsia News: *On the medical device and technology side, how are those firms progressing within your mandate?*

Chu: For investments that are further downstream in terms of their stage of development, Bio*One adds value by providing a global Asia link, oftentimes as the portfolio company's first major Asian investor and board member.

One recent example is **TriReme Medical Inc.**, where Bio*One's investment and assistance enabled the company to successfully set up their global manufacturing operation in Singapore and develop the first Singaporean interventional device approved by U.S. FDA (via their subsidiary **Quattro Vascular**). In the case of **Fluidigm Corp.**, Bio*One's support helped the company set up its primary manufacturing facility in Singapore, shipping more than 20,000 biochips globally. Fluidigm success-

fully completed its IPO on the NASDAQ in 2011 to support further growth.

In 2000, Bio*One invested in **Biosensors International Group Ltd.**, a Singapore-based interventional cardiology device company that successfully became the first medical implant device company to list on the SGX in May 2005, raising fresh capital for further expansion of its product lines and Asian presence, especially in China, Japan and India. We are currently on the lookout for similar commercial stage medtech opportunities, for example in cardiovascular devices that have potential synergy with the clinical and industrial base here in Singapore.

By Ed Lane

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