

Interview with Bryan B.J. Kim, CEO, VGX International

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Could you briefly introduce VGX International to our readers, and in particular explain its relation to US-based company VGX Pharmaceutical (VGXP)?

The backbone of VGXP is the University of Pennsylvania in terms of the research grant and Dr. David Weiner as the scientific chief of the company and the brain behind new pipeline development. The University of Pennsylvania is also the largest shareholder of the company. We get our pipeline out of Dr. Weiner's lab, which is the largest lab in the University. In return we grant company shares to the University. We have the right to develop all DNA vaccines and DNA therapeutics that come out of Dr. Weiner's lab. That's the business structure of VGXP. There are many drugs in the pipeline at VGXP, a few in Phase I and others in pre-clinical. There is currently a very significant development happening within our Group, as VGXP in the US is finalizing merger talks with Inovio Biomedical, whose main business in electroporation, a device that delivers gene therapeutics into the body. Inovio is a pioneer in the area of delivery systems for DNA therapeutics which, together with new DNA drug development, are two of our three main divisions. Inovio already has relationships with Wyeth, J&J, Pfizer and other major pharmaceutical companies. In fact, all companies working on DNA therapeutics have to in-license drug delivery technology. Now with the merger we will have this system in-house. We also have our own technology and we will be combining it with Inovio, which is the most widely used delivery system for DNA therapeutics. In terms of our original line of activity, new drug development, the prime example is VGX-1027, which is our drug for Type I Diabetes that is in phase I clinical trials in the US. We are co-developing that with VGXP, and may possibly be done with phase I in the beginning of 2009. We also have VGX-100

for stomach cancer, which is a very complicated drug based on DNA therapeutics. We are currently in preclinical stages for VGX 100, and if it goes through it will be revolutionary. In addition, our plans are to further expand the pipeline, perhaps into Avian Flu, in the near future. The group's third main division is manufacturing, and this is where VGX International (VGXI) comes in. DNA therapeutic vaccines are based on plasmids, and manufacturing them is a very technical and sensitive process. VGXI specializes in this field. So, VGX Pharmaceuticals is the parent company, and VGX International is the Korea-based subsidiary that was started in 2005 and subsequently listed in Korea.

What drove VGXP to start focusing on the manufacturing area, and what is the scope of its production capacity?

At the time we had realized that DNA therapeutics is the future of medicine and were thinking about how we should expand the company. We saw that while we could do the manufacturing in the US, the low cost and highly educated workforce in Asia, in addition to government support, made it a better place to set up a manufacturing hub. I personally believe that Asians are especially good at manufacturing because they have high attention to detail and are very careful about following procedures. Since Joseph Kim and I are both Korean-Americans, we decided Korea is a convenient base of these operations. In 2004 I came here with my colleagues and in 2005 we purchased this company, formerly a fabrics company. We took over the firm and started the new business units of new drug development and CMO. It's quite different from the typical Korean or international pharmaceutical company. We started the CMO business in 2007 and significantly ramped up manufacturing in 2008. We currently have a 500 liter fermenter in our facilities in Houston, Texas which meets the current demand for DNA therapeutics based on plasmids. Since July 2008 VGX signed 7 CMO contracts with companies in US, the UK and Israel, accounting for approximately \$13 million in revenues. As a result, we will see a 300% year over year increase in revenues in 2009. Although we don't have manufacturing in Korea yet, we have recently purchased land in an R&D complex in Jeonju and will start construction of new production facilities in 2009, to be completed in 3 years. Indeed, we see steeply rising global demand for DNA vaccines in the near future.

By the time we open our new Korean facilities with 3000 liter capacity ? A six-fold increase of our current capacity ?

we expect for the global DNA therapeutics market to be much larger. We forecast that by 2010 DNA therapeutics will be a global market of over \$10bn, of which \$2.7bn for the plasmid based segment. We have a very clear vision for the growth of our company. In five years we aim to be the

global leader in plasmid based DNA therapeutics manufacturing. VGXP is the current leader in DNA drug development. Last month they received a \$23.5mn grant from the NIH which is the largest grant for DNA therapeutics ever given. The grant is specifically for an HIV DNA drug. So, everyone says VGXP is the leader in DNA drug development, and in five years I say VGXI will be the leader in DNA manufacturing.

How has the situation changed in terms of VGXI's relations with investors in Korea since its beginnings, and as we are in the midst of a global financial crisis?

There are certain cultural differences in Asia that affect the business practices. For example, in Asia people always want to see something tangible. There was huge hype for our company back when we started new drug development in Korea in late 2005, and our share price even rose 7000%, one of the largest gains ever seen on the Korean stock market. However, as people realized that the development process is very long and requires going through many stages of clinical trials, the stock prices quickly dropped and things cooled down. In this kind of economic environment, people really start to give importance to a company's revenues, so we are very lucky to have started generating our own in 2008 through the CMO business. Now VGX is following a similar strategy as Celltrion, which started and consolidated itself first as a CMO and later started looking into new drug development. We started the other way around but we have decided to expand the CMO business in order to secure cash flow and show returns to our investors.

Besides the obvious national affinity that binds VGXP's founders to Korea, what were the other key aspects that made the country stand out vis-à-vis other Asian countries?

Korea has already established itself as a global leader in IT and recently the government and local entrepreneurs have begun focusing on BT. In our research we saw that there are other potential locations such as Japan, India, Thailand, and Singapore. However, as Korean-Americans founded this company, Korea was an easy and natural choice. Aside from personal considerations, we want to be the biggest and best global company founded by Koreans and located in Korea. That's our big vision, but of course there is also government support for BT here as well. Also, access to capital in Korea was a key consideration when I came to Korea in 2004, at a time when the economy was extremely strong. I have met a lot of people in finance who were very interested in making investments in BT, they truly believe it's going to be the next thing. The Professor Hwang incident was obviously negative in many ways, but it was positive in that it got people thinking about BT and Koreans started to believe they could become leaders in the biopharmaceutical industry. In a way he did a fantastic job in promoting the industry. So, when I came in 2004 to look into opportunities, the financial firms were very interested. Korea is also right next to Japan, which is

the world's second pharmaceutical market, and China which could eventually be number one. We are also near the booming market in Singapore. Finally, there are many Koreans here who have been educated in the US and Europe, so we have a highly educated and able workforce. You are an example of the Korean brain-drain being reversed in recent years.

What is your personal view on this trend?

For some time the Korean economy was not strong enough for highly skilled workers to return. But after the 1988 Seoul Olympics and the early 90's boom, people started coming back. This trend accelerated after the huge rebound in 1997, and now people are really sensing the opportunity to come back. Many of my Korean friends who studied with me at University of Pennsylvania came back. In the past people saw the US as a better place to raise kids and establish a family, but these days Korea has all the same amenities and services. As far as I know, capital flows in Korea are among the highest of all the developed countries. This has allowed many companies to establish operations here. They are looking to take advantage of Korea's fundamental strengths, which are the highly skilled workers, discipline, and focused work ethic. A great example of this drive and work ethic is how the country was decimated in the Korean War, and then was completely rebuilt in just 20 or 30 years. I would also like to mention some of the challenges faced when operating in Korea. Regulation is very stringent and still needs to be loosened. For example, every time you wire money from outside the country you need special approval. We also need to establish partnerships with global pharmaceutical companies. I don't think the major Korean pharmaceutical companies have enough capacity to establish wide-ranging, strategic partnerships in terms of R&D and even manufacturing.

How is VGXI aiming to position itself in the Korean and global pharmaceutical industries?

I think we are different from other Korean biopharmaceutical companies, especially since already do business with US companies. I think that we can become a link between the Korean biopharmaceutical industry and foreign markets. We are a very international company; we are VGX International after all. In terms of size, we're still small but we have a lot of potential. We are very open in terms of expanding our business, but at the same time we are also focused on the Korean market. Even though it's in large part a generics market, there's still a huge opportunity that we would like to exploit. We really see ourselves as a bridge between the global and Korean markets. Right now about 30% of the global pharmaceutical companies outsource their manufacturing; by 2010 it should be closer to 50%. Sanofi-Aventis recently announced that in ten years they will completely outsource their manufacturing. So this is a major trend in the industry, which is why CMO is the future of our company.

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