Top 8 Asian Biopharma Clusters 2015

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Biopharmas Increasingly Look to the East's Most Promising Regions for Opportunities

Asia's emergence as a mecca for developing drugs, tools, and technologies began a generation ago, when Western companies began scrambling for countries where they could manufacture products for less than what was possible in Europe or the U.S.

But as biopharma has grown in Asia, so it has moved beyond manufacturing, to carrying out trials and R&D. From country to country on the continent, industry and government leaders now spend much time and attention promoting the need for innovation. And industry outside of Asia is taking notice, as it searches for growth beyond the traditional markets of the U.S., Europe, and Japan.

"The new generation of companies will focus on China, non-China Asia, the Middle East, Africa, and individual countries with large populations and increased healthcare spending," G. Steven Burrill, CEO of Burrill LLC and Burrill Media, has predicted for 2015.

That focus, he added, will mean greater activity on foreign exchanges as companies in Europe and Asia raise money at home, capitalizing on strengthening economies and rising markets—and as Asian companies work to secure financing, both privately and on public markets.

#8 – Singapore

Singapore ranked sixth in patents (8,516), eighth in R&D spending with S$3.7 billion ($2.663 billion) committed to biopharma between 2011-2015 (from a total $8.149 billion cited by OECD for 2012), and number of companies (95 in 2012)—but seventh in jobs (37,735 in 2012) and IPO activity thanks to diagnostics developer VolitionRx (which also operates in Belgium), which last month raised $8.5 million, followed by $1.3 million sold to underwriters. Yet the pride of the multi-ethnic city-state pride remains the presence of more than 30 biopharma giants with major operations in the dazzling Biopolis that anchors Singapore's biopharma industry. They include AbbVie, Amgen, Actavis, Baxter International, Bayer, Novartis, Roche, and Takeda—as well as GlaxoSmithKline, which earlier this month selected Singapore as its hub for Asian operations, with plans to shift U.K. and U.S. staffers there, thus growing GSK's Singaporean workforce beyond the current 700 employees.

#7 – Malaysia

Malaysia fares best in numbers of jobs (seventh with 12,549 direct, and 83,000 direct plus indirect as of 2014) and companies (seventh with 240 "BioNexus"-designated businesses), but ranked lower in patents (eighth with 3,388) and R&D spending (ninth with $1.192 billion among BioNexus companies as of 2014). None of the country's biotechs have yet completed an IPO. The country is preparing to launch the third phase of its National Biotechnology Policy, which will focus on strengthening the global business of Malaysian biotechs by 2020. In an address last November, Prime Minister Datuk Seri Najib Tun Razak acknowledged that more aggressive strategies will be needed if Malaysia is to advance and sustain biotech industry growth past 2020.

#6 – Australia

Australia is second in Asia in patents (32,436) but ranked further down in IPOs (fifth with $64.8 million raised by three companies), companies (sixth with 450), and R&D spending (seventh with about $20.955 billion in 2011 [OECD], including

$1.037 billion related to R&D for medicines according to Medicines Australia), with a workforce of 40,000. Home-grown Cynata made news last month after validating its Cymerus™ process for manufacturing mesenchymal stem cells at a U.S. GMP site; a Phase I human clinical trial of Cymerus is currently in planning stage, the company said. Also making news was Peter French, the CEO of home-grown gene-therapy developer Benitec Biopharma, whose company has raised $30 million for trials in the U.S. despite what he told The Australian was reluctance of his country's institutional investors to invest in biopharma startups.

#5 – Taiwan

Taiwan may still be seventh in Asia in patents (8,221) and sixth in R&D spending ($30.332 billion in 2013 according to OECD), but has made progress in recent years in growing biopharma companies (fourth with 350 pharmaceutical companies and 490 applied biotech companies, according to Biotechnology & Pharmaceutical Industries Promotion Office), and IPOs (third with $204.3 million raised by four companies). A total 71,580 people work in biopharma. Among home-grown successful companies are Medigen, whose market capitalization more than doubled between March and May 2014, to more than $2 billion; and PharmaEngine, which in November joined U.S.-based partner Merrimack Pharmaceuticals in winning FDA's Fast Track designation for their MM-398 (nanoliposomal irinotecan injection, PEP02) for metastatic pancreatic cancer in patients previously treated with gemcitabine-based therapy.

#4 – South Korea

South Korea is at or above middle of the pack in patents (fourth with 18,620), R&D spending (third at $68.937 billion in 2013, though a biomedical R&D figure of $6 billion has been calculated for 2012), and companies (a narrow third with 853 as of 2013). The country hasn't seen biopharma IPOs completed since the $17.5 million raised by Seegene in 2010—but that is expected to change this year, as stem cell biotech Corestem is looking to go public, seeking to raise about KRW 30 billion ($26.5 million) through a listing on the KOSDAQ market. Financing of companies is a priority for Korean authorities; last month the country's Ministry of Health and Welfare announced the start of the second phase of its Global Pharmaceutical Industry Development Fund worth KRW 135 billion ($119.3 million), following on the successful first fund totaling KRW 100 billion ($88.3 million).

– India

India ranks fourth in Asia in R&D spending (an estimated $40 billion in 2014, though a biomedical R&D figure of $2 billion has been calculated for 2012), fourth in IPOs (entirely due to the $80 million raised in 2010 by Claris Lifesciences), and fifth in patents (18,447) and number of companies (more than 400, according to trade group Association of Biotechnology Led Enterprises or ABLE). Estimates for number of biopharma jobs have varied widely, from 50,000 cited in a 2013 news article, to 450,000 cited in a news report earlier this year. One recent point of national pride comes from Bharat Biotech of Hyderabad; earlier this month, Prime Minister Narendra Modi announced that the company began production of India's first indigenously developed rotavirus vaccine, Rotavac. The vaccine is designed to fight Rotavirus, which causes 80,000 deaths a year in India and is one of the most common causes of diarrhea in children.

#2 – Japan

Japan is Asia's clear leader in patents (154,918), reflecting legacy pharmaceutical activity as well as research by universities and institutions. But the "Land of the Rising Sun" narrowly lost its top-standing in IPOs to China, and Japan's performance—$2.636 billion raised by nine companies—is skewed by Otsuka Holdings' $2.4 billion offering in 2010 [Acucela is not included despite a Tokyo Stock exchange IPO that raised $162 million because the company is U.S.-based]. The nation is a solid second in Asia in R&D spending ($160.247 billion in 2013, though a biomedical R&D figure of $37.2 billion has been calculated for 2012) and number of companies (552 as of 2013). One of those companies, home-grown Sosei Group, last month acquired U.K.-based Heptares Therapeutics, which focuses on new therapeutics targeting G protein-coupled receptors (GPCRs), for up-to-$400 million.

#1 – China

China is not only the world's most populous nation, but Asia's leader in biopharma as well, surpassing other nations on the continent in R&D spending ($336.495 billion in 2013), number of companies (7,500 in 2013), and jobs (250,000 in 2013, according to Kelly Services). China is rapidly catching up in patents (third with 30,627), and narrowly edged Japan for IPO leadership ($2.747.5 billion raised by 18 companies) despite a 15-month moratorium during which Chinese authorities froze such offerings pending new regulations that took effect at the start of 2014. China appears likely to extend its lead in IPOs if as expected 3SBio completes an initial public offering of $400 to $500 million during the second quarter. More

information about biotech—and ambitious goals for growth and innovation—can be expected to emerge next year, when officials release the 13th Five-Year Plan for 2016-2020.

GEN's ranking of the top eight biopharma clusters in Asia is based on the following criteria:

- Public R&D spending—Figures for most nations appear in the Organization for Economic Co-operation and Development (OECD)'s most recent edition of its twice-annual Main Science and Technology Indicators, published in February 2015. OECD did not include India, where a 2007 R&D figure was published by the National Science Foundation in its Science & Engineering Indicators 2014. Some nations broke out biomedical R&D on their own; for others, figures for 2012 have been calculated by Chakma, et. al, (See "Asia's Ascent—Global Trends in Biomedical R&D Expenditures," New England Journal of Medicine, January 2, 2014).
- Patents—Based on the number of "biotechnology" and "pharmaceutical" patents in World Intellectual Property Organization's PATENTSCOPE database, consisting of some 36 million patent documents, including 2.2 million international patent applications published through the Patent Cooperation Treaty (PCT) of 1970, under which applicants can simultaneously seek protection for their inventions in 148 countries.
- Initial public offerings (IPOs)—Figures taken from a combination of publicly available data sources and company announcements dating back to 2010, to ensure a minimum number of Asian nations that could be ranked.
- Number of companies—Combines figures furnished by the countries themselves on their own websites, in publicly available reports or public announcements, or in press articles when written by or directly attributed to an industry source.
- Jobs—Based on various sources, from industry groups, regional life sciences campuses, public and/or private economic development groups, and press articles when written by or directly attributed to an industry source. Because of differences in criteria such as inclusion of medical device or hospital patient-care positions, GEN found widespread discrepancies in job figures, including among several of the top-ranked regions. For this reason, job numbers are not ranked themselves, though they were factored in when deciding the ultimate position of a region.

GEN's list is likelier to rank larger clusters higher than smaller ones, though the presence of smaller countries such as South Korea, Singapore, and Taiwan shows that size is not necessarily what distinguishes the most successful biopharma industries from those with less success. Two countries included in some Asian cluster listings, Israel and Turkey, do not appear on this list since their locations within the Middle East also place them on cluster listings for that region instead.

A-Lists | Insights | Health care economics | Rotavirus vaccine | 3SBio | BioNexus | Claris Lifesciences | GlaxoSmithKline | Merrimack Pharmaceuticals | VolitionRx

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