Singapore's new tune

By Steve Edelson, Executive Editor

After more than two decades of investing in life science infrastructure, Singapore is now shifting its focus to translational research with near-term commercial applications and clear economic outcomes. To do so, the country is allocating S\$3.7 billion (\$2.8 billion) between 2011 and 2015. Central to the effort will be the newly formed Industry Partnership Office, which is expected to serve as a one-stop shop for companies and academics looking to partner with various components of Singapore's life sciences network.

Historically, Singapore has had a strong basic research capability and manufacturing presence in the biomedical space. In 2000, the government decided to up the ante and boost its intellectual capital in the life sciences with an initial five-year plan that called for expanding its research infrastructure.¹ That entailed accelerating the country's efforts to attract scientists from abroad and building Biopolis, a complex of research institutes focused on biology, genomics, bioengineering, bioinformatics and bioprocessing.

About 50% of the space in Biopolis is occupied by companies.

From 2006–2010, the focus shifted to adding translational and clinical research capabilities, for which the government allocated S\$3.3 billion (\$2.5 billion). The moves included expanding Biopolis to house new institutes focused on translational research, forming five translational research consortia and spending S\$125 million (\$94.6 million) to fund the research of clinical scientists in neuroscience, gastric cancer, eye diseases, infectious diseases and metabolic disorders.

"The strategy has been to build an ecosystem from basic science and into clinical research—the focus is mouse to man," said Edward Holmes, deputy chairman of the Translational and Clinical Sciences Group at Singapore's **Agency for Science, Technology and Research** (A*STAR). "We have a population that's a window into the very large Asian market. Rather than compete with China and India on Phase III trials, we built the infrastructure mostly for Phase I and II studies."

Another goal of the 2006–2010 funding was to attract companies to partner with the country's research institutes and medical centers. A key deal came in January, when **Roche** and collaborating Singaporean institutions announced plans to invest CHF100 million (\$96.2 million) to establish The Hub for Translational Medicine in

Singapore.² The partners have released few details but said the goal was to expand knowledge of disease biology to accelerate development of personalized treatment approaches.

Collaborating with Roche are A*STAR, the **National University of Singapore**, the **National University Hospital**, **Nanyang Technological University**, the **National Healthcare Group** and **Singapore Health Services Pte Ltd**.

Putting it all together

The theme for the new 5-year plan, which represents a 12% increase in funding versus the 2006–2010 period, is integration to achieve an effect on the country's economy. In biomedical sciences, the Industry Partnership Office will serve as the liaison between would-be industry partners and Singapore's multiple research entities and hospitals.

"I think our biggest challenge right at the moment was getting companies access to the entire ecosystem—Biopolis, the translational research enterprise, everything," said Holmes. "We tried to respond to that by creating the biomed sciences Industry Partnership Office, which is basically a clearinghouse. It allows companies like Roche to sign one contract with Singapore rather than go around and sign with six of our institutions. If you put those institutions into a single entity, it's much easier. That's not a small matter to appear to a company that you have six institutions looking like one."

"The first thing we recognized is that while companies are moving towards Asia, different companies require different competency across our landscape that complement their strategies," said Beh Kian Teik, director of biomedical sciences for Singapore's Economic Development Board, who also was named program director of the Industry Partnership Office. "The Partnership Office allows us to string together and customize exactly what a company needs. It provides access to a lot of people across a lot of disciplines."

In the next five years, Holmes said he hopes Singapore can do five deals that are similar in scope to the Roche alliance. "I think we've discovered the rate-limiting step is clinical scientists," he added. "We have the basic science capability to do two such deals per year, but the basic science people aren't the ones who get the patient cohorts. That's why we want to ramp from about 80 to 160 clinical scientists" at Singapore's public institutions.

Regardless of deal numbers, Beh said the emphasis "will be much more on commercial research. There's a great recognition about science affecting society, and we must all work to make that happen. Everyone will tell you that we do science for a purpose."

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—Edward Holmes,
**Agency for Science,
Technology and Research**

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2. Schaeffer, S. *BioCentury* **18**(7), A7–A8; April 12, 2010

COMPANIES AND INSTITUTIONS MENTIONED

Agency for Science, Technology and Research, Singapore

Nanyang Technological University, Singapore

National Healthcare Group, Singapore

National University Hospital, Singapore

National University of Singapore, Singapore

Roche (SIX:ROG; OTCQX:RHHBY), Basel, Switzerland

Singapore Health Services Pte Ltd., Singapore