

A GLOBAL INNOVATION HOTSPOT

Shanghai's open-door policies and diverse government initiatives have promoted **THE SYNERGISTIC GROWTH OF SCIENTIFIC RESEARCH, EDUCATION AND ENGINEERING**. This rapidly expanding innovation hub continues to attract ambitious projects, leading talent, and generous investment from around the world.

This summer, Johnson & Johnson Innovation opened another of its JLABS life science incubators in the heart of Zhangjiang Hi-Tech Park in Shanghai, China. It is the first in the Asia Pacific, and the largest in the world.

"Driven in part by the strong support from the Shanghai Municipal and Pudong New Area Governments, we have picked Shanghai to serve as our regional hub for global innovation," says Johnson & Johnson's Sharon Chan, Head of JLABS @ Shanghai, who explained that the city now boasts the highest concentration of medical R&D resources nationwide.

The 4,400-sqm JLABS @ Shanghai is illustrative of the cascade effect fuelled by foreign-funded R&D centres in the city. Facilitated by a home-grown and international network of institutions, experts and businesses, the culture of collaborative innovation is rapidly shaping the future of Shanghai and beyond. As of July 2019, up to 450 significant R&D centres in the city are funded by foreign investment, according to Science and Technology Commission of Shanghai Municipality (STCSM). Among them are multinational

innovators including Honeywell, Novartis, AstraZeneca, and Roche, which have all picked Shanghai as one of their top three global headquarters.

Other government statistics confirm such diversity. As of July 2019, there were 1,431 foreign employees —118 classified as top talent and granted tier-A visas. By August 2019, 59 foreign companies had become affiliated with the Shanghai R&D Public Service Platform.

Incubating budding innovators

With capacity to accommodate more than 50 life science and healthcare start-ups, the JLABS @ Shanghai has engaged international experts in science and commercialisation, as well as almost 30 venture capitalists to hold weekly meetings with their early-stage company residents. Its transparent business model focuses on scientific innovation, while companies retain their intellectual property and entrepreneurial freedom.

Chan explained how her company's China Lung Cancer Initiative, and the delivery of other healthcare solutions in the region, can be fast-tracked with the opening of the JLABS @ Shanghai. "China's start-up ecosystem is booming, and

the potential for innovation is enormous. We are really excited about the many opportunities for collaboration among our resident companies, and externally with the many other start-ups across the city," Chan said.

"Our JPALS network has experienced significant growth through these collaborative expansions and new initiatives, and the impact on the global innovation ecosystem is undeniable," added Melinda Richter, Global Head of Johnson & Johnson Innovation - JLABS, highlighting the 250+ J&J mentors across 40+ J&J locations worldwide.

Johnson & Johnson is joined by many firms attracted to the innovation ecosystem of Shanghai. With the help of Yangpu District Government in Shanghai, Siemens Digitalization Experience Center Process Industry Showroom, launched in August 2017, has since hosted more than 1,000 visitors from government, enterprises and academics.

In March 2019, STCSM and Siemens signed a memorandum of scientific and technological cooperation. In future, STCSM will provide various channels and platforms while Siemens will give full

play to its technological and talent advantages to co-create and co-construct on innovation and digitalization.

"This is the first time that Siemens has signed a memorandum of scientific and technological cooperation with Shanghai government," says Weiguo Wang, Senior Vice President of Siemens Ltd., China and General Manager of Region East. "In the future, we will actively participate in more cutting-edge science and technology projects and build the innovation ecosystem."

Things are looking bright for other incubator platforms. The Gateway Medical Innovation Center was launched in 2018 and, in just a year, completed 144 tests for 80 clients.

Accelerating growth with the academic community

Many projects have benefitted from Shanghai's unique concentration of research universities and other subsidized platforms on a global scale, as Wang, Chan and Richter highlighted. Siemens, for example, has already worked with 15 universities and their affiliates in Shanghai on 155 research programmes.

From information technology, biomedicine to



engineering, other notable examples include Shanghai Jiao Tong University's collaboration with Medtronic and ExxonMobil on the MedTech Innovation Accelerator, a project extensively subsidized for the development and applications of polymer materials. Another generous grant was given to the joint programme between Dow Chemical and Fudan University, whose research output includes an innovative epoxy resin and curing agent for anti-corrosion coatings and electrical potting, all prepared from recycled materials. Other examples of foreign enterprises financially supported by STCSM include General Electric for developing

medical equipment, and Dow Chemical for a material science project.

Given the lengthy and bumpy road to commercialize life sciences products, sharing resources and saving costs are just as essential for any research venture's ultimate survival. Shanghai's many stimulatory measures with non-discriminatory clauses for both foreign and local enterprises, such as weighted pre-tax deduction of R&D expenses, directly benefits foreign-funded R&D centres.

"We hope that the government will continue its valuable support in developing the city's innovation ecosystem and helping

innovators of all shapes and sizes to transform great ideas into solutions," says Chan.

Transforming cities with advanced infrastructure

While the city embraces the latest technologies such as AI, robotics and cloud-based computing, it is also facilitated by the physical infrastructure supporting its ambition.

The idea of the Internet of Vehicles, in particular, has attracted telecommunications and automotive giants to Shanghai, as China Mobile Communications Corporation and Nokia Bell Labs joined forces with Shanghai-based Pan Asia Technical Automotive Center. The

latter also partnered with Shanghai Zhangjiang Enterprise Innovation Management for an incubation programme.

In addition, Shentong Metro Group (the operator of Shanghai Metro and Shanghai Maglev Train) has been working with Siemens on large-scale infrastructure projects, which will have major significance for Shanghai.

"Shanghai has also done a remarkable job to become the vital centre for advanced technology leadership, and should continue to be a leader in emerging technologies," says Chan. ■

