Interview: Wayne Wang PhD – Director General, Hsinchu Science Park, Taiwan

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Wayne Wang, director general of Hsinchu Science Park (HSP), the country's largest and oldest innovation cluster and the first in Taiwan to establish a science park exclusively dedicated to the life sciences industry, documents the potential of HSP as a world-class eco-system for start-ups, local and international mature companies, prestigious research centers, and students, as well as his priorities to further enhance academia-industry collaboration and cross sector interplay between the IC and life sciences sectors in an area that is widely considered "Taiwan's Silicon Valley".

Could you introduce HSP to our international readers and explain what the importance of the life sciences industry is within the Park?

Taiwan's innovation corridor encompasses three main science parks located in the North, Centre, and South of the Island, alongside our country's Western coast. Hsinchu Science Park, in the North of Taiwan, proudly stands out as the oldest and largest one of these innovation hubs, while the overall revenues generated by the companies implanted in these three science parks account for around 15 percent of Taiwan's GDP.

HSP spreads out over a total land of more than 653 hectares and 99 percent of our companies are related to the electronics field, whether it relates to optoelectronics, precision machinery, telecommunications, or IC companies – the latter accounting for around 74 percent of the total

revenues generated by all companies of HSP. Although the biotech and biomedical industries still stand as an emerging field among HSP's mature pool of companies, Hsinchu Science Park was the first one in Taiwan to establish a cluster exclusively dedicated to the life sciences industry, the Hsinchu Biomedical Science Park, which covers an area of 38 hectares. It truly operates as a piloting science park in fostering the development of domestic biotech companies and gathers some of the fastest growing and most promising healthcare-related companies in Taiwan. As a matter of fact, the cumulated revenues generated by the companies established in Hsinchu Biomedical Science Park increased from 2015 to 2016 by 140 percent.

As CEO of the largest innovation cluster in Taiwan, what are your strategic priorities to propel the growth momentum of companies located in HSP?

Given that the IC and biotech industries stand as two of the five main pillars of Taiwan's innovation-centered economic model, one of my main priorities is to ensure HSP continues to grow and we can truly nurture the development of our companies.

The first dimension of this endeavor relates to academia-industry collaboration, which I want to continuously and tremendously strengthen, while HSP is strategically located at the center of a high-density concentration of world-class universities and research centers. Our neighbors notably comprise Taiwan's Industrial Technology Research Institute (ITRI) and its 6.000 researchers, as well as the National Health Research Institutes (NHRI) – without mentioning eight other national research institutes of international standards located in Hsinchu. Furthermore, National Taiwan University, one of the best universities in the country, is currently building a new teaching hospital and oncology research center within the walls of Hsinchu Biomedical Park, which will significantly contribute to further enhance the research and scientific capacities gathered in the area. Finally, two of our country's most prestigious universities, National Tsing Hua University (NTUH) and National Chiao Tung University (NCTU), and their 27.000 students are also located in Hsinchu.

[Featured_in]

Overall, these students and researchers constitute the basis of an utterly attractive pool of talent for companies located in HSP, while a large share of these companies' CEOs and staff are alumni of these universities and/or former researchers of the aforementioned prestigious institutions. To further nurture this win-win relationship, HSP provides substantial incentives and grants to foster academia-industry collaboration and bolster translational research. For collaborative projects, HSP's grants can now reach up to ten million NTD [USD 330.000], as long as this subsidy does not exceed 50 percent of the overall project budget.

We also want to ensure these collaborative projects lead to the creation of new startups, which also require great support, especially at the early stage of their development. In this vein, we have been financially supporting the implementation and development of two top-notch incubations centers in National Tsing Hua University (NTUH) and National Chiao Tung University (NCTU), while we offer a wide array of services to these emerging, innovative companies, ranging from rent-free offices to regulatory and legal advisory services directly sponsored by HSP.

Fostering cross-disciplinary interplay is also absolutely crucial. In this regard, we set up a dedicated funding program that subsidies joint research program bringing together the IC and life sciences industries. This initiative has already started to bear fruit and HSP saw the dawn of several success stories at the junction of these two fields, such as Somnics, an innovative medtech company focused on sleep apnea devices, or General Biologicals Corporation, an in-vitro diagnostic device manufacturer, as well as some collaborative research projects focused on ground-breaking products and solutions, such as the endoscopic navigation system developed by NARLabs, Taiwan Surgical Corporation, and Lumos Technology.

Besides the huge talent pool you just mentioned, what other specificities of HSP could appeal to more mature, innovative companies in Taiwan and globally?

First, Taiwan’s corporate tax rate is only 17 percent, while it is around 23.90 percent in Japan and 25 percent in China. Furthermore, no import duty, commodity or business tax is imposed on machineries, instruments, raw materials, fuels, and semi-finished imported by companies located in the Park, and all exports of HSP companies are also exempt from business taxation. Moreover, R&D expenses up to 15 percent can be deducted from corporate income tax, while the Park Administration takes over responsibility for 66 percent of the cost for on-job training that aims to upgrade the professional expertise of the companies’ staff. Taiwan also offers to local and international companies a level of IP protection that is perfectly aligned with the best international standards, which ensures that developing groundbreaking innovation in our country is absolutely safe.

I also want to highlight that HSP’s support is available to both local and international companies, which are all treated equally and are eligible to the exact same incentives and grants.

In this regard, attracting an increasing number of international companies to set up their regional R&D centers in HSP also stands as one of our first and foremost priorities. As a matter of fact, some Taiwan and US-based pharmaceutical companies such as Medigen, have already established their regional R&D facilities in Hsinchu Biomedical Science Park.

We however know that such international investments are based on criteria that are broader than the depth of the talent pool and tax incentives available. For example, international companies are particularly attentive to provide the best quality of life possible to their collaborators and employees. In this vein, HSP has been investing substantial resources to guarantee these employees' wellbeing, while the Park administration, local universities and research centers as well as the Hsinchu County regularly gather to discuss how we can provide our researchers and employees with the best living and working environment.

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HSP is the largest innovation science park in Taiwan. To what extent do you hold the capacity to welcome new tenants?

In this regard, HSP is somehow victim of its success. When I took over the head of the science park eight months ago, our 653 hectares were almost fully occupied, prompting companies to settle their new production facilities in Taiwan's Central or Southern Science Parks, while Hsinchu Science Park is now essentially focused on cutting edge R&D activities and related infrastructure.

For the Hsinchu Biomedical Science Park, we are about to build a new 12-storey building to welcome new pharmaceutical, biotech, and medtech companies, which will require an investment of NT$2.4 billion [USD 80 million] from HSP. In the grand scheme of things, we are also working with the Hsinchu County on further expanding the overall surface of the Biomedical cluster, which will allow new companies to upgrade and/or settle their R&D centers and production facilities within our walls.

As described by President Tsai since she took office, innovation truly is at the core of Taiwan's new economic model. What do you see as HSP's role in this regard?

Overall, Hsinchu plays a critical role in fulfilling Taiwan's innovation-centered ambitions, while we also hold a central importance in the development of the region. As a matter of fact, a third of all employees working in Hsinchu area work for companies located in HSP. Hsinchu now displays high employment and birth rates, as well as a high education level, while age average in the area is the lowest in the country.

By fostering the growth of our companies, we also create more appealing job opportunities for our talented graduates and researchers, which can more easily contribute to the development of domestic, innovation-driven companies or work among some of the leading electronics or life sciences companies in the world. In the grand scheme of things, Hsinchu Science Park wants to help Taiwanese and international entrepreneurs, researchers, and investors to pursue their dreams

and bring to the world more innovative products and solutions.

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