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Life sciences is top priority for the Netherlands in 2012

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The Netherlands, despite its relatively small size, serves as the base for many multinational life sciences companies in Europe. These include not just multinational companies such as Abbott, Merck and Roche, but also smaller niche players such as the CordLife from Singapore.

The factors that make the Netherlands an attractive location for international companies include, conducive research environment, competitive fiscal climate and an international business environment. The Netherlands Foreign Investment Agency (NFIA), an operational unit of the Ministry of Economic Affairs, Agriculture and Innovation, helps and advises foreign companies in establishing, rolling out and expanding their business activities in the Netherlands. The Life Sciences & Gezondheid (health) program, an initiative of the government and the industry, helps small and medium-sized companies find funding and opportunities to develop their products. Currently, there are 935 such companies in the country, and many of these have collaborated with Asian companies for research and development.

In an interaction with *BioSpectrum*, Ms Karin Rancuret, area director of NFIA in Singapore, discussed opportunities in the life sciences industry in The Netherlands and its collaborations with Asian countries to bring new technologies and products to the market.

In what areas of life sciences is the Netherlands building its potential?

Ms Rancuret: Maintaining and improving an aging population's quality of life while keeping healthcare affordable and sufficiently staffed is one of the major challenges of our time. It is also a major opportunity for the knowledge economy and for the life sciences and health industry in particular. Innovations in this industry can contribute to solutions for this challenge and these innovations will find ready demand in the healthcare market, which is one of the largest and fastest growing markets in the world.

The Dutch life sciences and health industry is in a unique position to develop such innovations, as it hosts a unique cluster of world-class research institutes, universities, leading multinational companies and entrepreneurial start-ups working towards marketable innovations through public private partnerships.

Dutch companies are leaders in plant and farm animal breeding. In biomedical sciences, the Dutch excel in areas such as cancer research, infectious diseases, vaccines, molecular imaging, cardiovascular and clinical research. Other areas include agriculture, food (dairy, functional food, nutraceuticals), the environment (water sanitation) and fermentation. This prominence is due to its productive R&D base and integrated approach to innovation with main focus on white biotechnology with applications in industrial production, and red biotechnology with applications in healthcare.
This conducive R&D environment has resulted in world-class expertise in five disease and therapeutic areas: cardiovascular diseases, infectious diseases, neurosciences, oncology and auto-immune diseases. The Netherlands is also very strong in medical technology.

The life sciences and health industry is one of the priority sectors of the Dutch government and agreements have been made with the industry and knowledge institutes on cooperation and co-investment in research in areas such as molecular diagnostics, imaging and image-guided therapies, and regenerative medicine.

The Netherlands has been investing in vaccines' capability and Indian companies have partnered with Dutch companies for the purpose. Do you have similar plans for China?

Ms Rancuret: Dutch vaccine companies and institutes are already collaborating with India in the research and development of vaccines for neglected diseases such as malaria, chikungunya, influenza and cancer.
The life sciences and health industry in the Netherlands is focused on the international markets. More than 60 percent of Dutch life sciences companies import things needed for their operations, including enabling technologies (in the form of patents and licences), raw materials, reagents and other chemicals, and laboratory equipment. And 67 percent of Dutch life sciences companies work together with other companies and knowledge centers abroad.

There are now strong local life sciences and health clusters that operate on a global scale, with their own focus and strengths. Businesses cooperate successfully within and between clusters, and with other sectors with strengths in the same region.

Asian companies are also moving to the Netherlands. Japanese company Astellas recently made a decision to move to the Leiden Bio Science Park. At the World Expo in Shanghai in 2010, the Yangtze River Pharmaceutical Group, one of the largest pharma companies in China, established a joint venture with SU Biomedicine, a spin-off of the Netherlands' TNO Quality of Life. Soon to be located at the Park, SU Biomedicine focuses on the introduction of herbal medicines in the western market. The Yangtze River Pharmaceutical Group produces both generic and herbal medicines and they will enter the European market through this new joint venture that focuses entirely on the safety, quality and effectiveness of their products.

What kind of investment does the Netherlands plan to make in the life sciences sector in 2012?

Ms Rancuret: The Dutch government has identified nine top sectors that they plan to strengthen with the help of Dutch businesses, as part of its new economic policy. The life sciences sector is one such sector in view of its current strong position and scope for growth. It is investing about $657.2 million (500 million euros) in public-private life sciences partnerships in the health domain. The industry, universities and medical centers have doubled the public investment to a total of $1.3 billion (1 billion euros).

The country has a national genomics program, eight universities in biomedical sciences, two agriculture universities and one veterinary sciences university. The Life Sciences and Health innovation program plans to invest $78.8 million (60 million euros) in some 100 projects over the next five years. Committed to its integrated approach to innovation, the program connects efforts being made by Top Institute Pharma, Centre for Translational Molecular Medicine and Biomedical Materials Program.

What are some of the breakthrough developments of 2011 and how was it effective in putting the Netherlands on the life sciences global map?

Ms Rancuret: Dutch biotechnology company, to-BBB gained worldwide rights for the development and commercialization of G-Technology that enables potential treatment for devastating brain diseases, such as Alzheimer's, Parkinson's, viral encephalitis, stroke and brain tumors, to safely cross the neuroprotective blood-brain barrier (BBB). An exclusive license agreement was signed between the biotech company and the Industrial Technology Research Institute (ITRI) of Taiwan in

November 2011. An expert team of drug delivery scientists from the ITRI, Taiwan, pioneered this promising technology.

More than 30 million people worldwide suffer from major neurological diseases with hardly any hope for cure. For the brain drug targeting company, to-BBB, this worldwide license agreement opens a gateway to deliver new treatment options to millions of patients suffering from currently non-treatable brain diseases.

Also, experts at Medsim in Eindhoven have created the world's first medical birth simulation lab. It is a controlled environment with preset scenarios where gynaecologists can hone their skills and practise complicated deliveries. Medsim will further develop its training program into its software. The lab has already received reservations from medical teams across the world. Medsim is now looking abroad to expand its training simulations beyond the Netherlands.

Then, researchers at two Dutch universities, TU Eindhoven and Maastricht UMC+, have come up with a solution for helping surgeons to re-connect damaged or severed nerve endings. Until recently, nerve damage caused in deep cut-wounds was extremely difficult to treat. The healing process involved great pain and discomfort for patients. Now, scientists working at the Dutch Polymer Institute have developed a biodegradable polymer that can restore damaged nerve-endings and facilitate re-connection. To improve the healing process, the nerve ends are placed in a tube with biodegradable polymer material that attracts growth-supporting cells to speed up the process. By the time the nerve-endings heal, the tube breaks down naturally within the patient's body.