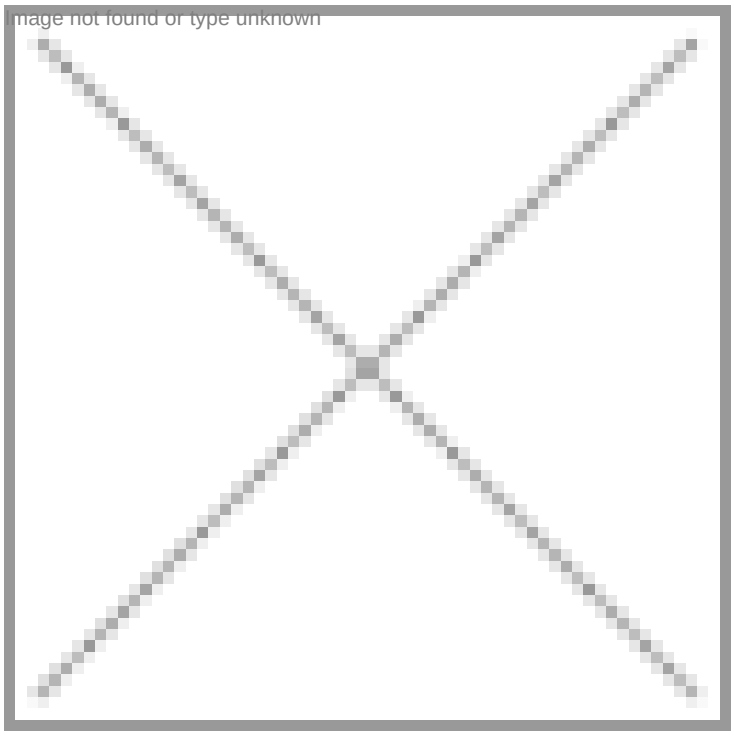
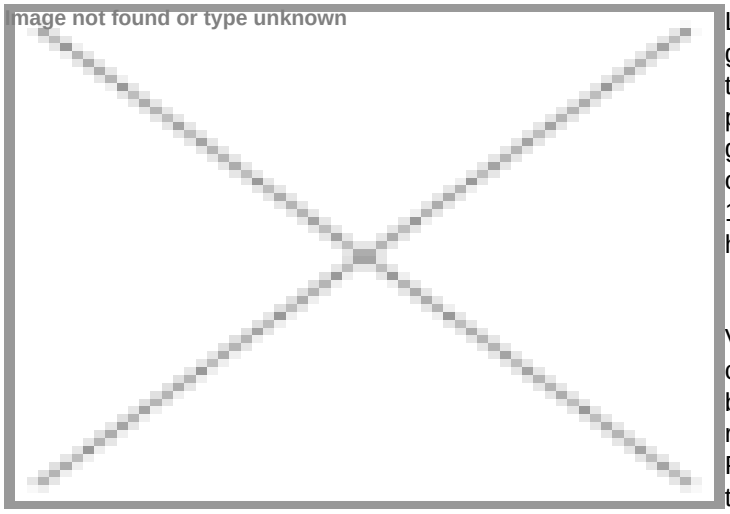
BioSpectrum the business of Bio & Health Sciences

Indo-Dutch Collaboration in vaccines on the radar

15 March 2011 | News



Active collaborations between Indian and Dutch vaccine organizations are currently underway and can bridge the demand-supply gap in vaccines for neglected diseases in both the countries.



Life sciences constitute a key sector in the overall economic growth of the Netherlands. Today, the sector represents about three percent of the country's GDP and employs 54,600 people. In 2006, a total of 935 life science organizations generated a turnover of €15.9 billion, making the industry one of the key pillars of the Dutch knowledge infrastructure. While 150 of these companies are R&D oriented, the others focus on health related R&D, including production, distribution,

Various stakeholders in the country are developing a growth chart for its burgeoning vaccine industry. Several steps are being taken, including permutation-combination of various road maps, in-house R&D projects in companies, Public-Private Partnerships (PPP) between the Dutch Government, the industry and the academia and inking partnerships or licensing deals with companies based in Netherlands with various firms in the developing nations of the world such as India.

Vaccine Industry in the Netherlands

Today, around 3.2 percent of the country's total spending budget goes into vaccines and it boasts of being the seventh biggest spender in vaccines in the world. Moreover, the Netherlands Vaccine Institute is the only public-run organization in the world to produce inactivated polio vaccines.
Crucell, a major player in the Dutch vaccine market which produces 12 different paediatrics, travel and endemic vaccines, has now been acquired by the pharmaceutical giant, Johnson and Johnson (J&J). The combined entity will see leveraging of strengths with Crucell using J&J's expertise and network. Crucell is the second largest independent vaccine player in Europe and the sixth largest in the world with an annual turnover of €365.4 million for 2010.

The vaccine industry in the Netherlands comprises several large and small firms including Abbott and Intervet among others. Abbott, which was previously known as Solvay Vaccines, is another firm that focuses on inactivated Influenza vaccine. Intervet, which was a part of Organon BioSciences and is now owned by Merck, is one of the world's largest veterinary vaccine companies. Currently, Intervet is being partnered with Merial of Sanofi-Aventis to form a new joint venture, which will by far be the largest veterinary pharmaceutical company in the world. This apart, the sector also constitutes various small biotech start-ups mostly based on single-technology, such as Mucosis, ISA Pharnaceutical and DCPrime.

From the Government's side, the Netherlands Vaccine Institute (NVI) has played a major role in the development, production and supply of vaccines. Prof Dr Han van den Bosch, currently professor extraordinary at the Athena Institute of the Free University in Amsterdam, while speaking about NVI says, "The NVI is one of the last public vaccine companies in the world, until recently responsible for the national vaccination program (RVP) and also producing and developing a modest number of vaccines such as inactivated Polio." The NVI supplies three million vaccine doses, including DTP-IPV-Hib, MMR and hepatitis B that is needed for the National Immunization Programme every year. The Institute has also manufactured a smallpox vaccine that will offer protection from a bio-terrorist attack.

The Top Institute Pharma (TI Pharma), a PPP initiative funded by the Dutch Government and a consortium which brings together the industry and academia on one platform, has several projects that are aimed at developing and optimizing vaccines. Today, TI Pharma has 45 companies and 27 research institutes under its wings and its research programmes are based on the Priority Report of the WHO, which enlists priority medicines for certain disease areas in certain areas of the world.

Netherlands-India Vaccine Collaboration

Dutch vaccine companies and institutes are now looking at th ₹ 2,180 crore Indian vaccine market for inking collaborative deals. The Dutch are mainly looking to establish partnerships in the field of R&D of vaccines for neglected diseases including malaria, chikungunya, influenza and cancer. Ms Wilma Witkamp, from the Netherlands' Ministry of Health, Welfare & Sport, says: "Netherlands offers good infrastructure for vaccine R&D. At this moment Netherlands is not actively looking for supply partnerships but is interested into developing joint research programmes in vaccinology with India."

"Both countries share the need to develop treatments for neglected diseases. A partnership can fill up the missing links that we are looking at in our projects. In the field of neglected diseases, Indian companies have access to field sites, which some of our partners do not have and on the other hand, Netherlands has the technological know-how and the large network of life sciences companies." says Ms Jayasree Iyer, senior programme manager at TI Pharma.

The Netherlands offers its own set of benefits to Indian vaccine firms. Says Doortje van Unen, business developer for BioPort Europe, "Netherlands has a favorable tax structure and a patent box. Also, India is attracted towards this market due to its favorable distribution network and easy logistics system. There is a lot of demand in avenues like vaccines, oncology and immunology." BioPort Europe, which is a portal set up a year ago by the Government to accentuate collaborations between Indian and European companies in the field of life sciences, will be a channel via which small and medium sized company in India could enter the stringent European market.

The Dutch NVI has a long history with Pune-based vaccine company, the Serum Institute of India. In 2007, the Serum Institute of India got a license to produce a vaccine against Hib (Haemophilus influenzae Type B) from the Indian government, which was developed using technology transferred from the Netherlands Vaccine Institute. "This was the first time that a developing country was able to develop and get a license for a Hib vaccine through joint development and technology transfer," adds Prof Bosch.

NVI is now supplying bulk material for Salk vaccine, or inactivated polio-virus vaccine (IPV), to Indian companies and has been asked by the WHO to develop the safer Sabine-IPV vaccine for technology transfer. "Once developed, it will highly benefit India, where the last few remaining cases of polio in the world are still to be found," adds Prof Bosch.

Furthermore, Nobilon has sub-licensed the technology for production of Live Attenuated Influenza Vaccine to Serum Institute of India through the WHO pandemic preparedness program, which resulted into the recent marketing of Nasovac by Serum

Institute of India in India and other markets as well. Also, Intervet owns a subsidiary in India that allows it to perform activities including R&D, production, manufacturing and supply of veterinary vaccines.

Looking at these developments, several consortium are keeping a close tab on the market. The trigger factor being that both countries are formulating strategies for the development of vaccines in the field of neglected diseases like malaria. Informs Mr Iyer, " TI Pharma started a neglected disease portfolio under European Solutions Enterprise for Neglected Diseases (euSend) which currently has eight projects for diseases like chikungunya and other infectious diseases. The budget is around €3.6 million. The problem is finding partners for these projects and that is how we got into discussions with interested Indian companies."

India is definitely on the radar of ImmunoValley, a by-product of Utrecht University and a consortium of 27 organizationsthat was formed in 2008 with the idea of knowledge and infrastructure sharing between partners. ImmunoValley foresees India growing as a high-tech innovation ground in the coming years. This they believe, can be accomplished when they partner with the companies having expertise in the technological know-how. ImmunoValley has developed different tools such as a proprietary database of all Dutch scientists in the field of infectious diseases that can be very helpful for the Indian scientific community.

While speaking about Crucell, Ms Witkamp says, "India could be an attractive market for Crucell especially for its pentavalent vaccines." In the past, India was favored destination for the company in conducting global clinical trials for its Monoclonal Antibodies (Mabs) Rabies product.
While speaking about Indo-Dutch colloboration, Mr Iyer concludes that, "Vaccines of tomorrow are mainly in areas like rabies, malaria and chikungunya. Definitely, there will be Dutch players who will be a part of tomorrow's vaccines."

Nayantara Som in Mumbai