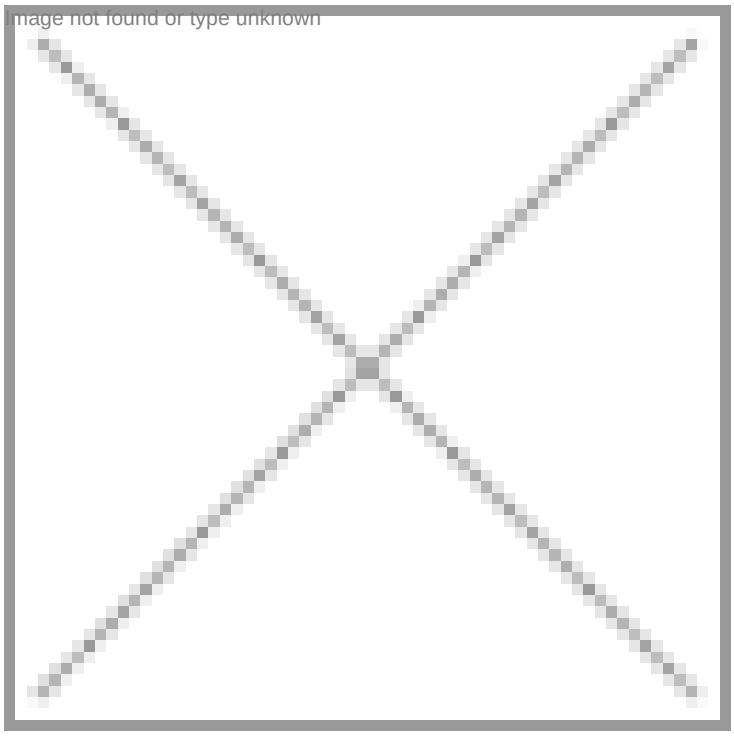
BioSpectrum the business of Bio & Health Sciences

The US biosciences sector employed 8.85 lakh people in 2003

13 July 2004 | News

Image not found or type unknown



The US biosciences sector employed 8.85 lakh people in 2003

According to a new study by the Battelle Memorial Institute and the State Science and Technology Institute (SSTI) for the Biotechnology Industry Organization (BIO), states in the US working to attract bioscience companies are learning that success means specializing in specific sub-sectors. The study was a comprehensive analysis done to quantify the scope and impact of bioscience employment in 50 states.

According to the report, in 2004, 40 states have specifically targeted biosciences for development, though all the 50 states have economic development initiatives available to assist bioscience companies. Investments have grown by as much as $500 million in Florida and experimental approaches, such as tax credits to encourage investment in private venture capital funds, have increased significantly.

There are over 8.85 lakh people employed in the biosciences sector in the US. A large number of this group works in the areas of medical devices and equipment. This segment accounts for 37 percent share of the total employment in the bioscience sector. In 2003, bioscience workers were paid at least $26,600 more than the overall national average private sector annual wage.

Bioscience development is spread across manufacturing, services and research and is not limited merely to medicine or

agriculture. States and regions, promoting bioscience development, are focusing on the activities best suited for the area. For example, North Dakota is focusing on bioprocessing in value-added agriculture, while Missouri is seeking to become a leading center in plant and animal health. States such as Colorado, Massachusetts, Minnesota and Utah are working in the area of medical devices, while other states are devoting their attentions to research and testing.

Partly as a result of economic development programs, 15 states have at least five percent employment in at least one bioscience sector, and 24 states have at least three percent employment in one or more sub-sectors, according to the report. Twelve states-California, Illinois, Indiana, Iowa, Massachusetts, Minnesota, New Jersey, North Carolina, Pennsylvania, South Carolina, Tennessee and Virginia-have both large employment bases in the biosciences and are specialized in at least one industry sub-sector.

Factors that appear to influence a state's ability to grow bioscience employment include the degree of involvement by research institutions, available capital, access to facilities and equipment, a stable and supportive tax and regulatory environment and a long-term perspective. That long-term perspective is reflected in every state's renewed emphasis on science and math education, including programs throughout the K-12 school years aimed at preparing students for bioscience careers.

Recent initiatives include Connecticut's creation of a $5 million BioSeed Fund, which invests up to $500,000 in early-stage companies and Kentucky's $5 million Natural Product Fund. North Carolina created a Life Sciences Industry Revenue Bonding Authority to finance biomanufacturing equipment and lab fit-outs.

Some state programs already have a record of success in assisting bioscience companies. Maryland's Industrial Partnership Program provided some initial support for development of the manufacturing facility for MedImmune's $1.6 billion Synagis, which prevents a respiratory disease in infants, and Martek Bioscience's additive for infant formulas, which helped the company generate $114 million in revenue in 2003.
Source: www.bio.org

Brazil set to become world's main biofuel supplier

Brazil could become the world's largest supplier of biofuel within a decade according to the International Energy Agency (IEA), by which time 10 percent of the world's petrol and three percent of diesel will be biofuel admixtures. The IEA furthermore sees 60-70 percent of the biofuel replacements being made up of ethanol.

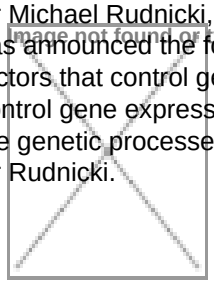
Brazilian ethanol, made from sugarcane, is twice as cheap to produce compared to the US ethanol, which is made from corn. This means Brazil is already facing trade barriers to the US market, where every cubic meter, which can be sold at $150, has another $130 added. "There's no fair competition," said Antonio Padua, the director of the Sao Paulo Sugar and Ethanol Association (Unica).

The US Senate justifies its trade barrier by saying it is trying to encourage a nascent alternative energy source. "This market (the US) can be completely supplied by corn ethanol but even so prospects are excellent for Brazil, as well as for other cane growers such as China and Thailand," said Padua.

Padua forecasts that in 10 years Brazil's ethanol exports could raise to 10 billion liters annually from the 1 billion liters of 2003.
Source: www.aebrazil.com

Third generation genome project initiated

Dr Michael Rudnicki, director, stem cell center and senior scientist at the Ottawa Health Research Institute (OHRI), Canada, has announced the formation of an international consortium, International Regulome Consortium, to elaborate the regulatory factors that control gene expression from the human genome. This consortium aims to map the regulatory networks that control gene expression-the Regulome. "Thanks to this collaboration, we will eventually possess the complete circuit board of the genetic processes that regulate the formation and function of the over 200 cell types that make up the human body," said Dr Rudnicki.



Dr Michael Rudnicki

Top researchers such as Dr Allan Bradley of the Sanger Institute in Hinxton, UK; Dr Bing Lim, senior group leader, Genome Institute of Singapore; and Dr Irwin Davidson, of the Institut de GÃ©nÃ©tique et de Biologie MolÃ©culaire et Cellulaire, CNRS/INSERM/ULP, CollÃ¨ge de France, have pledged their support. Besides, Dr Janet Rossant of the Samuel Lunenfeld Research Institute and Dr Jack Greenblatt of the University of Toronto will also support this endeavor.

This is the third generation genomics project. It may be recalled that in 1990, the international Human Genome Project was launched that sought to identify all of the approximately 30,000 genes in human DNA. A working draft of the entire human genome sequence was announced in June 2000, with a more complete sequence published in 2003. It was immediately hailed as one of the most important breakthroughs in science. This discovery eventually led to a second generation of research to identify all the proteins encoded by the genes with a view to understand their role in normal tissue and the protein alterations in disease states. The International Regulome Consortium proposes a third generation genome project that will delineate how genes are switched on and off to regulate the amount of protein made. The project will define the genetic circuit board that controls the expression of genes in cells during the formation of all tissues and organs in the body. According to Dr Rudnicki the implications of such a profound understanding would be tremendous leading to groundbreaking advances in the fight against many complex diseases.
Source: www.ohri.ca

EUROPE

EU Commission approves biotech sweet corn

The EU Commission hasapproved Genetically Modified (GM) sweet corn (Bt-11) for use as food in the nations under the European Union (EU). This is the first GM food product to be approved in Europe since 1998. This sweet corn is genetically modified to protect itself from corn borer insect damage.

"The Commission's decision to finally approve this biotech sweet corn is a welcome move and a positive signal. This decision is the first step by the EU to move ahead with the approval process for new biotech products under the EU's new regulatory regime for the authorization of GM products," said Johan Vanhemelrijck, secretary general, EuropaBio, the European association for bioindustries. "But, it is only the first step on the road to unblocking the approval process. We will have to wait to see whether further approvals, including those for cultivation, are forthcoming."

The biotech sweet corn is already approved for food use in Argentina, Australia, Canada, China, Japan, Korea, New Zealand, the Philippines, Russia, South Africa, Switzerland, Uruguay and the US. It was first approved in the US and Canada in 1996.
Source: www.europabio.org

BIA hails Government response to "Bioscience 2015"

The BioIndustry Association (BIA) welcomed the publication of the Government's response to the Bioscience Innovation and Growth Team report, "Bioscience 2015" in the UK. "Several positive steps have been made towards addressing the recommendations in Bioscience 2015. The BIA has warmly welcomed the announcement in the Budget of additional funding for NHS R&D. This is a great start, but additional funding will be required to ensure the success of this initiative. The establishment of the UK Clinical Research Collaboration is also an important step in improving the UK's clinical research infrastructure, although urgent issues such as the length of the drug approval process and cost-effectiveness issues must be addressed if the UK is to succeed," said Aisling Burnand, Chief Executive, BIA.

Burnand pointed out that it is essential that the UK gets the funding environment right as the European bioscience industry faces a near-term funding crisis and it is at a disadvantage relative to the US. "It is disappointing that the Government's response does not yet fully support any of the report's key recommendations on funding. The report called for several measures to improve the liquidity of emerging bioscience companies, such as changes to pre-emption rights and extending the scope of the Corporate Venturing Scheme and R&D tax credits. Government has a significant role to play in helping create a funding environment in which the UK sector can thrive. It is time to act now, before it is too late to catch up with international competitors," added Aisling Burnand.

It was also essential to ensure a secure environment for the medical research sector. The BIA and partner organizations have been strongly urging the Government for some time to introduce a new single piece of legislation that will definitively deal with the ongoing violence, home visits and intimidation that continues to be faced daily by those involved in medical

research using animals.

"Previous attempts to amend existing legislation have provided brief respite to the problem. We urge the Government to tackle this comprehensively to prevent R&D being driven abroad," said Aisling Burnand.
Source: www.bioindustry.org

ASIA-PACIFIC

National Taiwan University plans biobank

The National Taiwan University (NTU) Hospital plans to launch Taiwan's first "biobank" as a means of boosting medical research and treatment, but the project faces problems of funding and a lack of widespread participation, doctors said. "A biobank is a place to store samples, an information-sharing center. It is absolutely needed," said Chang Chi-jen, an NTU Bio-informatics Lab professor.

According to surgeon Yang Ching-yao the NTU Angiogenesis Research Center and the NTU Hospital Department of Surgery currently hold just over 300 samples, consisting of about 150 specimens from liver cancer patients and 200 from stomach cancer patients. "In the past, when doctors or researchers needed to access certain types of data, it was not a problem of time; the problem was that you couldn't even find the data. This new system [the biobank] would make searching data much more efficient," said Chen Chiung-nien of the NTU Hospital Department of Surgery.

The biobank is the brainchild of NTU College of Medicine professor Hsieh Fon-jou. "Infrastructure is tomorrow's medicine. The first priority of Taiwanese scientific development is infrastructure," Hsieh said, explaining that the NTU biobank could serve as a common language between different medical institutions and allow for data fusion. "We could continue to build upon the biobank indefinitely. [Its scope] could be as small as one hospital department or as large as all hospitals," Hsieh said. However, doctors admitted that as of yet, no other hospitals were using the biobank software interface that had been chosen by the NTU.
Source: www.taipeitimes.com