

French key sectors

Bio-manufacturing



Market segment dynamics

Pharmaceutical drugs are no longer the domain of chemists only. Over the past 30 years, genetics and molecular biology have completely revolutionized therapeutics. In 2005, laboratories specialized in biodrugs achieved a turnover of €51.6 billion. Today, their products are more often than not innovative treatments for serious diseases such as cancer.

By 2011, the world bio-drugs market should be worth \$114 billion, which is equivalent to 14% of the global drugs market. The manufacture of therapeutic biomolecules is one of the pillars of therapeutic innovation; it is crucial for the development of the bio-drugs market. Given the number of clinical trials currently being carried out, and the number of patents being filed, experts consider that by 2010, approximately 140 new molecules could be marketed, which would necessitate the quadrupling of the world's bio-drugs production capacity. This means an increase in the global production capacity of cells from an estimated 600,000 liters in 2003 to 2.5 million liters by 2010.

There are many players involved in the biomanufacturing field: pharmaceutical industry, biotech companies, service companies/manufacturing (modelers, materials suppliers), and engineering consultants. The fields of expertise in this sector are myriad: chemical-enzyme synthesis, protein optimization, fermentation, protein expression, enzyme screening, biotechnologies, biocatalysts, viral vector manufacturing, monoclonal antibody recombinant proteins, etc.

France's attractiveness

France's drugs market is the 3rd largest in the world, and the biggest in Europe. France has been the leading pharmaceutical drugs manufacturer in Europe for over 15 years. With its tradition of chemistry and biology expertise, France's skilled engineers and technicians are famous worldwide. France can be faulted only in terms of the supply of production sites for public platforms (ie. those not linked to private players, pharmaceutical laboratories and CMO).

Officially labeled clusters: Existing bio-manufacturing centers are a big advantage. There are three major biomanufacturing "spots" around the world: Puerto-Rico, Singapore and Ireland. However, these countries cannot provide for all the different needs of laboratories and are starting to show signs of a slowdown. This is relative of course since they have already attracted the main players. There is an opportunity for France to raise its profile and position itself at a time when laboratories are planning their future industrial units. France is attractive due to its market and the quality of its manpower.

Bio-manufacturing



France's attractiveness

➤ France's innovation in the field of bio-manufacturing is illustrated by the partnership between LFB and MAbgène. **The LFB group**, a French pharmaceutical company specialized in the field of therapeutic proteins, is one of Europe's leading laboratories in the manufacturing and marketing of pharmaceutical products derived from human plasma. LFB is the third biggest hospital laboratory in France, with turnover of €268 million in 2006, and employs 1,300 people. LFB R & D centers concentrate their research on the development of monoclonal antibodies and therapeutic proteins to treat rare and serious diseases. MAbgène is a French biotech company based in Alès (Gard region). The company is focused on the production of glycol-proteins and other antibodies exclusively using animal cells. Activity is based around a pilot development unit and a GMP production center. The company is known for its expertise in the GMP bio-manufacturing of recombinant proteins and monoclonal antibodies for the production of certain molecules using cell culture techniques on a contractual basis for the public and private sector. MAbgène produces bio-molecules for individual companies and other laboratories (CMO). The incorporation of a new company controlled by LFB BIOTECHNOLOGIES will host the industrial and commercial activities currently performed at MAbgène's bio-manufacturing site at Alès. For LFB and MAbgène, the stated objective is to scale up their activities in the biomanufacturing sector by expanding the Alès site, which features a pilot development unit and an existing GMP clinical batch production facility, in order to achieve a truly industrial dimension and manufacture commercial batches of bio-molecules.

➤ **For Lilly Group, US drug company based in Alsace** the Fegersheim pharmaceutical production site was launched in 1967, shortly after the **Lilly group** set up business in France. The choice of location was motivated by the site's proximity to Strasbourg in the Alsace region, at the heart of the European market and more importantly close to a top level university with a pool of qualified manpower. Out of a total 2,900 employees, 1,950 are employed at the Fegersheim site; a further 950 are employed at the head office in Suresnes. Today, Fegersheim, which supplies 126 countries in 5 continents around the world, is the Lilly group's biggest manufacturing site. The site achieves turnover totaling €1 billion. In 2004, 160 million units (insulin, anti-cancer drugs, growth hormones, antibiotics, etc.) were produced at the site, 92% for export. Since its launch, the Fegersheim site is a perfect illustration of the Lilly group's commitment in terms of high tech, and the quest for excellence and innovation.