

## **CBDMT® - MARKET AND BUSINESS INTELLIGENCE**

### **CBDM.T®, The Market and Business Intelligence Company Reviews The Enzyme Market**

Paris July 14, 2008 -- According to [CBDM.T®](#). The market and business intelligence company, the enzyme market is a significant market estimated at € 3.4 billion with an annual growth of about 6.5 to 10% (pharmaceutical enzymes excluded). Products such as Maltogenase (amylase) and Lipolase (lipase) were first biotech enzymes marketed in the 80's. And while enzymes are present everywhere and comes in thousands of different forms, it is still only about 25 of them, which have actually been industrialised and commercialised. Some of them are Amylase, Protease, Lipase, Cellulase, Glycomylase, Glucose Isomerase, Chymosin, Lactase, Pullulanase, Xylanase and so on.

Looking locally, some countries have a better developed enzyme industry than others, so descriptions of these countries and the nature of the environment they provide for upcoming businesses is given in this market review. In some countries, the industry was developed with support from the state from as early as the 1980's. These are countries such as Denmark, USA and Brazil. The real breakthrough in the industry happened during the 1970s. A new technology was developed, recombinant biotechnology, and this permitted biochemists to create and modify molecules at an unprecedented level.

Enzymes are sold in many different industry segments. These segments are Detergents, Food, Feed, Technical, Pharmaceutical, Microorganisms and Biofuel. For example in the feed industry, enzymes help pigs or chickens digest their food better, which in the end helps producing better meat, while using smaller amounts of fodder. These segments are thoroughly described in this enzyme market review, looking at market sizes, growth and, while looking at global and key market drivers for each segment are also identified and analyzed.

According to some recent survey in nutraceutical market, in the digestive health it is likely that enzymes will become a new force in the dietary supplement industry. With a long history of use it is likely that the newer research released over the past few years will assist in acceptance among consumers as a multifunctional ingredient with multiple health benefits

The first biotechnology product was recombinant the human insulin, which was approved by the FDA back in 1982. Today, the Human Insulin and Analogues therapeutic category is still a leading drug class in the biotechnology sector, with a market share of 19% in Europe. While the insulin class as a whole has shown modest growth in recent years, there has been significant innovation with the launch of long-acting and short-acting insulin analogs, which are now driving growth. Sanofi-Aventis' Lantus was the leading selling human insulin product in 2007 with global sales of more than \$ 3,000 million. The second ranked insulin product is Lilly's Humalog, a short-acting insulin analog with global sales of more than \$ 1,300 million.

Worldwide production of biodiesel reached 3.8 million tonnes in 2005 (first generation biofuels derived from food crops). The global Biofuel market (biodiesel derived from vegetable oil and ethanol derived from sugar or starch) was estimated to be worth €25 billion in 2007 which is the equivalent to Exxon Mobile's net profit. The technical enzyme applied for biofuel is estimated at € 250 million. In 2007, sales of enzymes to the bioethanol industry comprised 13% of Novozymes' total enzymes sales. The average increase in sales is expected to reach 20-25% annually over the next 4 years. As diverting food crops to create fuels will be not sustainable over the long-term, second generation biofuels, biofuels derived from non food crops, will require extensive research and development of enzymes to transform cellulosic biomass into sugars.

Biocatalysis is also more frequently applied by chemical companies, since it is the pertinent technology for the manufacturing of chiral drugs and sometimes for oil based chemistry substitution. Enzymes are a key element in performing biocatalysis (biocatalysts are in fact enzymes). This means that biocatalysis will probably be a significant segment in the future enzyme market. This promising market segment is difficult to estimate. But we know that this market segment will affect the market of catalysts estimated by CBDM.T® at more than \$7 billion. "This explains why some enzyme producers such as Novozymes are investing more and more in the development of this field" says Philippe Tramoy, managing partner.

Key players mentioned: Novozymes, Danisco, Genencor, Verenum, Syngenta, Monsanto, Dyadic, Codexis, Cargill, Diversa, ADM, Dow, IEP, DSM, Genzyme, BASF, Altus, Biocon, PCAS Biosolution, Henkel, Roche, Sanofi, Solvay, Direvo, Maxygen, CHR Hansen...

If you need more information about CBDM.T® Enzyme Market Review, please contact us at [contact@cbdm.com](mailto:contact@cbdm.com).

CBDM.T® - [Market and Business Intelligence](#) - is a market and business intelligence company with offices in France and in Israel. As an advisory services company, CBDM.T® boosts companies to develop revenue and growth by providing business and marketing services in the life science and biotech markets (market survey, market scouting, business development and strategic supports).

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