

2. Biotechnology industry in Denmark

Exhibit 1

The following are the most important industrial sectors in Denmark influenced by biotechnology:

Animal and Plant
Husbandry

Pharmaceuticals

Fine Chemicals

Food and Beverages

Environmental Technology

Denmark is known for its agricultural basis; yet, manufacturing, contributing 28% to gross domestic output, is 6 times as important as agriculture. In fact, chemicals/pharmaceuticals are almost as important as the entire agriculture sector.

For centuries, agriculture has been the backbone of Denmark. Denmark has no other raw materials and no basic industries to draw resources away from agriculture and the activities originating from diversification from the strong agricultural foundation. First and foremost the food industry, such as dairies and meat processing plants, has made Denmark a major supplier to the world of quality foods - and of starch, protein and animal tissue for such drugs as insulin, heparin and penicillium, which account for two-thirds of Danish drug export.

Milk and meat processing demand accurate instrumentation and thus a number of instrumentation and electronics companies have emerged and created the basis for a substantial medico-technical industry, which goes hand-in-hand with drug production and monitoring. A workforce trained in the handling of food is also equally well qualified for the stringent demands of the pharmaceutical industry. In addition, an educational system based on research and development in agriculture, biology, microbiology, food chemistry and food processing is an excellent "knowledge pool" for modern biotechnological research and manufacture. And finally, a public body of veterinarians and health authorities familiar with the regulation of food, food ingredients, nutrients, etc., is also able to cope with biotechnology.

It is common to group together what could be termed "The Danish Bio-Industrial Complex", encompassing that part of manufacturing which processes or produces food/beverages, fine chemicals, and pharmaceuticals as well as machinery and instruments specifically aimed at such industries. Considered this way, more than 40% of Danish industry is interlinked, drawing on the same pool of know-how, stimulating and supporting each other and creating a favourable environment and structure for fine foods, fine chemicals and pharmaceuticals.