

### 3.5 BELGIUM

**B**elgium has a GDP of about 5,500 billion (100 billion Can\$) and a population of about 9.9 million (1988). ● ●

The breakdown of GDP by sector (in billion CS) is as follows:

- commerce 60; service 50; industrial manufacturing 40; transport 14; construction 10; agriculture 3; miscellaneous 3; for a total of 180.

The principal exports are (in billion CS):

- electrical production 35; mineral production 17; chemicals 17; miscellaneous 31; for a total of 100.

Total R and D expenditures: 1.65% of GDP (1987). Of this total 73% is performed and almost totally funded by industry.

Belgium is made up of three separate regions; Flanders in the north, Wallonia in the south and Brussels in the middle.

#### TECHNOLOGY TRENDS

University research activities are scattered out over many academic institutes. The inter-university poles of attraction (PAI) programme is aimed at the creation of inter-university networks in fundamental research. Wallonia is setting up technology centres gravitating around universities; six centers are being proposed, covering such topics as biotechnology, informatics, robotics and new materials.

In Flanders, action is being focussed on our areas, namely microelectronics, biotechnology, new materials and the environment. For each area, an integrated approach is being followed. Not only research but also education, commercialization and social factors are being considered.

A major difficulty in Belgium is to have a clear view of government policy on science and technology. In the eighties, Belgium has become a federalized country and S and T has mainly become a regional affair. Only in areas that are supra-national in character, such as space research, aeronautics (Airbus), Antarctic research, the European Frame program and bilateral agreements does the national government still have jurisdiction. All other activities have by now gone to the regions, involving the transfer of both funds and thousands of people. However, the national government still plays a coordinating role and can also initiate national programs in concert with the regions.

#### TECHNOLOGY STRENGTHS

The following sectors have been identified as sectors where expertise exists:

- medical technology; Institute for Tropical Medicine in Antwerp, universities
- microelectronics; Interuniversity Microelectronic Center (KUL), many small companies
- advanced industrial materials; universities, CRIF, CRIBC
- biotechnology; universities, selected companies
- agriculture; Ghent and Gembloux universities
- environmental equipment; selected companies
- metallurgy and machine building; fabrimetal, CRIF, CRM
- textile technology; Centexbel
- remote sensing; selected companies
- food and chemicals technology; CBM, Solvay, multinationals