

### 3.2.1 Rhône-Alpes

The Rhône-Alpes region of France represents approximately 10 percent of that country's socio-economic activity as defined in the following indicators (1988):

- 10.7 percent of exports
- 9.4 percent of the population
- eight percent of surface area of the country
- 11 percent of French patents filed in the region
- 10 percent of National R&D support goes to the region.

The three major urban areas are Lyon, Grenoble and Saint-Etienne. Some 30 percent of the work force is employed in five major industries; (1) mechanical engineering, truck building and arms manufacturing; (2) metallurgy; (3) electrical and electronics engineering; (4) textiles; (5) chemicals and pharmaceuticals.

The region has the second largest concentration of educational and research facilities after Paris. The region has some 20,000 researchers.

#### TECHNOLOGY TRENDS

Technology development is centred around five principal thrusts (pôles):

- industrial production technology (at Saint-Etienne and Roanne)
- robotics and automatization (at Valence)
- electronics (at Grenoble, Chambéry and Pays de Gex)
- genetic and medical engineering (at Lyon)
- plastics, plastic transformation and composites (at Oyonnax).

#### TECHNOLOGY STRENGTHS

A number of large firms in the region (eg. Pechiney, Mérieux, Rhône-Poulenc, Thomson-Brandt, Saint-Gobain, Compagnie Générale d'Electricité) have been foci for the development of technological strengths in areas such as metallurgy, chemistry, biotechnology, glass, trucks, electrical and electronics engineering as well as energy (eg. nuclear power).

#### KEY ORGANIZATIONS

The region has a concentration of both public and private technology development organizations.

In Rhône-Alpes, there are some 240 publicly funded laboratories and research centres including CNRS Laboratories (2,000 researchers), Institut National de la Santé et de la Recherche Médicale (25 units), Centre National d'Etudes des Télécommunications (specialized in micro-electronics and integrated circuits), Office National d'Etudes et de Recherches Aérospatiales, Institut National de la Recherche Agronomique.

In addition, there are international institutes such as the Centre International de Recherche sur le Cancer and the Centre Européen pour la Recherche Nucleaire, the Laboratoire des Champs Intenses, l'Institut Von Laue-Langevin and the Synchrotron.

Research in the region is also supported by 20 professional technical centres, including:

- French Textile Institute (Lyon)
- Paper Technical Centre (Grenoble)
- Leather Technical Centre (Lyon)
- Mechanical Industries Technical Centre (Saint Etienne)
- French Petroleum Institute (Lyon)
- Aluminum Technical Centre (Voreppe)
- Plastics Technical Centre (Oyonnax).