3.2.1 Baden-Wuerttemberg

ECONOMIC CONTEXT

Baden-Wuerttemberg, one of West Germany's leading industrial states, produces 17% of the country's exports. The state, whose capital is Stuttgart, has a population of 9.2 million (15% of the total population).

The state has more than 12,000 manufacturing companies, 95% of which are small and medium-sized enterprises (SMEs). Some 24% of Germany's automotive production originates in the state; Daimler-Benz and Porsche are headquartered in Stuttgart. Some 25% of Germany's electronic industry output is generated in the state through such companies as Bosch, SABA and AEG-Telefunken which are headquartered in the state. Other key manufacturing sectors include high-precision mechanical parts, machine tools, optical and other scientific and control instruments.

TECHNOLOGY TRENDS

The state has the highest density of research institutes within Europe, providing 30% of Germany's applied research capabilities and 22% of its industrial research in support of the state's major industries.

Joint Industrial Research Institutes are established by a number of companies to undertake pre-commercial research. As well, technology centers have been established to serve as incubators for new high-technology ventures.

TECHNOLOGY STRENGTHS

Baden-Wuerttemberg has world class technology in several areas including; "mechatronics" (the marriage of mechanical equipment with electronics), high-precision mechanics, automotive technology (eg. front-wheel drive, electronic injection systems) optical instruments (eg. microscopes, telescopes, planetariums); surgical instruments and control equipment.

KEY ORGANIZATIONS

The principal technology development organizations include:

- *Fraunhofer Gesellschaft*; 15 of the 34 institutes are in the state. Their principal areas of research are; solid-state electronics, information processing, systems technology, materials technology, environmental technology and process control.

- *Karlsruhe Nuclear Research Center*; (3,800 staff); principal areas of research are fast breeder reactors, fusion technology, nuclear fuel reprocessing and cryogenics.

- *Stuttgart and Karlsruhe Universities*; their major fields of research are micro-electronics, sensors, lasers, informatics, materials, biotechnology and antipollution technology.

- *Stuttgart Max-Planck Gesellschaft*; the major areas of research are, solid-state physics and chemistry, optoelectronics and powder metallurgy.

- *Heidelberg research complex for biotechnology*; several institutes are grouped under this rubric - eg. European Laboratory of Molecular Biology, German Cancer Research Center, Genetic Research Center.

KEY SUPPORT PROGRAMS

The principal technology development support program is the Industrial Promotion Program of Baden-Wuerttemberg, aimed at strengthening the international competitiveness of the state's SMEs through financial assistance, vocational training and regional development. Part of the program is to encourage technology transfer through twenty university-based technology transfer centers.