

The Michigan Center for Innovation and Economic Prosperity 2007 Report: Executive Summary – Advanced Automotive in Michigan

Automotive research and development involves any activity pertaining to the technical support for procurement of parts for local production, evaluations of parts, evaluation of vehicles, styling and general design, parts design, vehicle design, and prototype production. These processes generally take place in the planning, design, and production phases all of which are prevalent in Michigan. The industry combined for over \$10.3 billion auto R&D dollars in 2006 and employed over 60,000 professionals, making it one of the Michigan's strongest industries.

The two most important states in the US regarding automotive R&D are Michigan and California. Currently, Michigan is number one in the nation for auto R&D, but California has many factors that have contributed to its increasing role in the industry and unless Michigan begins to make substantial progress, California will soon overtake us.

In auto R&D, there are three methods for production design; in-house sourcing (detailed control parts); outsourcing (supplier proprietary parts); or co-development (black-box parts). Detailed control parts are developed entirely by assemblers including functional specification and detailed engineering. Supplier proprietary parts are developed entirely by parts suppliers including functional specification and detailed engineering. Black-box parts are those parts whose functional specifications are completed by assemblers while detailed engineering is carried out by parts suppliers

The role of government policy has shifted from pure supply-push, such as government funded R&D, and become more focused on the demand side and the utilization of scientific discoveries in society. Japan, the European Union, and the United States have developed different methods of promoting research and development. For instance, the recent development of hydrogen fuel cells has forced each government to develop unique ways of supporting the technology.

Michigan has taken an active role in recent years promoting auto R&D within the state. While Governor Granholm has been able to leverage investments and tax breaks to attract R&D facilities from Toyota and Daimler Chrysler, the federal programs she has used to do so have recently been halted for lack of funds. These include the Small Business Innovative Research (SBIR) /Small Business Technology Transfer (STTR) grants.

In response to this, substantial sums of money were leveraged in the 21st Century Jobs Fund to invest in the industry. Included in these funds were \$20 million pre-seed capital that start-up advanced automotive funds may apply for from any number of the SmartZones.

In addition, the first round of application based granting for the Jobs Fund was generous to advanced automotive. The funds, granted by the Michigan Strategic Economic Investment and Commercialization Board, totaled \$37.3 million worth of investment in 26 separate projects. Of the four Michigan industries the SEIC targeted, none had more projects funded and only one, life sciences, had more money invested in it.

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