BMW moves to produce carbon fibers

U.S. plant will make material needed for more fuel-efficient vehicles

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BMW Group said Thursday it is creating a joint venture with SGL Group, with plants to be built in North America and Germany to produce carbon fibers to be used in the construction of lightweight vehicles.

About 180 jobs are expected to be created in North America and Germany, the companies said. Once regulatory agencies approve, BMW, with 49 percent of the joint venture, and SGL expect to invest 90 million euros, or $133.9 million, in the first development phase.

Eventually, plans are to invest 230 million euros in the project, subject to BMW approval of development. BMW initially will be the sole customer and will guarantee minimum purchasing volumes.

Construction of the production facilities will begin in 2010, with production anticipated to start in the first half of the next decade, said SGL. Automotive Carbon Fibers LLC in North America and SGL Automotive Fibers GmbH & Co. KG in Germany will operate the joint venture.

"We are looking at various locations in North America," said Jan Ehlen, spokesman for BMW of North America, and a decision is expected around the end of this year. The joint venture is interested in electricity generated from sustainable sources, such as hydropower, because of the large energy demands. The fiber will be produced in the North American plant and will be woven into a fabric in the plant in Germany.

Although locations have not been identified, John Balloto, Clemson University associate vice president for research and economic development, said South Carolina has a competitive stance.

"The fact that BMW has its major production outside Germany here would lead one to think South Carolina could be considered as a site," he said. Boeing's decision to establish a second assembly line to build the long-delayed 787 jetliner could also make South Carolina a strong contender as the joint venture broadens its

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customer base.

Carbon fiber composites are currently "used considerably in the aerospace industry," Balloto said, especially in making aircraft wings.

In addition, Clemson University has had a strong advanced materials division for years and several faculty members are conducting research with carbon fiber composites, which could make South Carolina attractive.

"South Carolina would be competitive," he said.

BMW and SGL will combine their core competencies, officials said. SGL Group contributes its expertise in high-performance materials and its experience with carbon-fiber based materials. BMW will provide expertise in car design and its needs. Both partners have cooperated for many years in the area of carbon fiber composites.

Automakers are likely to move toward advanced materials as they seek to reduce the weight of vehicles while retaining the safety, said Balloto.

"The weight of the car needs to be reduced in a way that does not also reduce the safety," he said. The material used "needs to be as strong as it can be and as light as it can be."

Carbon-based materials tend to be very strong and about as light as plastic, he said.

"Having an early adopter will really open the door to greater use of the material," Balloto said.

Ehlen said carbon fiber material will be about 50 percent lighter than steel and 30 percent lighter than aluminum. It currently is planned for use in the Megacity all-electric and hybrid vehicles that will be produced between now and 2015.