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DECEMBER 18, 2008

U.S. Firms Join Forces to Build Car Batteries

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By REBECCA SMITH

Fourteen U.S. technology companies are joining forces and seeking \$1 billion in federal aid to build a plant to make advanced batteries for electric cars, in a bid to catch up to Asian rivals that are far ahead of the U.S.

The effort, the latest pitch from corporate America to inject federal dollars into a project, is similar to an alliance that two decades ago helped the U.S. computer-chip industry restore its competitiveness. Participants include [3M Corp.](#) and [Johnson Controls Inc.](#)

Many experts believe battery technology and manufacturing capacity could become as strategically important as oil is today. Auto makers, including [General Motors Corp.](#) and [Ford Motor Co.](#), say they plan to roll out plug-in electric cars by 2010. But the U.S. has limited capacity to make the lithium-ion batteries those cars will need. Asian producers such as [Panasonic Corp.](#) dominate the car-battery field.

Federal energy laboratories, including the Argonne National Lab, are advising the alliance, and more companies are expected to join. Together, the consortium members estimate the plan to build the first large-scale lithium-ion battery plant in the U.S. could cost \$1 billion to \$2 billion.

Experts say the plan faces several hurdles, including its high cost and the fact the U.S. has lost the lead in battery manufacturing.

Ralph Brodd, a Nevada-based energy-storage consultant, recently published a report on battery manufacturing for the National Institute of Standards and Technology. He said that though much of the advanced battery technology was developed in the U.S., American companies "opted out" of battery production because of the low returns the business offered. Asian manufacturers picked up the business because of their proximity to makers of electronic devices, which need a steady supply of batteries.

Mr. Brodd said American companies now face significant hurdles in regaining lost ground, including the preference by Asian car makers to use Asian-made batteries in their hybrid models. However, he said U.S. concerns could leap ahead if they developed the right technologies.

"If you manufacture everything in China, you lose control of the technology," Mr. Brodd said.

The consortium's plant would make battery cells of various chemistries and sizes for the consortium companies. Members would turn the output into finished batteries by adding their own proprietary electronics, which would control factors such as operating temperature and voltage, and package the batteries to fit specific products.

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Companies within this Article

EnerSys Inc.(ENS)	10.05	0.25	3:01p.m.
Panasonic Corp.(6752.TO)	1,051.00	30.00	1:00a.m.
3M Co.(MMM)	56.67	-0.04	3:01p.m.
Ford Motor Co.(F)	2.76	-0.08	3:01p.m.
Toyota Motor Corp. ADS(TM)	64.03	-1.51	3:01p.m.
General Motors Corp.(GM)	4.07	0.41	3:01p.m.
General Electric Co.(GE)	16.16	0.20	3:01p.m.

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The consortium intends to solicit as much as \$1 billion in federal funds from the Obama administration by tapping loan guarantees contained in an energy-security act passed last year. The act pledges as much as \$7 billion in loan guarantees for advanced-battery plants in the U.S. The focus is to produce jobs and create a domestic supply chain, and the factories need not be owned by U.S. companies.

Alliance members also may seek funding through the Energy Department and legislation that could funnel money to job-creating industries aimed at developing greener energy technology.

Experts said the consortium, called the National Alliance for Advanced Transportation Battery Cell Manufacture, has a high likelihood of receiving U.S. funding because it gives the government a place to concentrate efforts and investment in battery technology without favoring any one company.

But the consortium faces obstacles. Several national labs and U.S. companies including 3M and [General Electric Co.](#) have been pursuing advanced battery technology for years. But researchers have been dismayed that the technology and processes they develop appear to be migrating largely outside the U.S. Battery manufacturing has moved to Asia for many reasons, among them a better-developed supply chain and lower labor costs.

Most of the batteries used in today's hybrid vehicles, including [Toyota Motor Corp.](#)'s Prius and some of GM's hybrid models, come from Asian makers.

The consortium is the most ambitious effort to date to boost the ability of U.S.-based companies to meet what is expected to be surging demand by auto makers for high-tech batteries. U.S. companies say the alliance attempts to lower the biggest hurdle they face: funding construction of a large manufacturing facility when there aren't orders yet for the batteries.

More than four dozen advanced battery factories are being built in China but none, currently, in the U.S.

Chinese vehicle maker BYD, which also makes lithium-ion batteries and has received financial backing from Warren Buffett's [Berkshire Hathaway Inc.](#), said it will begin exporting electric vehicles to the U.S. in the next few years.

American auto makers are concerned that Asian battery makers may reserve the largest portion of their production for Japanese, Korean or Chinese car companies, leading to further loss of market share for domestic auto makers.

Recently, Andrew Grove, former chairman of [Intel Corp.](#), began urging the chip maker to explore whether it could play a role in battery manufacturing. Mr. Grove and others say U.S. companies must step up efforts to produce advanced batteries for the country's car industry or America will end up trading its dependence on foreign petroleum for dependence on foreign-made batteries.

Jamie Gardner, technical manager for 3M's battery materials group, said it is important for the U.S. to create "world-class manufacturing" to drive down costs and bolster energy security.

Aakar Patel, chief executive of advanced battery maker Mobius Power Inc. of Fremont, Calif., said it would be a "daunting task" for a small company like his to build a U.S. manufacturing facility because of the overhead costs and lack of domestic equipment suppliers. He hopes the consortium members, which include his company, can effectively pool resources. "There are plenty of U.S. companies that could blow away the competition" if they worked together, he said.

The consortium is modeled on Sematech, the group formed by U.S. computer-chip companies in 1987 to compete with the Japanese. Sematech, based in Austin, Texas, is credited with helping U.S. companies regain their footing by focusing on manufacturing and design advancements with funding from the federal government. "We think Sematech was one of the best examples of government intervention in industry," said Jim Greenberger, a Chicago attorney at Reed Smith LLP, who is working with the battery consortium.

The consortium's goal is to make U.S.-built batteries lighter, cheaper and more powerful than batteries made elsewhere.

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Other consortium members include chemical-maker [FMC Corp.](#) of Philadelphia and advanced battery makers [EnerSys](#) of Reading, Pa., and [ActaCell Inc.](#) of Austin.

Write to [Rebecca Smith](#) at rebecca.smith@wsj.com

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