



NEWS FROM ACROSS THE ATLANTIC



The American electric vehicle battery market could reach the 20 million dollar mark in 2020, according to experts at the Michigan Economic Development Corporation. The University of Michigan and the major auto manufacturers are looking toward the launch of a massive engineering specialist recruitment and allegiance building operation.

For its part, the **NAATBatt** (*National Alliance for Advanced Transportation Batteries*), a regrouping of roughly 50 battery specialists, **is calling on American states to underwrite construction of a development and production center for new generation batteries**, to be shared by all *Alliance* members. The NAATBatt anticipates acquiring 1 billion dollars in subsidies, the construction 140,000 m³ of building space, and the creation of 2500 new jobs over the next 5 years. Eight states have signaled their willingness to participate: Texas, Illinois, Kansas, Kentucky, Missouri, New York, Pennsylvania, and South Carolina.

The U.S. Federal Trade Commission has asked for an expanded preliminary review with respect to authorization of the merger of Panasonic with Sanyo, both world leaders in electric car batteries.

Formation of international partnerships continues. *ECotality* and *Nissan* have come to an agreement in principle for testing a network of rapid-recharge terminals in Tucson and Pima County, Arizona, in 2010. *ECotality* will supply the terminals, and Nissan the cars and batteries. The objective is to offer an alternative to *Better Place* battery recharging and exchange stations, and to confirm the effectiveness of a network of charging terminals. **Nissan has also engineered a partnership with San Diego Gas and Electric**, involving roughly one hundred vehicles along with urban (rapid-charge) and domestic charging terminals. American *ECotality* subsidiary **eTec has partnered with British Columbia Hydro and Power**, and will lend its advice to the creation of an electric vehicle recharging infrastructure; specifically to action plans, scenarios, choice of technology, and identification of standards.



Electronic systems makers and engineering specialists **Magna Electronic** (Canada) and **Brusa Elektronik** (Switzerland) for their part are combining respective expertise in the development and commercialization of electric and electronics components (motorization, propulsion, etc.) and integration platforms for hybrid and electric vehicles. **Magna is already working alongside Ford** (motor, transmission, control systems, batteries, chargers) and **Brusa with Australia's Energetique** and Swiss firm **Protoscar** (electronic conversion systems) all for electric vehicle development.

America's **Fisker will make a sizable investment in Canada's Advanced Lithium Power**, who will supply lithium-ion batteries for its Karma rechargeable hybrid, to be available from 2010. The batteries themselves are to be assembled in Taiwan, and the motors, furnished by *General Motors*, assembled by Finland's *Valmet Automotive*.

An association between America's **3M** and China's **Amperex Technologies** will see *Amperex* production of cathodes, anodes, and lithium battery electrolytes through *3M* licensing. The partners will also develop nickel-manganese-cobalt cathodes for lithium battery manufacture..

In line with an agreement with Ford, SEV US 2, a subsidiary of Britain's *Tarfield* newly implanted in the United States, will assemble electric utility vehicles for the two manufacturers, beginning with the Ford Transit Connect and Smith Newton models.

Late-comer **Exide**, the giant American lead battery maker, is preparing the ground for lithium-ion manufacture through acquisition of the principal assets of Canada's *Mountain Power*, specialists in high capacity batteries for fixed or portable devices, and through a partnership with surface chemical engineers *Nano-Terra*.



At the **Massachusetts Institute of Technology**, professors Gerbrand Ceder and Byoungwoo Kang have perfected a **lithium iron phosphate battery prototype capable of recharge in 10 to 20 seconds**, thanks to a surface coating of low iron, phosphorous and oxygen to canalize the ions. Current network charging capacity, however, is not adapted, as a strength of 360 W is required to recharge a mobile phone battery in 10 seconds, with 180 MW necessary for car batteries..

