



BATTERIES : NEWS FROM ACROSS THE ATLANTIC



As a part of its **Advanced Technology Vehicles Manufacturing Program**, the **US Department of Energy (DOE)** has released **8 billion dollars in aid funding** (of \$25 billion overall) with \$5.9 billion handed to *Ford* between now and 2011; \$1.6 billion to Nissan for construction of the *Automotive Energy Supply Company* plant (a joint venture with NEC), which will be capable of supplying 200,000 vehicle batteries a year; and \$465 million to *Telsa* for production of its "Modele S" and new factory for the manufacture of batteries and propulsion systems.

The DOE has also handed over 11 million dollars in subsidies for research projects undertaken by various manufacturers and at research and development centers.

In Canada, the government in Quebec is to launch a plan to accelerate the deployment of electric vehicles, integration of their recharging infrastructure with the current electric grid, advocate the expansion of the R&D and industrial supply chain, and the adaptation of regulatory mechanisms. For its part, the Ontario government will award a subsidy of 16.7 million Canadian dollars to *Electrovaya* for the development of a lithium-ion battery technology, the "SuperPolymer®".

A sign of the times is oil company ExxonMobils foray into the electric vehicle market through its financing for the auto-sharing program AltCar in Baltimore. *Electrovaya* will provide the ten test vehicles (Maya 300's) and their batteries, with the separators manufactured by ExxonMobil.

Two additional entrants are taking up positions in the battery market: *Bright Automotive*, a spinoff from *Rocky Mountain Institute*, has developed the "IDEA" vehicle. Introduced in April, it relies on its own particular battery technology; *Bright* projects an annual battery pack production of 75,000 units. *Coda Automobile*, offshoot of *Miles Electric Vehides*, will roll out an electric sedan for the California market in 2010, manufactured by Chinese carmaker *Hafei*. *Coda* will sign on for two joint ventures: one with *Tianjin Lishen Battery* for the manufacture of li-ion batteries, and a second with *Yardney Technical Products*, specialists in batteries for NASA, aviation, and the military.

In a highly dynamic market, manufacturers are forging and/or strengthening partnerships.

Altair Nanotechnologies have joined with China's *Ampere Technology* in a bid to speed up commercialization of their upcoming lithium titanate batteries, and fine-tune new models.

Daimler invests in *Telsa* capital at 9%, suppliers of batteries for its Smart electric cars. The partnership supplies *Telsa* with the means to assure production of its future models and opens a door to the next advances in technology. *Daimler* is already involved in the sector through its joint venture with *Deutsche Accumotive* (with *Evonik*) and its share in *Li-tec*, *Evonik* subsidiary.

A123Systems, makers of cylinder batteries, **will broaden its product line starting in 2010 to include prismatic batteries** (4Ah, 6Ah, 8Ah, 20Ah) via a 50/50 financing program shared with the *US Advanced Battery Consortium*.

Boston Power will construct a plant in Auburn for manufacture of the Swing, a new lithium-ion prismatic battery.

Coulomb Technologies is to furnish the recharging stations for Amsterdam (45 for the two-year test phase, then 200 for 2012). Power for the stations will come from Holland energy company *Nuon*.

A Japanese consortium is set to construct an intelligent energy grid in New Mexico by 2010. Coordinated by the *New Energy and Insustrial Technology Development Organization*, the project is an element of bilateral agreements between the United States and Japan with the initial phase rolling out in Japan.

Following the signing of an agreement between *BASF* and *Sion Power* designed to speed up development and commercialization of **lithium-sulfur batteries**, Dr. Linda Nazar, professor at the University of Waterloo in Canada, presented a prototype of the lithium-sulfur battery able to stock and discharge **three times the energy of classic lithium-ion types**.

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