

Aleees announces a 3-year contract with NSRRC (National Synchrotron Radiation Research Center) for joint-research on Li-ion battery material.

Aleees, the global leading manufacturer of LFP cathode material, signed a 3-year contract with NSRRC on Jan 29, 2008. NSRRC is a prominent national research center in Taiwan, and the contract will propose closed collaboration between the two organizations on research of lithium-ion material for battery.

The ceremony was hosted by Jack Wang, the chairman of Aleees; Dr. Edward Chang, the CEO of Aleees; Dr. Keng S. Liang, the Director of NSRRC; Dr. Kuan-Ching Lee, the Chief Secretary of NSRRC, and Dr. Tai-Ching Fan, the representative of Industrial Application Office of NSRRC.

According to Aleees, the goal of this joint project aims at the analysis and application of the material for lithium-ion battery. Relying on advanced synchrotron technologies, Aleees and NSRRC plan to accelerate the development of key battery material in LFP for PHEV by using the result from this fundamental material research project. NSRRC can also use this project as a stepping stone to promote more researches on fundamental science in Taiwan industries by working closely with one LFP producer in battery industry.

Mr. Wang endorsed the contract at the ceremony and spoke on the behalf of the company. "As the global leading LFP cathode material provider," he said, "Aleees would like to contribute to the local investment in Taiwan as well as Asia for the automotive lithium-ion battery industry." He emphasized that the contract with NSRRC is just a starting point for boost-starting Taiwan's lithium-ion battery manufacturing industry onto the international stage.

LFP is a promising key component for the battery of HEV and PHEV. GM in US has announced to use such kind of battery in its new model. According to the data from US Environmental Protection Agency (EPA) and Department of Energy (DOE), 51% of the carbon oxide emission is coming from daily car driving and air-conditioning. In another words, emission from common vehicles is the major contributor. For burning one liter gasoline, a conventional car generates 2.4 kilogram of CO₂ and pollutes 10,000 liter of air. We can assume a man commutes with car that runs 2,000 kilometer and consumes 200 liter of gas per month. And then, the total cost is about \$185 with additional 5,760 kilogram of CO₂. This means that the amount of emission has to take a tree 322 years to absorb it.

The major goal of Aleees is to deliver a whole new renewable energy system which

can run 25 km per liter of gasoline and 60 km on pure electricity with our various partners. And, the MSRP of the car targets at \$25,000. If we use the same assumption above, this new vehicle will only consume about 80 liters of gas on the cost of \$74 per month. It is a saving of \$1,320 on gas refill and that is equivalent to 5% rebate on the original purchase price. In addition, there is extra saving on CO₂ emission: 2,300 kg per year and 34,600 kg over 10 year typical life of a car.

NSRRC is located inside Hsinchu Science Park. It was under the Executive Yuan of Taiwan government, but now is a non-profit foundation for the purpose of effectively operating and utilizing the facility of synchrotron for cutting edge researches and applications from fundamental sciences to raise the bar for Taiwan's research to international level. It was designed and built by Taiwan itself and became the first 3rd generation synchrotron facility in Asia in Oct of 1993.

The Synchrotron Radiation Technology and Resource, also named Synchrotron Radiation Accelerator, is a very important invention in the field of modern optics at 20 century. Therefore, it is also called the "Scientific Magic Lamp." It is well adopted in the fields of material, biology, medical, physics, chemical, geology, archeology, environmental, energy, electronics, micro-mechanics and nano-technology. There are more than 70 synchrotron radiation facilities around the world and the presence of such facility is a good indicator of national's capability on fundamental science research.

Dr. Liang said that synchrotron radiation was introduced at the first time around 1970. Japan has about 20 such centers and some company, like Toshiba, actually has its own SR facility. Since SR is very important for the development of industries, those centers funded by Japanese government have to allocate 20% capacity for industrial use. In addition, France government has planned to commercialize the synchrotron technology. For example, in the area of medical application, such technology can be used to detect the early symptoms and cells of breast cancer.

Taiwan currently has only one center and it is going to build a new facility with even higher level of electronic energy. Mainland China has 3 such facilities in Beijing, Shanghai and Anhwei.

Taiwan Photon Source (TPS)

<http://www.nsrc.org.tw/chinese/tps.aspx>

<http://www.srrc.gov.tw/ViewNews/MediaLayout03.aspx?ViewID=M20080129145741100&Lang=Chinese>



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