

IIT Hyderabad to collaborate on development of lithium ion batteries for electric vehicles

The Indian Institute of Technology, Hyderabad, in collaboration with ItsEV Inc, plans to develop lithium ion batteries for various applications, including electric vehicles.

IITH and ItsEV Inc expect to come out with a lithium ion battery that will be superior to the other existing batteries in India.

A research group led by Surendra K. Martha, Associate Professor, Department of Chemistry, IIT Hyderabad, has demonstrated that high-energy lithium ion batteries have double the energy of similar batteries produced in 2018. The researchers have also demonstrated 100-200 mAh sodium-ion cells at the Research Centre Imarat (RCI) in the Defence Research and Development Organisation (DRDO) laboratory, in Hyderabad.

India imports lithium ion batteries from China, South Korea, Japan and Europe, which are made into battery packs, before marketing. Even though a billion people use lithium ion batteries, there is not a single indigenous manufacturing company producing Li-ion batteries. The Government of India plans to convert 30 per cent of all vehicles on the road into electric ones by 2030.

Jayesh Ranjan, Principal Secretary, Industries, Telangana, said, “Telangana is among the first 10 states to work on policies for the 100 per cent adoption of EV for public transport. This would motivate individuals to go for EV, which would help in reducing problems such as traffic management and pollution. The introduction of a product like this can be a breakthrough.”

Katsuo Matsumoto, Chief Representative, JICA (Japan International Cooperation Agency), India Office, said the Japanese government agency was looking to tap business opportunities of close to Rs 2 trillion in India. He said Japanese institutions were promoting Indian talent through knowledge exchange, and by awarding scholarships. Till date, about 116 students of IIT Hyderabad have been offered scholarships to study in universities in Japan.

An international workshop hosted by IITH on the ‘Dawn of a New Era for the Indian Automotive Industry’ covered the development of new lithium ion battery fits for high temperature conditions, to promote a pollution-free EV world in India.

ItsEV would provide full technical support for training technicians, students and scientists in Japan, so that lithium ion batteries can be developed indigenously and help increase EV production in India.

B.S. Murty, Director, IIT Hyderabad, said, “This demonstration of a lithium-ion battery operated 3-wheeler electric vehicle (auto) will yield results 10 years down the line. We are looking to tie up with industries to take it for production in India.”

A demonstration of an EV3Wheeler, developed by ItsEV Inc, Japan, equipped with Japanese Lithium Ion Batteries, was also held on the occasion. The battery consists of 16 modules, each having four cells. Each cell has a nominal voltage of 3.75 V. Each module consists of 2 Series and 2 Parallel Cells. The pack consists of two parallel and eight series modules having nominal voltage of 60V and 130 Ah. The 'EV3Wheeler Lithium Ion Batteries can be charged directly with solar energy, without using electricity. Currently, the solar panels are provided by Sahaj Solar, Ahmedabad.

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