

# IIT-incubated startup to roll out cheaper lithium batteries



**Products of PuREnergy, an IIT-Hyderabad-incubated startup, that will be on show at the Renewable Energy Expo 2018**

A startup incubated at Indian Institute of Technology-Hyderabad (IIT-H) has developed lithium batteries with wide applications in fields of agriculture and aerospace and will be commercially launching them during the Renewable Energy Expo 2018 beginning in Greater Noida on September 18. PuREnergy, the startup, was founded in 2016 by Nishanth Dongari, assistant professor, department of mechanical and aerospace engineering at IIT-H, and it plans to make the lithium batteries available at economical prices. "We are in discussion with defence laboratories for battery applications in tanks, missiles and communication equipment where they need to work under harsh environmental conditions, reduce weight by four times compared to lead acid technology and deliver high discharge currents," explains Prof. Dongari. The team has built expertise in the battery design by choosing application specific cell chemistry to offer lower total cost of ownership and efficient thermal management systems to enhance life by 50% for Indian conditions. It is also offering in-house testing and service facilities to achieve better warranty period. The products are currently available in 0.2 KWH to 2 KWH (for agriculture drones, automobiles), 2 to 20 KWH (aerospace, electric autos & carriers, telecom and household), and 50 to 500 KWH (residential societies, data centers and industrial entities). Prof. Dongari feels battery swapping stations will also pick up in India, as battery charging at room temperature increases life by 50%, compared to charging them in hotter conditions. Their research also showed that the life cycle of a typical EV Battery is found around 2500 if a normal charging station used but dramatically reduces to 500 if an ultra-fast charger is used to charge the same battery. "Hence, active balance battery management systems are implemented in our products and their parameters are optimised through rigorous data analytics by simulating thousands of practical scenarios," the founder added. The startup has been one of the pioneers in developing solar hybrid systems combining solar PV with battery back-up and grid synchronization with over 100 clients including the Telangana Government, pharma, etc. "With excess solar power supply during the day, the demand for MWH storage solutions is increasing to stabilise the grid across 24 x 7. We intend to become reliable and quality focused players in the MWH storage market," says PuREnergy chief executive officer Rohit Vadera.

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