

Press Release

IIT Kharagpur Signs MoU with Uneverse Mobility, A Kolkata Based Clean-Tech Startup, For the Development & Commercialization Of Sodium Ion Batteries In India

- These Cost-Effective Batteries Will Boost the Rapid Growth Envisaged For E-Vehicles -

Kolkata, 19th September, 2023: Uneverse Mobility Pvt Ltd a Kolkata based startup focusing on next generation battery technology and e-mobility segments, today, signed a Memorandum of Understanding (MoU) with **Indian Institute of Technology Kharagpur (IIT Kharagpur)** for commercialization and further development of the Sodium Ion technology.

A team headed by **Prof Amreesh Chandra** from the **Department of Physics** at IIT Kharagpur have been working extensively on the development of Sodium-ion based energy solutions. They were amongst the first group of researchers in India who were funded by the Department of Science and Technology under their flagship scheme “Materials for Energy Storage”. The team has the capabilities to develop energy storage solutions starting from materials development, device level integration, recycling to determination of carbon footprint of the complete process.

Advantages of using this technology:

- The Sodium-ion batteries will be 30% to 40% less expensive compared to lithium-ion technology
- There will be a 100% indigenous supply chain where import of raw materials will not be required
- There will be low carbon footprint
- These products will not be dependent on mining of raw materials for electrodes
- There will be near zero risk of accidental fires, unlike Lithium. The technology developed already has a Technology Readiness Level (TRL) of 7 thereby paving the way for industrialization.

“In comparison to Lithium-ion batteries, the sodium-ion batteries will be upto 40% cheaper, much safer and have lower carbon footprint. Sodium-ion batteries address the concerns of geopolitical and supply-chain issues, which are associated with Lithium-ion batteries. The materials, which will be used in such Sodium-ion batteries, have been fabricated inhouse. Hence, the batteries would be a live example of ‘Make in India’ and ‘Make for India’. Many of the Ministries of the Government of India have already started discussions and feasibility studies on the possibility of Sodium-ion based energy storage landscape and the future thus looks promising and exciting”, said **Prof. Amreesh Chandra, Department of Physics, IIT Kharagpur**.

“India’s current EV sector is characterized by dependency on subsidies, import dependent supply chain & lack of a core indigenous battery technology. For electric mobility to be truly a champion of sustainability, we need the building blocks to be also sustainable. Uneverse is a passionate attempt to create such indigenous building blocks for a sustainable future of e-mobility and clean energy. Uneverse, thus starts its journey by addressing the core of clean energy and e-mobility, that is, Battery Technology. To achieve this grand purpose, we have entered an exclusive MoU with IIT Kharagpur where indigenously developed sodium ion technology, which will have a portfolio of multiple form factors of cells, will be made available for Indian market. The developed technology will find application in not only electric vehicles but also in Drones, Consumer Electronics and Energy Storage. Globally, only a handful of companies have made progress in this technology. Therefore, we are quite upbeat about putting India at the forefront of this game changing battery technology”, said **Mr Manohar Bethapudi, Founder & CEO, Uneverse Mobility Pvt. Ltd.**

“We would be launching the first set of products manufactured out of West Bengal in the next quarter of the current fiscal. We are looking at a pan India market for our product range and are currently in talks with various channel partners for marketing and product distribution”, said **Ms. Kamalika Guha, Co - Founder and CMO, Uneverse Mobility Pvt Ltd.**

Uneverse Mobility will be initially setting up MW scale facilities that would lead to commercialization using the home-grown technology, which already has a technology readiness level (TRL) of 7. Uneverse eventually plans set up GWh scale facilities to cater to both domestic and export markets. India is expected to need 220 Gwh of ACC battery by 2030. Current Indigenous ACC production planning & deployment is nowhere close to this requirement and therefore presents huge market opportunity for companies like Uneverse. This joint activity is a perfect example of the changing times in India, where the academia-industry collaboration is becoming the focus of research activities in most of the institutes of national importance.

About IIT Kharagpur

Indian Institute of Technology Kharagpur (IIT KGP) is a higher educational and academic institute, known globally for nurturing industry ready professionals for the world and is a pioneer institution to provide Excellence in Education, producing affordable technology innovations. Set up in 1951 in a detention camp as an Institute of National Importance, the Institute ranks among the top five institutes in India and is awarded, "The Institute of Eminence", by the Govt. of India in 2019. The Institute is engaged in several international and national mission projects and ranks significantly in research output with about 19 academic departments, 12 schools, 18 centres (including 5 Centre of Excellence) and 2 academies with vast tree-laden campus, spreading over 2100 acres having 15,720+ students. Currently, it has about 810+ faculty, 880+ employees and 1270+ projects. To know more visit: [<http://www.iitkgp.ac.in/> | www.iitkgp.ac.in] [<http://www.iitkgp.ac.in/>].

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