

{ CHARGING ELECTRIC VEHICLES }

Pioneering tech from IIT BHU set to slash EV prices

HT Correspondent

letters@hindustantimes.com

VARANASI: Researchers from the department of electrical engineering at the Indian Institute of Technology-Banaras Hindu University (IIT-BHU) have developed a new technology for an on-board charger for vehicles, which costs about half the current on-board charger technology. This will reduce the cost of two and four-wheeler electric vehicles.

Giving information about the new technology, Dr Rajeev Kumar Singh, associate professor and chief project investigator of the department of electrical engineering, said electric vehicles (EVs) are the best alternative to conventional IC engines but the lack of high-power, off-board charging infrastructure forces automakers to incorporate onboard chargers into the vehicle itself. The vehicle owner can charge the vehicles through the outlet. However, this facility makes EVs very expensive.

He said that with the new technology developed at the institute, the cost of on-board charger can be reduced by about 50%. This will significantly reduce the cost of the vehicle. The technology will be completely indigenous and will have a significant impact on driving electric vehicles on Indian roads in a big way. Lab scale development has already been done at IIT (BHU) and upgrade and com-



Dr Rajeev Kumar Singh,
associate professor and chief
project investigator

mercialisation is in progress.

He further added that the country's leading electric vehicle manufacturer has also shown interest in this new technology and is ready to develop a full-fledged commercial product that can be applied to existing electric vehicles. Experts from IIT Guwahati and IIT Bhubaneswar have also collaborated for this technology development.

The on-board charger, its functioning

A specific connector will be provided with the car for its charging. Using the connector, the charger will be connected to an ordinary household three-pin power source. Prof Singh said that the electric vehicle may be charged easily at home.

EVs to be accessible to general public

Dr Singh said that this research is financially supported by the ministry of electronics and information technology, government of India. This innovative

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technology of the institute will also contribute to the e-mobility mission of the government. With the help of this new technology, the access of the general public to EVs will be possible. He explained that the EV contributes to sustainable development as it improves community health by eliminating tailpipe emissions, reducing reliance on fossil fuels, and with the integration of renewable energy into existing electricity networks, lower electricity rates can be reduced.

Centre on EV tech to be set up at institute

Director, IIT-BHU, Prof Pramod Kumar Jain, said that the developed technology will help in production of cheap electric vehicles which will be beneficial for the common man. The techno-commercial, social, economic and environmental impact of the technology will also be positive. He said that a few projects on developing autonomous vehicle, connected vehicles are already underway at IIT (BHU) Varanasi. One such project is Averera project that has already won the first prize globally in the Shell Eco Marathon last year.

He further said that the IIT (BHU), Varanasi, is planning to set up an interdisciplinary Centre on EV technology to carry out design, fabrication, and testing of battery management systems, commercialise research, provide solutions to R&D problems and

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1st Floor, BSNL Office, Feroze Gandhi Colony, Raebareli-229001

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