

UNNATI | CHANGE AND DRIVE

ADVANCING SUSTAINABLE INFRASTRUCTURE FOR LIGHT ELECTRIC VEHICLE BATTERY SWAPPING

BACKGROUND

Need for electrified public transport to improve mobility in Indian urban centres

The Government of India's vision to electrify Indian roads by 2030 is underpinned by environmental, economic and health-related aspects. Implementing an all-electric transport system will lower fossil fuel consumption and emission levels of harmful pollutants, thus reducing climate impact, decreasing India's dependence on imported energy and improving public health.

Three-wheelers are the linchpin of the Indian transport system, offering affordable and accessible transportation to Indian commuters. Due to their cost efficiency and compatibility with battery swapping technology, three-wheelers will play an important role in spearheading India's electrification strategy. Of course, roadblocks will have to be overcome: achieving technical robustness, securing financial and operational feasibility, and optimising customer value are critical success factors to the full-scale commercial implementation of LEVs.

Fortum, a major multinational energy company with solar power plants in India, recently introduced their "Change and Drive" initiative, a pilot comprising 30 e-rickshaws that operate around the Mall of India in Noida. By providing high quality Li-ion battery swapping infrastructure and assuming battery ownership and risk, Fortum offers e-rickshaw drivers higher efficiency, unlimited range and the possibility to provide their services at a lower cost.

Taking LEV battery swapping to the next level will entail designing digital infrastructure and developing hardware to support a sustainable and customer-centric business model. To succeed, Fortum is looking to join hands with Indian partners in piloting new LEV technologies.

Call for partners to accelerate innovation in LEV battery swapping technology

In the spirit of the India-Sweden joint declaration on Innovation Partnership for a Sustainable Future, we are inviting innovative companies, researchers and entrepreneurs to work with Fortum to develop new digital and physical infrastructure standards for LEV battery swapping in India. The challenge is coordinated by The Swedish Trade and Invest Council, in collaboration with AGNi and ATAL Innovation Mission - NITI Aayog.

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CHALLENGE

Who are we looking for?

This challenge is open to technology partners with expertise in the following areas:

1. Digital infrastructure design

- Battery location tracking | *where is the battery?*
- User ID & authentication | *who is using the battery?*
- Battery status monitoring | *how is the battery doing?*
- Real-time battery charge monitoring | *what is the battery charge level?*
- System connectivity & integration | *how to connect and integrate seamlessly?*

2. Hardware development

- Battery docking stations | *how to create a universal design for e-vehicle OEMs?*
- Battery & charging station integrity | *how to protect against theft and misuse?*
- Battery & charging station durability | *how to shield against heat, dust and water?*

Are you developing solutions to advance digital and physical e-vehicle infrastructure?

If you think that you know what it takes to transform urban mobility in India, then we look forward to learning how you can contribute as a partner.

What can you expect as a partner?

Applicants are screened and selected on their merits. 3-5 successful candidates will be:

- Invited to present their ideas at an India-Sweden workshop on LEV infrastructure
 - Separate one-day workshops will be held in the timespan 10th-12th December in Hyderabad, Delhi and Bangalore
- Offered mentoring from Fortum
- Having the opportunity of becoming a commercial partner
- Supported in application of market-oriented R&D funding

How to apply?

Read more about Change and Drive at www.unnati.se or [click here to apply online.](#)

The last date to apply is November 20th 2018.

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