

India looks towards South America for lithium for electric vehicles

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By Huma Siddiqui

With an eye on achieving an all-electric car fleet by 2030, India has started reaching out to the 'Lithium Triangle' in South America to meet the demand for the metal used in batteries for electric vehicles. The 'Lithium Triangle', comprising Chile, Argentina and Bolivia, are also members of International Solar Alliance (ISA), an initiative of Prime Minister Narendra Modi, which fosters South-South Cooperation. India's push for electric cars will help to cut its oil import bills.

The Indian Space Research Organisation and Defence Research and Development Organisation (DRDO) are working on the development of low-cost lithium-ion batteries that can be used in EVs and other equipments.

According to a NITI Aayog report titled 'India's Energy Storage Mission: A Make-in-India Opportunity for Globally Competitive Battery Manufacturing': "In line with its aspiration to achieve 100% EV sales by 2030, India can rise among the top countries in the world in manufacturing batteries. To do so, however, will require a strategy designed to overcome India's relatively weak initial position in battery manufacturing while claiming an increasing share of total battery value over time. India's market for EV batteries alone could be worth as much as \$300 billion from 2017 to 2030."

Talking to FE, ambassador of Bolivia to India Sergio Arispe Barrientos said, "With the largest lithium reserves in the world, Bolivia can partner with India in its electric vehicle park projects. In fact, Tata Motors is expected to travel to Bolivia to explore possibilities for sourcing lithium for its electric cars."

Sharing his expertise with FE, Debajit Palit, senior fellow & associate director at The Energy & Resources Institute (TERI) said, "It is important for us to get lithium from the source countries, which are mostly in Latin America, if we are to succeed with our plan for electric mobility (storage being the key requirement).

"Though in the medium to long-run, other storage technologies will come in the market (e.g. hybrid cars can be made with flywheels instead of batteries), but in the short to medium-term, lithium batteries will have to be used," Palit added. Recently, Argentina approached Indian government and companies to invest in lithium mines in the South American nation.

"To meet India's demand for electric vehicles, lithium will be needed in abundance to produce lithium-ion batteries. I am told India is planning to set up large lithium-ion battery plants. Argentina is ready to meet India's growing demand for lithium," Mario Osvaldo Capello, undersecretary of mining development, ministry of energy and mining, Argentina had said recently.

<http://www.financialexpress.com/industry/india-looks-towards-south-america-for-lithium-for-electric-vehicles/1129997/>

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India Pavilion at DefExpo to showcase DRDO, private sector achievements

An exclusive India Pavillion, being set up for the first time to showcase the combined strength of DRDO, public and private sector in defence manufacturing, is going to be the highlight of DefExpo-2018 being organised between April 11-14 in Chennai.

The Defence Research and Development Organisation (DRDO) would be showcasing its flagship products and innovations in all formats -- indoor, outdoor and live demo -- during the event that has the theme of "India: The Emerging Defence Manufacturing Hub", an official statement said on Tuesday.

Another key attraction at the pavilion would be an array of digital experiences including war game simulation zone, augmented reality, virtual reality and physical simulators etc. "The DRDO is putting up flagship products and systems in two broad categories -- one pertaining to technologies ready for transfer to industries for production and the other pertaining to technologies ready for exports," it said.

DRDO will be participating in the live demo for some of its indigenously designed and developed products, which include light combat aircraft Tejas, main battle tank Arjun MK-II, Arjun Armoured Recovery and Repair Vehicle (ARRV), T-72 Trawl, T-72 Bridge Layer Tank, Wheeled Armoured Platform (WhaP), Mobile Surveillance System and Advanced Towed Artillery Gun System (ATAGS).



The outdoor exhibits include Nirbhay missile system with launcher, Autonomous Unmanned Ground Vehicle (AUGV), MBT Arjun Mk-I, Astra missile, low level transportable radar (LLTR) system, medium power radar (MPR) system, convoy jammer, multipurpose decontamination system (MPDS), Varunastra heavy weight anti-submarine electric torpedo, bio-toilet etc.

"The indoor exhibit area would be having more than 400 exhibits. The exhibits include technologies pertaining to aeronautics, missiles, armaments, combat vehicles, naval systems, electronics, information warfare and life sciences," it said.

During the event, Transfer of Technology (ToT) of DRDO developed products to private industry and DPSU partners will be done in the presence of Defence Minister Nirmala Sitharaman on Wednesday. Some of these include Astra Missile, Varunastra heavy weight torpedo, anti-thermal anti-laser grenade and Abhay Sonar etc.

"The DRDO's participation in DefExpo-2018 is expected to provide a platform for collaboration with industry and open out opportunities for export of defence technologies," the statement said.

<http://www.smetimes.in/smetimes/news/indian-economy-news/2018/Apr/11/defense-expo37865.html>