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APRIL 2023

VOLUME 14 | ISSUE 07

## ATMANIRBHAR BHARAT



MAKE IN INDIA

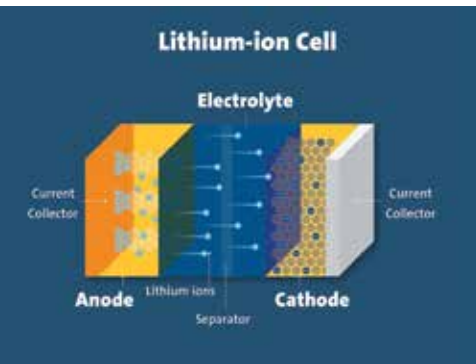
### A REALITY CHECK



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# INDIA AND CHANGING LITHIUM GEOPOLITICS

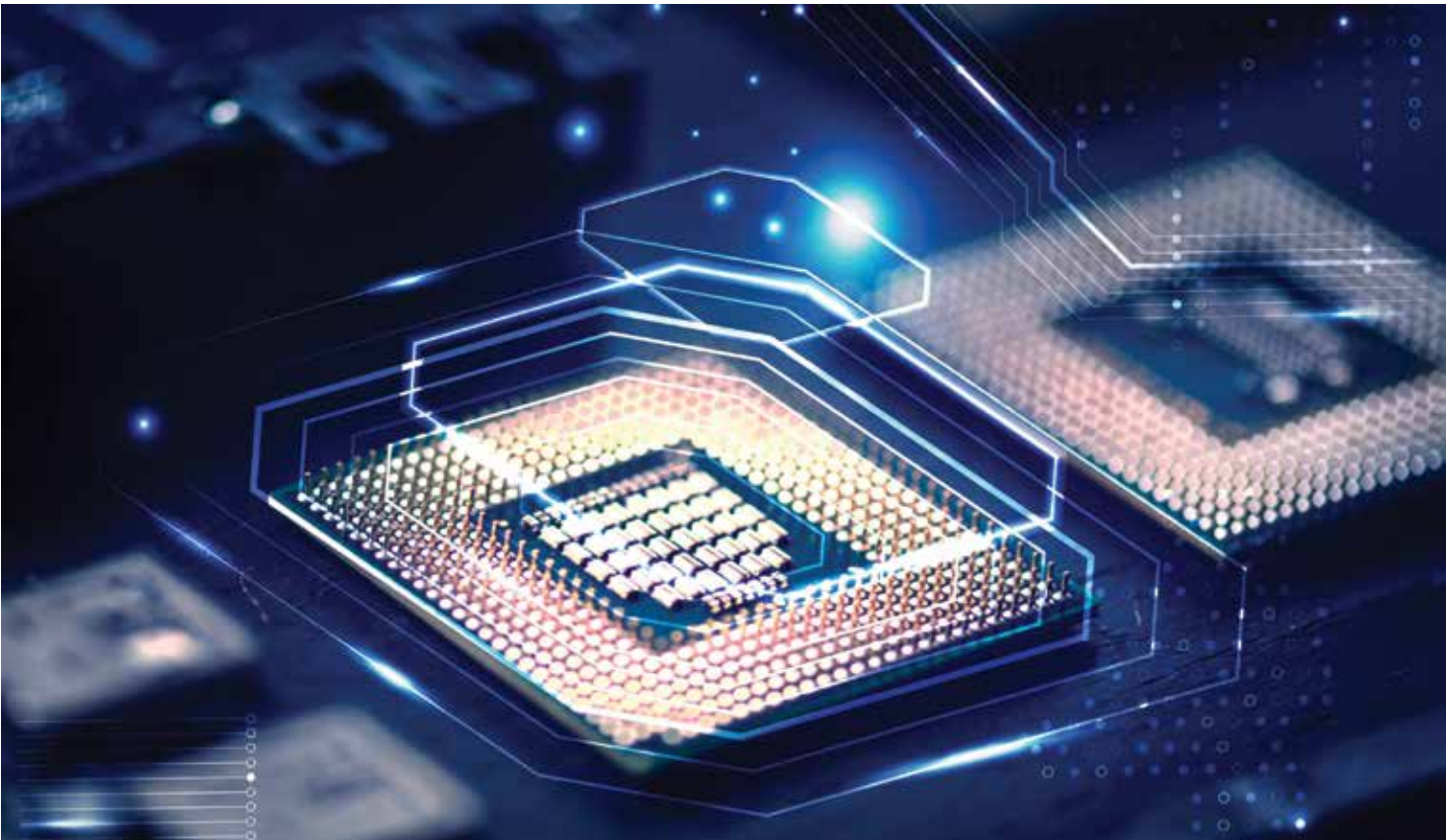
There's no doubt that the recent discovery of lithium reserves is already strengthening India's needs, economy and position in global politics.

**O**ften referred to as White Gold, Lithium is a rare element constituting a mere 0.0007% of Earth's crust. Lithium is seen as the future of clean energy, essential for the production

of lithium-ion batteries and an important element for pharmaceuticals, military, and electronics.

Lithium battery is to the EV ecosystem what semiconductor chips are to the electronics ecosystem.

Both are parts of the final product and not the product itself. Both are extremely critical to the final product. And their shortage can bring respective ecosystems to a standstill, stagnating the world's technological advancement.



Semiconductor chip.



In order to make the world sustainable, a shift to clean energy would witness a surge in the energy-storing industry in which lithium will have a pivotal role. The prominence of lithium will define its fate in the future and even start having some effects on the environment. Soon, it may become an agenda of discussion on international platforms. Lithium, for now, is precious.

The future of the world and its peace will be determined by the scramble for lithium. Lithium may not be the panacea for all ills, but

it is extremely precious for now. As lithium continues to be used and misused, soon, there will be a new scenario related to its effects on the environment and a different narrative emerging from it.

Lithium triangle is where the majority of the world's lithium reserves are located with 50 per cent of the deposits concentrated in three South American countries—Argentina, Bolivia, and Chile.

China, on the other hand, has an advantage over other nations and is in-charge of 75 per cent



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Lithium battery is to the **EV ecosystem** what **semiconductor** chips are to the **electronics ecosystem**



India to exploit 'Lithium Triangle' for Lithium-ION batteries aboard Indian Navy submarines.

of the world's lithium refining. China is also a hub of EV manufacturing, being an ideal location for production for valuable private companies like Tesla and Volkswagen.

### **India**

India has an estimated requirement of about 80,000-140,000 tonnes of lithium in the next two to three years. This could even increase if EV production is ramped up.

Electric two-wheeler penetration is expected to account for a minimum of 60 per cent by 2030.

For electric three-wheelers, four-wheelers, and heavy commercial vehicles, it is likely to be 40 per cent, 10 per cent and 5 per cent, respectively, according to McKinsey & Company. India's

electric vehicle manufacturing can be handicapped without lithium batteries.

As the Center is promoting the adoption of electric vehicles (EVs), demand for lithium-ion batteries has grown exponentially. The centre announced ₹18,000 crore production-linked incentive scheme for advanced chemistry cell (ACC) battery storage, due to which the industry is witnessing a decline in imported products.

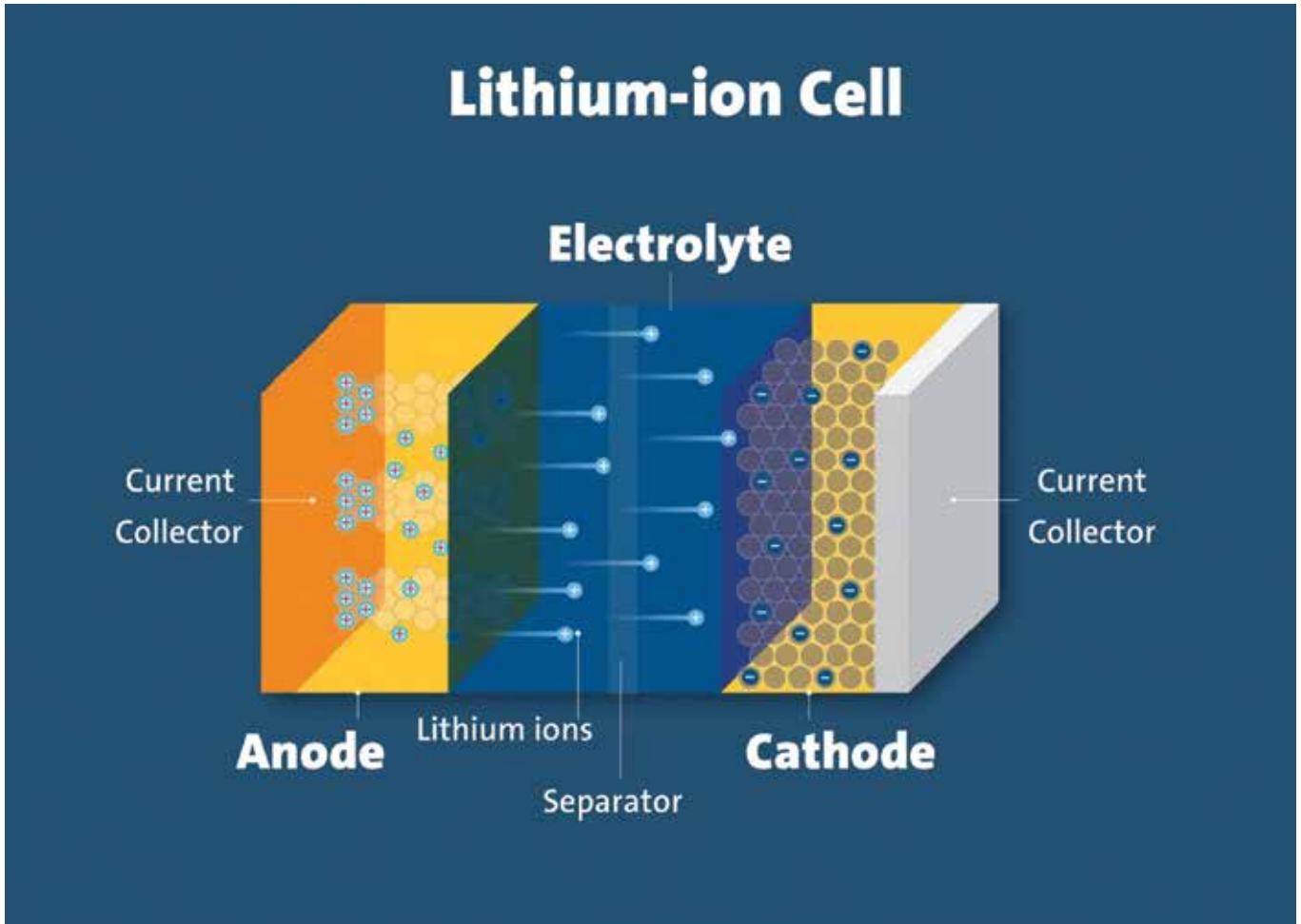
India has been at odds with a major import source for the mineral, China. India needs to develop its electronic industry as well as its electricity storage business to be of some significance in the world electric and electronics market.

India has been scouting for lithium reserves as the mineral is a key component of lithium-ion batteries, the demand for which has surged amid the centre's push to boost the adoption of electric vehicles (EVs) in the country. The ₹18,000 crores production-linked incentive scheme for advanced chemistry cell (ACC) battery storage, a flagship incentive scheme for the industry, has kicked off, and the supply of lithium, which is largely an imported product, has declined. With India being in a diplomatic tussle with China, the supplies from the neighbouring country have declined, and India, too, is looking for other import avenues.

The unavailability of lithium has been one of the reasons why India has been dependent on other countries and has imported



*EV Charging Ecosystem.*



100 per cent of its needs. As per government figures, India imports 173 crores of Li from Australia, Chile and Argentina. For Li-Ion batteries, India pays worth of \$1 billion, most of which goes to China. Lithium being one of the core elements of Li-Ion batteries.

India is dependent on imports for lithium as production in the country is minimal. India was importing the by-product, lithium-ion batteries, majorly from China.

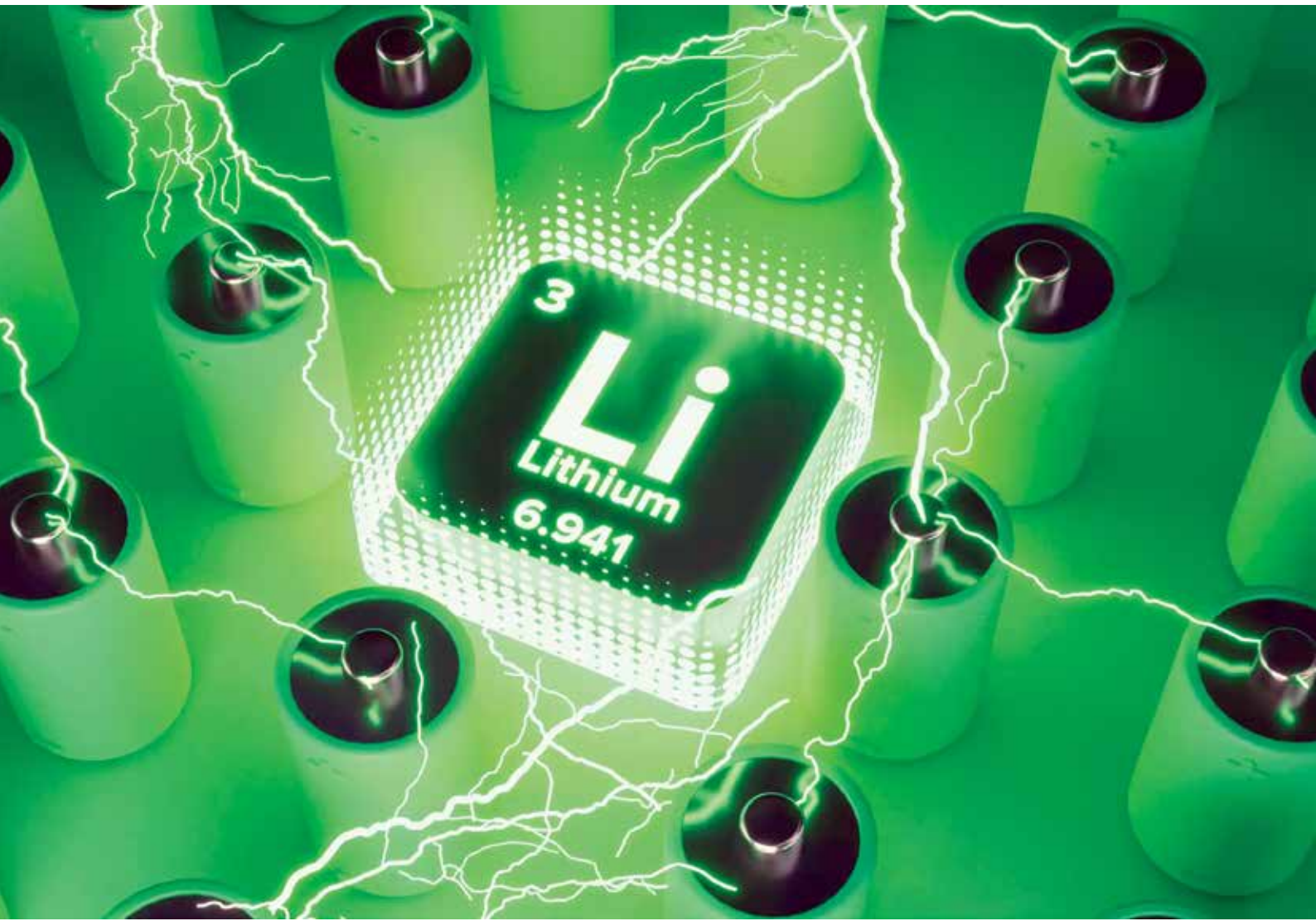
#### Lithium Imports

Australia is one of the largest exporters of lithium to India and was the largest lithium producer in 2021. Australia primarily extracts the alkali metal from spodumene, a lithium-bearing mineral.

The **future** of the world and **its peace** will be determined by the **scramble** for lithium

India is searching for domestic reserves and looking for newer countries to source the mineral. Recently, India committed to jointly invest \$6 million with the Australian government to explore lithium and cobalt mines there over the next six months. Khanij Bidesh India Ltd (KABIL) has signed a preliminary agreement with Australia's Critical Minerals Facilitation Office. In 2020, KABIL also signed a pact with an Argentine firm to jointly explore lithium in the South American country.

A new development basking on the glory of India's soft power and its goodwill has been Africa. African countries weary of nefarious Chinese intent stung by its BRI have pledged themselves to supply lithium. The geographical advantage of Africa makes it a resourceful continent, maybe the richest continent in future. African nations have rich deposits of minerals which could give India access to mineral and metal ores such as magnesium ore, nickel ore, zinc, lead, quartz, limestone, alumina, iron ore, copper, and bauxite.



Apart from Australia and Africa, India has also explored Central Asian countries, Bolivia, and Russia to obtain minerals like coking coal supplies for Indian steel companies.

India had a lot to gain here as India has not followed a debt trap diplomacy, unlike the Chinese. African countries are somehow realising that the Chinese create instability and then take advantage of it. India, on the other hand, has used its soft power for the greater good. India has given a good amount of loans to African countries, and the only condition has been that they have to buy Indian goods from Indian manufacturers.

African countries, too, have realised the foul diplomacy of the Chinese and their intent to create instability through the BRI project. African nations have pledged to supply lithium to Indian manufacturers and access to their mining operations and allowing exports of highly prized lithium and cobalt in exchange for loans.

India extends development assistance through concessional Lines of Credit (LoC) under the Indian Development and Economic Assistance Scheme (IDEAS). India extends concessional funds to overseas financial institutions, regional development banks, governments and other entities to help finance development and infrastructure projects or to import goods and services from India.

Several countries have offered to repay Exim Bank credit through output generated by a certain project or other minerals that India needs to support 'Make in India' and 'Atmanirbhar Bharat' initiatives.





Villagers show lithium stones in Reasi district of J&K.

## Slimming down imports from China can benefit India in geopolitics, giving India leverage against China

### India's Position

India can either extract the mineral from its own geology or it can obtain lithium from the international market.

The first traces of lithium have been found in Karnataka's Mandya district, a mere 100 kilometres from Bengaluru. The preliminary finding is relatively small, with just about 1,600 tonnes of lithium deposits.

But recently, Indian authorities announced 5.9 million tonnes of lithium reserve in Jammu and Kashmir which is a major win for the nation. The discovery of lithium reserves means that India has the opportunity to destabilize the Chinese economy and attract foreign investors, looking to expand clean energy and EV industries.

With current figures, India has gotten a natural edge blessed by mother nature in many areas.

- 1. Reduction of Imports** - India is a major importer of lithium for manufacturing EVs, Li-ion batteries, etc. Now India will be able to sustain its domestic demands and develop manufacturing facilities for various products for which lithium is used.
- 2. Boost in manufacturing of rechargeable batteries** - India pays a huge sum of money to its expansionist neighbour, China for importing batteries. India being a major market of the smartphone industry, such demand was a reality. Experts said the cost of mobile phones

and electric vehicles would come down once the extraction of lithium starts. Slimming down imports from China can benefit India in geopolitics, giving India leverage against China.

- 3. Employment** - Kashmir has been a land of conflict due to international agitation. Filled with morally depressed youth, India has given an opportunity to uplift its Kashmiri population by providing employment in quarries, and battery manufacturing industries near lithium mines.
- 4. Boost to economy** - In addition to meeting domestic demand, the discovery of this large deposit of lithium in India can also help the country to become a major player in the global market for lithium. This can not only help India to save forex but also gain by becoming an exporter of the rare element.





##### 5. Rush in clean energy target -

Lithium is important for manufacturing EVs, solar panels, and wind energy systems. As the shift takes momentum towards its SEGs (sustainable energy goals), India will slim down its oil imports. India is already leading the global race of sustainable energy, and with this discovery, India can increase its lead considerably.

##### 6. Boost to semiconductor hub -

Prime Minister announced India to become a semiconductor manufacturing hub in Bangalore. Semiconductor chips are widely used in every electronic device. Taiwan and China are the major producers of chips due to their lithium reserves. Jammu and Kashmir lithium reserves will give an edge to India in the semiconductor industry. India can tackle the global semiconductor shortage and become self-reliant in the electronics industry.

As the world now finds itself more inclined towards electric vehicles, lithium batteries are going to play a major role. Apart from EVs, lithium also finds its use in the medical sector.

Lithium is required to manufacture anti-depressants to treat bi-polar disorder and depression.

Lithium is used to cool temperature-sensitive elements and can be used in space vehicles and military equipment.

Lithium reserve being found in India is a game-changer because as we move towards a more digitized world, it is this metal that powers the lithium-ion battery revolution, electronic communications and computing digitization.

Now, the World Bank has said that the mining of crucial minerals such as cobalt, graphite and lithium will need to increase by 500 per cent to meet the global climate goals by 2050. At the current rate of carbon emissions, the world will need at least two billion which is 200 crore EVs and there could be a lithium shortage as soon as 2025.

Currently, India largely remains import-dependent. The mineral discovery will likely help the Indian government deliver on a recent promise to increase the number of private electric cars by 30 per cent

before 2030. On the other hand, it is also likely to give a push to Atmanirbhar Bharat.

The growing differences between US and China can be felt in the area of geopolitics. This discovery also brings good news to Washington DC as they can turn to a better friend, India for their EV industry and lithium extraction industry. Hours after the announcement of the lithium reserve, the US' Assistant Secretary of State for energy resources made a rushed and unplanned visit to India to strengthen cooperation in the field of clean energy. As China butchers the labour law and human rights for economic selfishness, countries would be looking for a better partner to develop SEZ's for clean energy storage, EV manufacturing, semiconductor chips, etc.

There's no doubt that the recent discovery of lithium reserves is already strengthening India's needs, economy and position in global politics.

India is now in a perfect position to become a Vishwaguru in the field of economy, sustainable energy, technology, military and international friendship. As the G-20 presidency, the discovery will add to the stature of the country. 