



Customized Energy Solutions

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US-India partnership for Giga factory supply chains

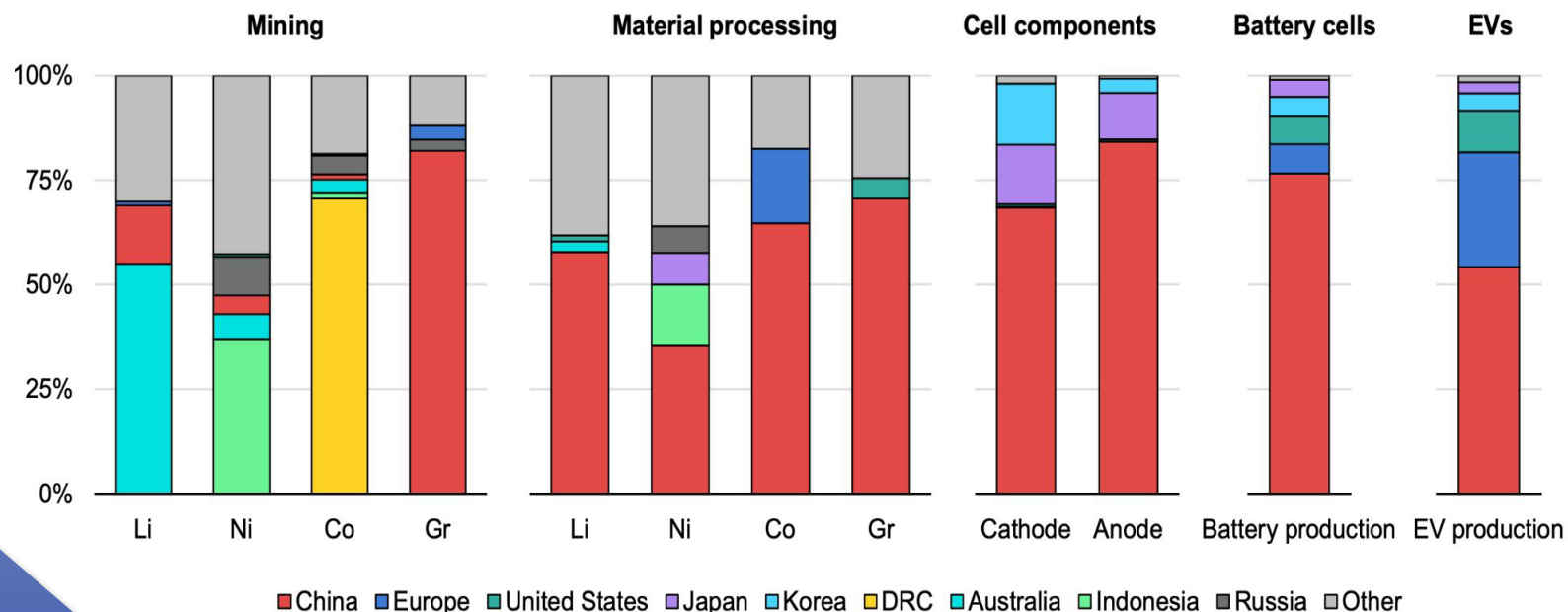
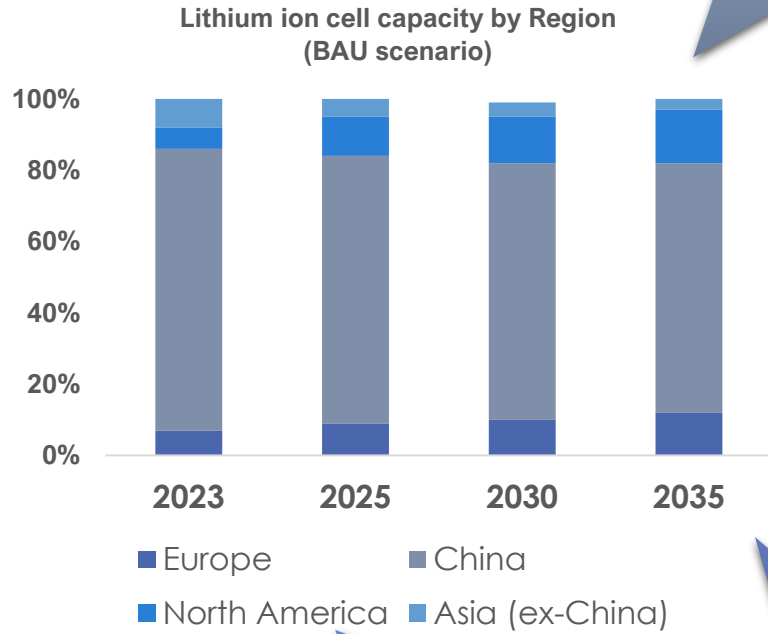
Dr. Rahul Walawalkar

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CES-LTD.COM

Chinese dominance in cell production as well as its value chain given the uncertain geopolitics has prompted companies to look at a “China + 1” strategy

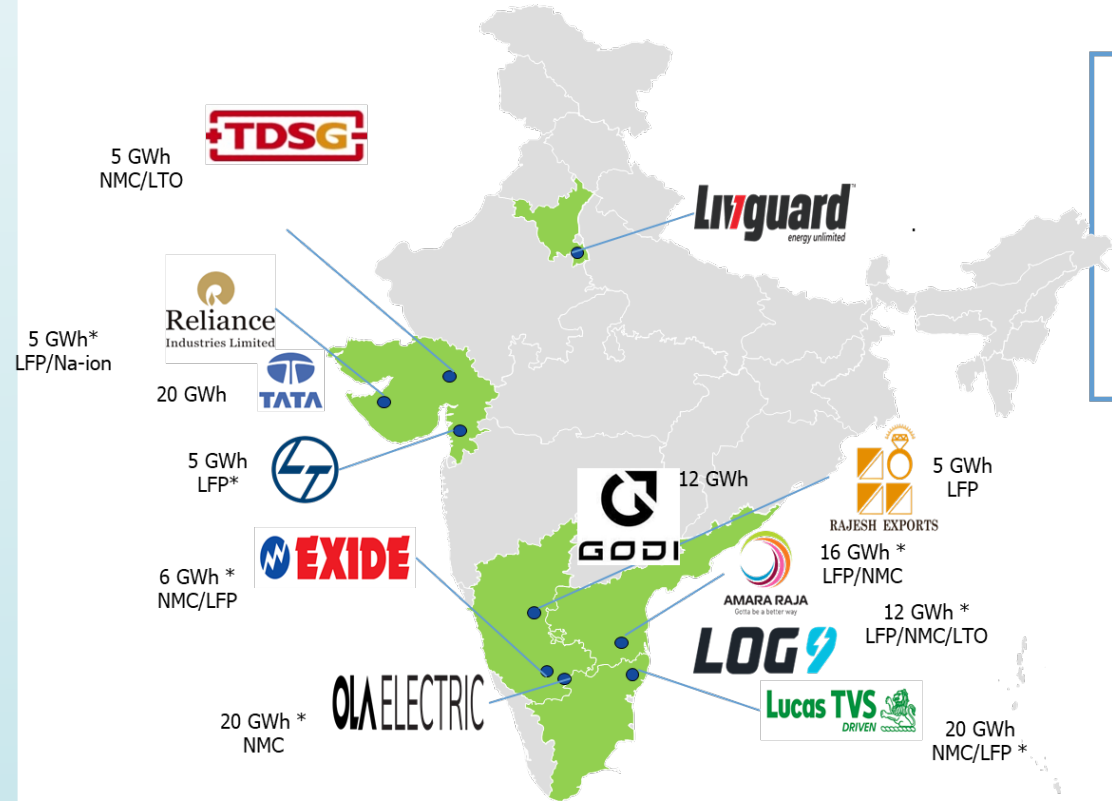
Chinese dominance would continue in a BAU scenario



In mid-2022, the U.S. brought the Inflation Reduction Act (IRA) aimed at incentivizing local battery production

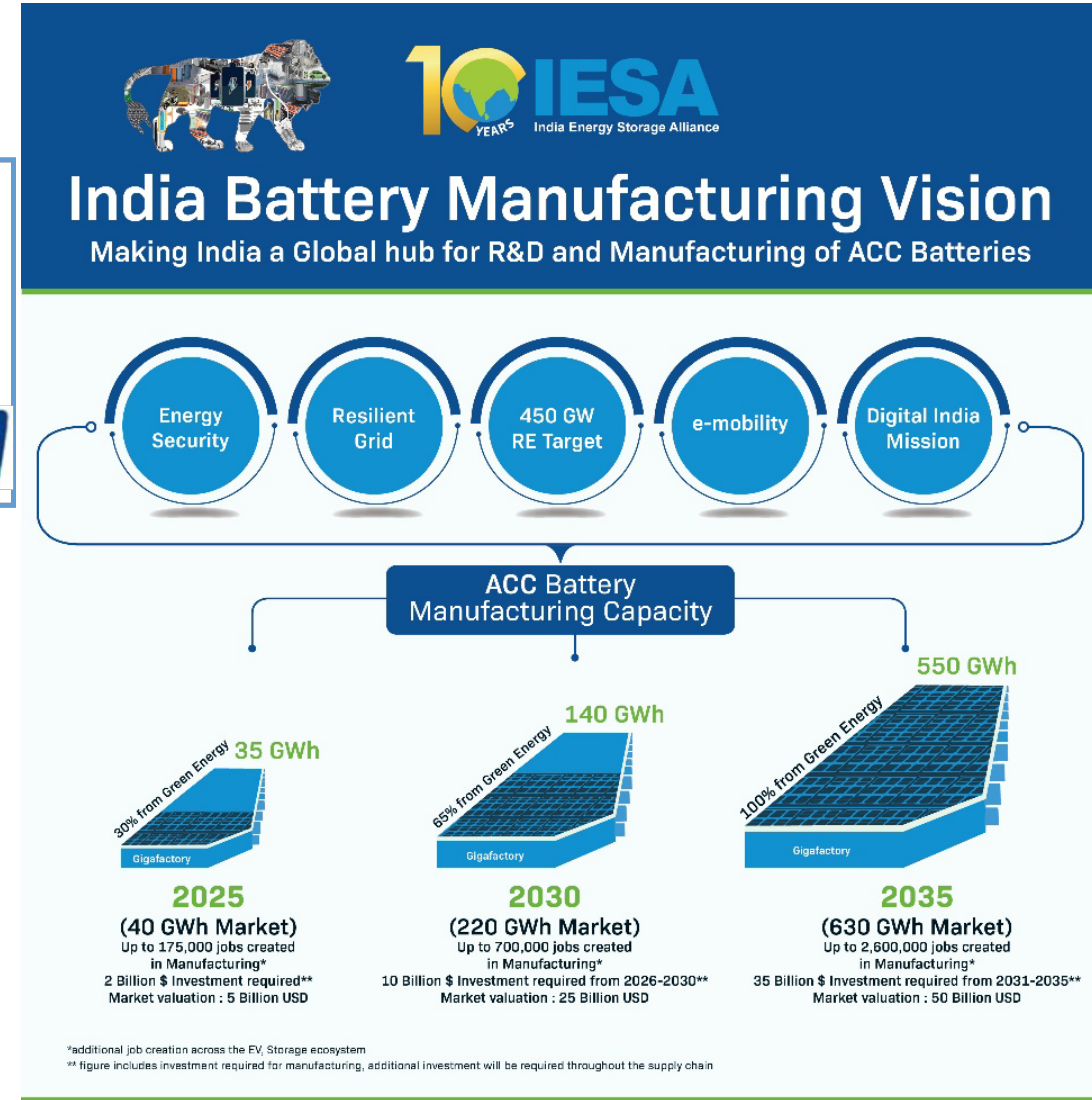
The EU is already working to end its reliance on Chinese Li-ion battery cells by 2027.

India's upcoming Giga factories & 2035 Vision



Other potential companies

- Mahindra
- adani
- C4V (Charging Ahead!)
- international battery



Note: Initial announcements and plans by some corporates may be subject to change
Source: CES research and analysis * - As per ACC PLI bid by respective company / press release

India's Domestic push for localization of Battery value Chain

Non-exhaustive

Exploration & Mining

Identification of deposits in J&K, Rajasthan, but proper evaluation to be conducted. Need to enhance exploration efforts for other battery minerals.

Mineral Processing

Mineral processing to support battery manufacturing is non-existent in the country presently.

Battery Pre-cursor Manufacturing

Several local manufacturers have entered this space, more to join before 2030.

ACC Manufacturing

Local production of ACC batteries to cross 130 GWh by 2030.

Battery Pack Manufacturing

Around 40 players exist in the market engaged in assembling of battery packs for EV and stationary storage.

Application in EV & Stationary

Stationary storage market demand to grow to 27 GWh annually by 2030.

Need to strengthen global partnerships for access to technology and capital

Need to manage time gap b/w pre-cursor demand and minerals supply

Need to strengthen local R&D to develop technology locally

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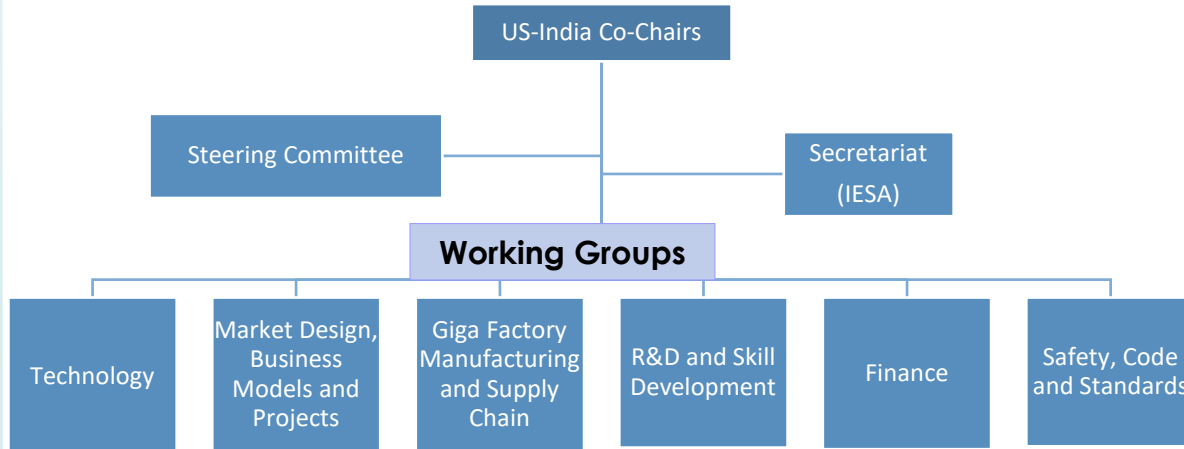
Technology available locally.

Central government policy support to incentivize domestic manufacturing of upto 50 GWh

State government incentives in Capex ,Electricity tariff, Land subsidies

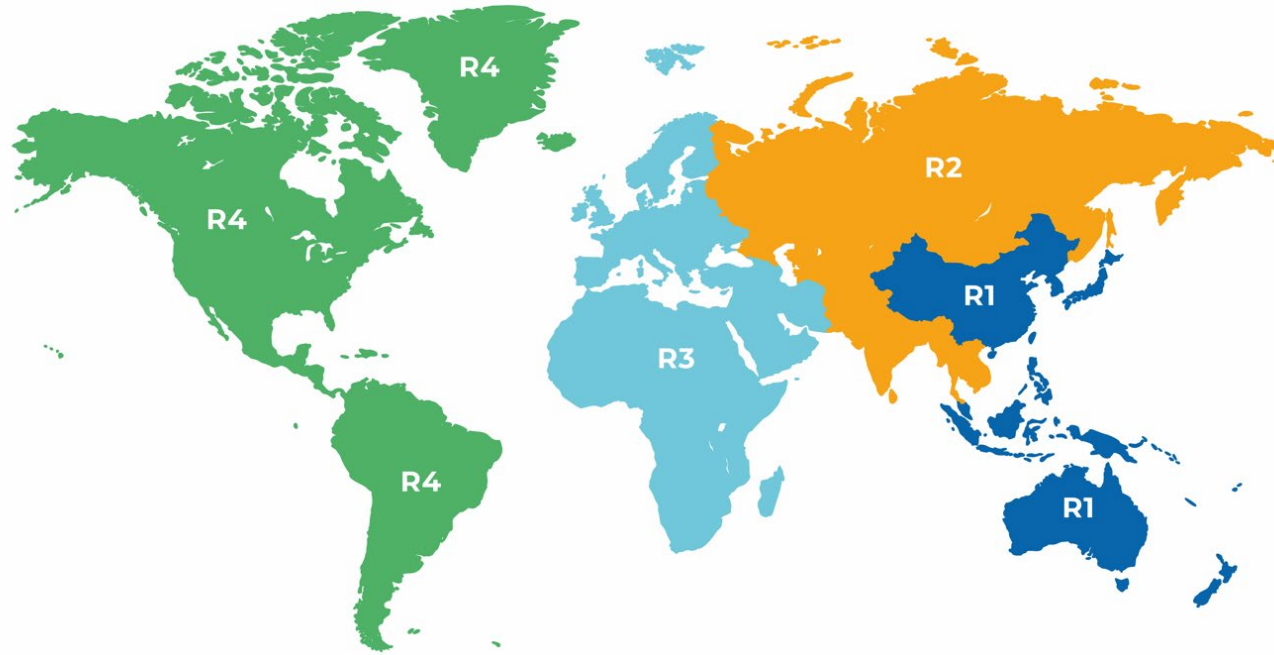
Indian Industry Effort to localize Battery Value Chain





- ❑ Organizations from Industries will be invited to join the Industry council through US-India ESTF membership
- ❑ Each Working Group will comprise primarily of industry representatives (from the industry council/ members) from the respective parties .i.e. U.S. and India based on the areas of mutual interest. Other participants may include representatives from the government, academia, and research/ laboratory institutions.

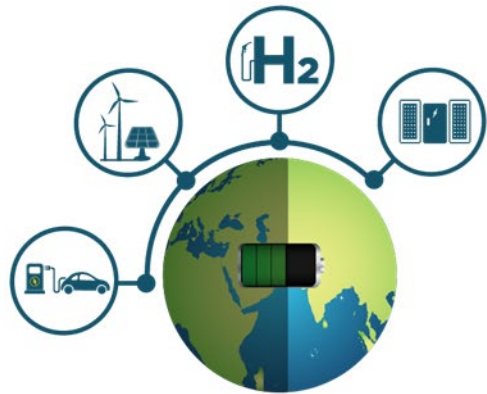
- India joined the Mineral Security Partnership (MSP) in June 2023, a coalition of 13 countries and the EU focused on addressing risks to critical mineral supply chains and investing in high-impact projects globally.
- India is part of other international alliances such as the Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development (IGF) and the Clean Energy Ministerial (CEM).
- IGF and CEM aim to enhance domestic policies and infrastructure in the energy and mining sectors, while MSP is an action-oriented partnership with a focus on securing critical minerals supply chains.
- The initiatives demonstrate India's proactive approach to addressing supply chain vulnerabilities and ensuring a stable and sustainable access to critical minerals.



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