

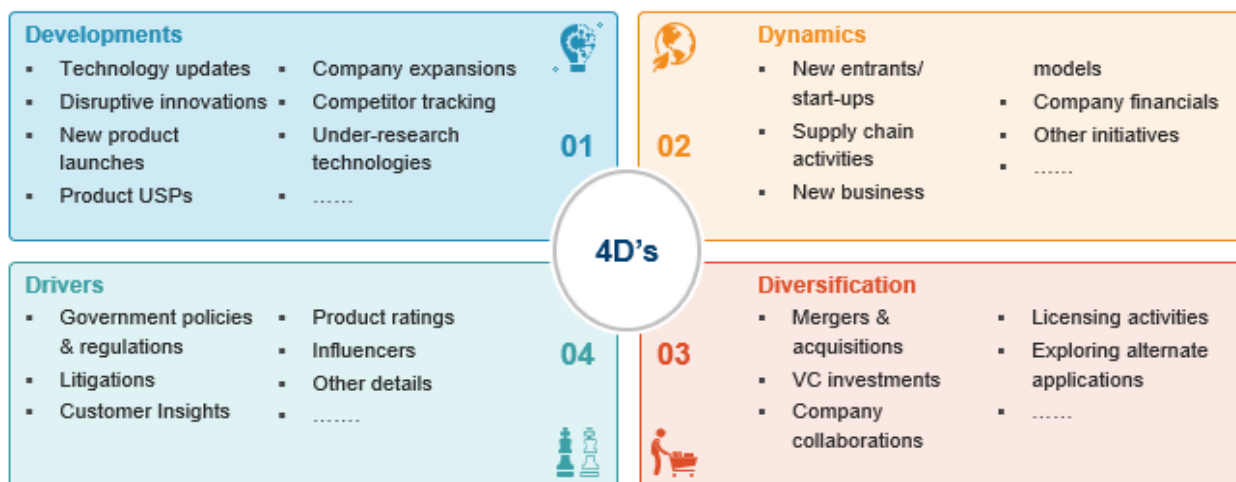
# INTELLOTRACKER

## Renewable Energy Storage Technology

April 2023



### ARANCA'S QUARTERLY SECTORIAL UPDATE ACROSS FOUR DIMENSIONS....





## DEVELOPMENTS

Technology/ Innovations		International Institute for Applied Systems Analysis study suggests using vertical shafts in decommissioned underground mines for energy storage using gravity as an alternative to battery energy storage (BESS) and underground pumped hydro storage systems. Source: <a href="#">Mercom</a>
Technology/ Innovations		AMTE Power is developing an UltraSafe cell to store electricity with enhanced energy density and maximising the storage time. Source: <a href="#">Company Website</a>
Technology/ Innovations		Oregon State University researchers have developed a new electrolyte to raise the efficiency of the zinc metal anode in zinc batteries Source: <a href="#">Company Website</a>
Technology/ Innovations		Integrating and analysing multiple AI techniques (Genetic algorithm, Artificial neural network, Particle swarm optimization, Fuzzy logic) with renewable energy services (RES) for integration with smart grids to reduce the overall cost and improve the accuracy of operation. Source: <a href="#">Springer</a>
Technology/ Innovations		Solar energy heat collection device with a collecting device, storing it a honeycomb-type phase change material and a lithium battery. Source: <a href="#">Patent</a>
Technology/ Innovations		Water-based compressed air energy storage system have heat storage tanks, water storage tanks, compressed air tanks and high-pressure steam turbines to convert water into steam by heat of compressed air. Source: <a href="#">Patent</a>
New Product Launch		Our Next Energy, Inc. (ONE) has announced Aries Grid, a lithium iron phosphate (LFP) utility-scale battery system that can serve as long-duration energy storage. Source: <a href="#">CisionPRNewswire</a>
New Product Launch		Zendure has launched the first plug-and-play solar energy storage system for balconies, including a PV hub, micro inverter and up to four batteries. Source: <a href="#">CisionPRNewswire</a>



## DIVERSIFICATION




Merger & Acquisitions		JSW Neo Energy (JSW energy subsidiary) has completed the acquisition of 1,753 MW of renewable energy assets from Mytrah Energy (India) (MEIPL). Source: <a href="#">Moneyworks4me</a>
Merger & Acquisitions		Agilias Energy has entered the Texas ERCOT market by acquiring standalone energy storage projects from GSR Energy. Source: <a href="#">Energy Storage News</a>
Merger & Acquisitions		RWE Acquires Solar and Battery Storage Company JBM Solar adding a pipeline of more than 6 GW to RWE's existing portfolio Source: <a href="#">Mercom</a>
Merger & Acquisitions		Vast Solar to merge with Nabors Energy in a deal of up to \$586m to accelerate the deployment of Vast's technology globally. Source: <a href="#">Power Technology</a>
VC Investment		VFlowTech Raises US\$10M In Series A funding to set up a 200MWh production line capacity and scale up the manufacturing of its 250 kWh modular vanadium-based long-duration energy storage solutions Source: <a href="#">Company website</a>
VC Investment		The European Commission has approved a €103 million (US\$125 million) package of direct grants from the government in Romania for battery storage projects. Source: <a href="#">Energy Storage News</a>
Company Collaboration		Ameresco has entered a "strategic relationship" with Australian flow battery provider Redflow to use the technology at project and asset installations for customers in the North American and European markets. Source: <a href="#">Energy Storage News</a>



## DRIVERS

Government Policies		Finance Minister of India, Nirmala Sitharaman announced the development of a battery energy storage system with Viability Gap Funding, providing custom duty exemption to the import of capital goods and machinery for the manufacture of lithium-ion cells. Source: <a href="#">EnergyWorld</a>
Government Policies		The Commission is recommending EU countries to consider the specific characteristics of energy storage when designing network charges and tariff schemes and to facilitate permit granting and encourages further exploiting the potential of energy storage. Source: <a href="#">European Union</a>
Government Policies		Nova Scotia's minister of natural resources and renewables, Tory Rushton announced that his department will be able to direct utilities to hold competitive procurements for energy storage resources to give new momentum to energy storage technologies. Source: <a href="#">Energy Storage News</a>

## SOLUTION PORTFOLIO – TECHNOLOGY RESEARCH & ADVISORY

		
IP Strategy	Technology Intelligence	Growth & Strategy
<p>How best can we proactively manage and monetise our technical knowhow / intellectual property?</p>	<p>How best can we keep abreast of technology trends, competitor activity and headwinds / tailwinds in our domain?</p>	<p>Which technologies do we invest in? How do we ensure quick wins? Speed to market?</p>
<ul style="list-style-type: none"> <li>IP Portfolio Analysis</li> </ul>	<ul style="list-style-type: none"> <li>Competitor Benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>R&amp;D Strategy Roadmaps</li> </ul>
<ul style="list-style-type: none"> <li>IP Monetisation</li> </ul>	<ul style="list-style-type: none"> <li>Tech / IP Landscapes</li> </ul>	<ul style="list-style-type: none"> <li>Technology Scouting</li> </ul>
<ul style="list-style-type: none"> <li>IP Valuation</li> </ul>	<ul style="list-style-type: none"> <li>Technology Watch</li> </ul>	<ul style="list-style-type: none"> <li>Open Innovation</li> </ul>
<ul style="list-style-type: none"> <li>Prior Art Searches</li> </ul>	<ul style="list-style-type: none"> <li>Market Analysis / Trends</li> </ul>	<ul style="list-style-type: none"> <li>Product Development</li> </ul>



GROWTH  
ADVISORY



INVESTMENT  
RESEARCH  
& ANALYTICS



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& FINANCIAL  
ADVISORY



TECHNOLOGY  
RESEARCH  
& ADVISORY



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INTELLIGENCE

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