








# Battery recycling overview




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Location	Carson City, 	Toronto, 	Munich, 	Hoboken, 	Salzgitter, 	Reno, 	France, 
Type	Closed loop ambition	Shredding & hydrometallurgy	Focus on hydrometallurgy	Combining pyro & hydro metallurgy	Shredding & hydrometallurgy	de-manufacturing & hydrometallurgy	Shredding & hydrometallurgy
Investor/partners	Private company funded by strategic investors	Listed company, partnering with LG, KOCH and others	Pre-seed round with Atlantic Labs and angels	Listed materials technology company	Volkswagen Group activities	Listed company with market cap of \$ 660 million	JV of Group Renault with Veolia and Solvay
Details	<ul style="list-style-type: none"> <li>1.268 battery packs recycled in 2022</li> <li>Partnerships with OEMs (ford, Toyota, VWGoA) to explore end-of-life options</li> <li>Scaling cathode and anode production</li> <li>Increasing use of recycled materials for production</li> <li>Expanding to Europe,</li> <li>Circulating recycled materials back into battery production</li> </ul>	<ul style="list-style-type: none"> <li>Public listing via SPAC in 2021</li> <li>Spoke and hub setup, until today only spokes active</li> <li>Shredding processes at spokes</li> <li>Hydrometallurgical processes at hubs</li> <li>Scaling phase, 7 spokes and 1 hup planned by 2023</li> <li>Recycled materials circled back into battery production</li> <li>Expansion to Europe planned</li> </ul>	<ul style="list-style-type: none"> <li>One of Europe's first startup recycling lithium-ion batteries</li> <li>Focusing on recovering critical materials, like lithium, nickel, cobalt, and graphite in a sustainable way</li> <li>Raised €3.5m to build prototype plant in Munich</li> <li>Recycled materials circled back into battery production</li> </ul>	<ul style="list-style-type: none"> <li>Battery recycling plant in Belgium with capacity for an equivalent of 35k EV batteries</li> <li>&gt;10 years of experience</li> <li>Combining high-temperature and wet chemical processes</li> <li>Expect that end-of-life EV batteries surging in the second half of the decade</li> <li>Worikng with ACC and others</li> </ul>	<ul style="list-style-type: none"> <li>Pilot plant up and running</li> <li>Recycles batteries that can no longer be used for other purposes.</li> <li>Plant has been designed to initially recycle up to 3,600 battery systems per year (equivalent to 1,500 tons)</li> <li>Aim: industrialized recovery of raw materials</li> <li>Recycled materials circled back into battery production</li> </ul>	<ul style="list-style-type: none"> <li>Recycling based on a strategic de-manufacturing</li> <li>process to extract metals and recover materials from spent batteries via hydrometallurgy</li> <li>Founded by ex-Tesla engineers</li> <li>Pre-commercial stage, recycling plant planned for 2023</li> <li>Recycled materials circled back into battery production</li> </ul>	<ul style="list-style-type: none"> <li>Partnering to establish a secure and sustainable supply source for strategic metals</li> <li>Renault to bring in batteries and re-use material</li> <li>Veolia as partner for logistics, dismantling and recycling</li> <li>Solvay as expert for chemical processes and extraction</li> <li>Recycled materials circled back into battery production</li> </ul>
Source	<a href="#">Redwood Materials</a>	<a href="#">Investors deck</a>	<a href="#">EU-Startups</a>	<a href="#">Umicore</a>	<a href="#">Volkswagen</a>	<a href="#">Investors Deck</a>	<a href="#">Solvay</a>