

From a startup to a game changer with international expansion plans in just 3 years!



IMPACT

How did a team of two engineers secure Series A funding, develop a process for recycling 17 tonnes of lithium-ion batteries per day, and initiate an international expansion plan within three years? Li-Cycle was founded 3 years ago in November 2016 by Ajay Kochhar and Tim Johnston, with an initial concept to recycle lithium batteries at a global scale. Both Kochhar and Johnston set out to change the world with their start-up, and they needed support.

The company became an incubator client of RIC Centre in early 2017 after being introduced by an angel investor group. Shortly after, Li-Cycle met one of its current board members at a RIC Centre event. Using the RIC Centre's vast network of investors, government programs and financial institutions, Kochhar and Johnston were introduced to a wide range of professionals and investors, leading them to closing of a significant A Round of investment in 2018, including both dilutive and non-dilutive funding sources.

HOW WE DID IT

While most recyclers will use high temperature processes to recycle used lithium-ion batteries, leaving 60–70% of critical materials behind, Li-Cycle Technology™ is a closed loop, economically viable, safe, sustainable and scalable processing technology that recovers 80-100% of all materials found in lithium-ion batteries. The company uses a hydrometallurgical solution, a wet chemistry process at low temperature with minimal risk.

At the outset, Li-Cycle had an incredible technology but needed more guidance on how to scale up the business. Qualifying as a RIC Centre incubator client was a massively influential milestone for Li-Cycle. This partnership would sculpt both the future of its market strategy and overall focus on supply chain. Although Kochhar and Johnston were focusing on sustainable battery recycling to start, they were paired with a knowledgeable sustainability expert RIC advisor, who right away recommended that the two begin focusing on supply chain. Their advisor recommended that Li-Cycle get out in front of opportunities

in supply chain, helping with the formation of an end-to-end go-to-market strategy that leveraged the full lithium-ion battery lifecycle to truly drive value. Li-Cycle began to coordinate logistics and transportation for used batteries to reach Li-Cycles processing facility, with the intent to then market the raw materials back into the lithium-ion battery supply chain.

LOOKING AHEAD

In a mere three years, Li-Cycle has successfully constructed and commissioned a pilot plant in Kingston, Ontario, that has two core components. The 'Spoke' – a safe size reduction technology that can safely process 5,000 tonnes of lithium-ion batteries/ year and outputs the recovered cathode and anode materials as a mixed product. The "Hub" – a hydrometallurgical technology which can process 365 tonnes/ year of material, then produces battery grade end products such as lithium, cobalt, nickel, and manganese for reuse in lithium-ion battery production and use in the broader economy. In parallel, they are also actively working on constructing a facility ('Spoke') in the US and have signed a memorandum of understanding with Sungho Group, a major metals recycler in South Korea, where they hope to create a hub for the Asian market.

Overall, the organization has established itself as a significant player in the lifecycle of a lithium-ion battery in Canada, taking ownership of logistics to transport, process, and recover all critical materials from lithium-ion batteries. As the company continues to grow, Li-Cycle aims to be an industry leader known for their highest standard in safety and environmental sustainability. Thanks to Li-Cycle, for every ton of batteries recycled and returned, 5.6 tons of greenhouse gasses are offset in the production of raw materials from virgin sources. Li-Cycle plans to take this sustainable solution global and as they work on developing their global commercialization roadmap in North America, EU and Asia, they plan to continue to utilize and seek RIC's strong support systems and advisors.