

Li-Cycle-Rochester Case Study

Company: Li-Cycle Corp.

Headquarters: 207 Queens Quay Blvd West, Unit 340

Toronto, Ontario M5J 1A7

Canada

Year Founded: 2016

Total Number of Employees Worldwide: 300+

CEO: Ajay Kochhar

Web site: <https://li-cycle.com/>

Rochester-based activities and accomplishments:

Founded in 2016, Li-Cycle is on a mission to leverage its innovative Spoke & Hub Technologies™ to provide customer-centric, end-of-life solutions for lithium-ion batteries, while creating a secondary supply of critical battery materials. Lithium-ion rechargeable batteries are increasingly powering our world in automotive, energy storage, consumer electronics, and other industrial and household applications. The world needs improved technology and supply chain innovations to better manage battery manufacturing waste and end-of-life batteries, and to meet the rapidly growing demand for critical and scarce battery-grade raw materials through a closed-loop solution.



Li-Cycle currently has a fully operational lithium-ion battery recycling “Spoke” facility located in Eastman Business Park. The Company’s Spoke in Rochester has a processing capacity of 5,000 tonnes of lithium-ion batteries and battery manufacturing scrap per year. Li-Cycle is also developing its first commercial “Hub” facility in the Greater Rochester Area. This facility is expected to be the first hydrometallurgical battery resource recovery facility in North America.

Li-Cycle’s Spokes utilize a proprietary submerged shredding process to convert lithium-ion battery material into three main product streams – plastics, a mixture of copper/aluminum, and a substance called “black mass.” The black mass will be taken to Li-Cycle’s Hub in Rochester to produce critical materials like cobalt sulfate, lithium carbonate, and nickel sulfate.

Li-Cycle can recover up to 95% of non-renewable battery materials; the process is able to offset 74% of CO₂ emissions when compared to mining and refining to produce one tonne of battery materials.

Li-Cycle's Hub will include a Visitor's Center as part of the company's commitment to sustainability education. To accelerate EV infrastructure within the community, Li-Cycle will be installing Electric Vehicle charging stations on the Hub campus, which are already available at the Spoke.

Why Rochester?

The Eastman Business Park in the Town of Greece and City of Rochester is industrially zoned and has already had extensive utility infrastructure.

Li-Cycle's facilities require power, steam, compressed air, sanitary sewer, and make-up water in order to operate. All of these critical services are readily available through RED Rochester, the Park's utility provider. The Park is also serviced by two main rail lines and an internal rail service, which Li-Cycle will utilize for transport of reagents and products. Li-Cycle's Hub in Rochester is expected to process tens of thousands of tonnes of materials annually, so access to rail for efficient transportation is crucial.



With the legacy of innovative technologies in the Greater Rochester Area, the availability of a skilled workforce is a key advantage for Li-Cycle. There are several large local construction general contractors in the Rochester area with a strong history in industrial construction. Being able to pull from a skilled local labor force will improve efficiencies and bring knowledge of local construction techniques. Presently, Li-Cycle has hired 25 permanent staff at the Spoke facility and is expected to create at least 220 local jobs plus 600 construction jobs at its Hub facility in development.