

Recharge Center

An alternative design for a battery recycling plant in Skellefteå

As the topic of climate change and the need for sustainable energy solutions is becoming urgent, there is a call for new and innovative solutions to prevent global warming. One industry in particular that is in rapid transformation is the car industry, where it is estimated that as many as 250 million cars will be electric in ten years, compared to around 5 million today. This revolution of the industry is made possible much thanks to the technique of Li-ion batteries, allowing longer distances between charging.

To accommodate the growing need of Li-ion batteries, a large factory, Nortvolt Ett, is currently being built in Skellefteå, a municipality in the north of Sweden. The access to clean energy and proximity to raw materials are two factors that makes the city suitable for the placement of the battery factory.

A problem with the Li-ion batteries is that the manufacturing is dependent on the use of Earth's resources such as lithium and cobalt, creating consequences on societal, economical and environmental levels. With the ambition to enable a circular production loop, Northvolt has developed a recycling program, Revolt. The recycling plant is to be built in Skellefteå on the same site as the battery production factory.

As there is yet no design for the recycling plant, the thesis project is an opportunity to investigate what such a facility could entail. The project aims to explore the possibility to intertwine industrial processes with public functions, visualizing the recycling process to introduce new perspectives on waste and raw materials. The project aspires to make the recycling plant become a mediator between the city, the factory and the landscape.