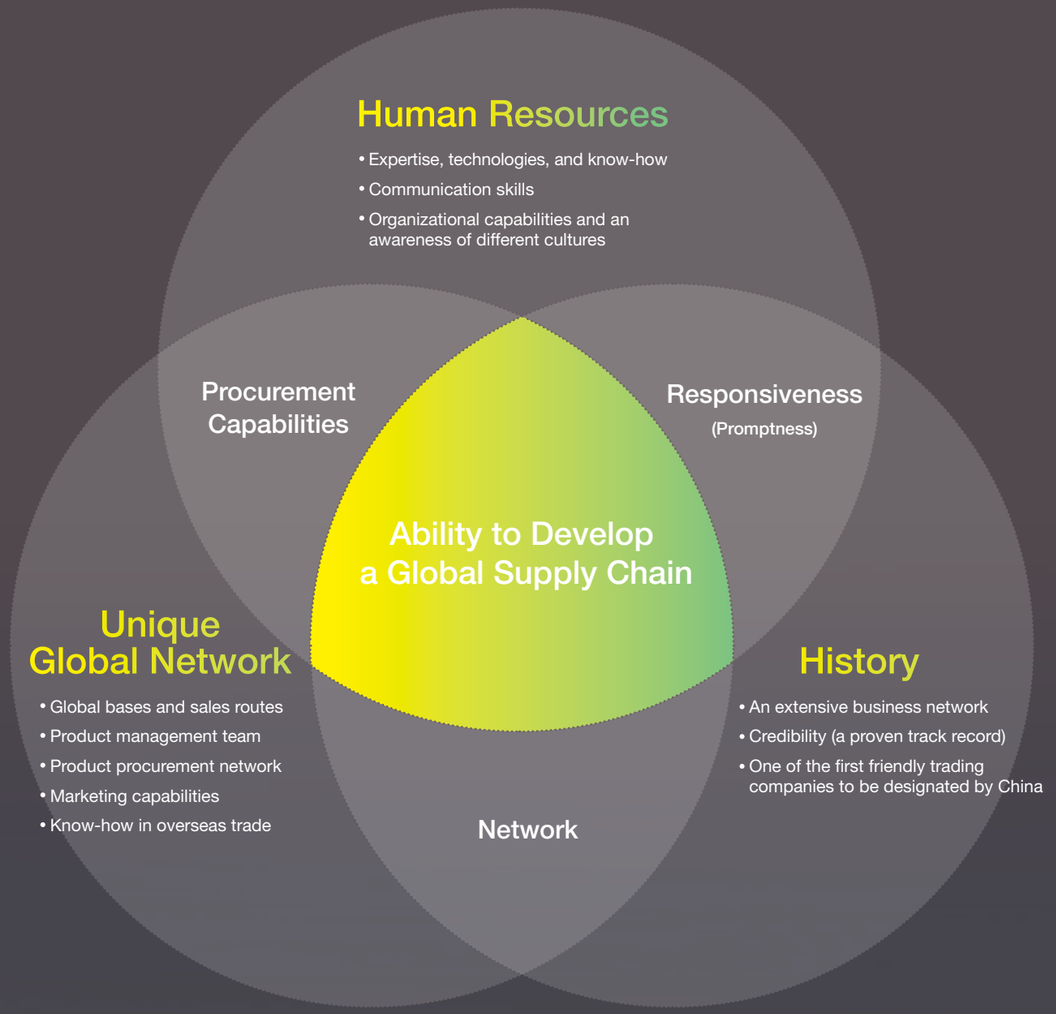
Feature: Chori's Strengths



Chori's Strengths

Cultivated since Its Establishment

Maricunga Salt Flat in Chile

The Maricunga salt flat is located 3,800 meters above sea level on the eastern side of the Atacama region in northern Chile.
The region is known for its low impurity content and high-quality resources.

Lithium Raw Materials
Essentially, lithium can be produced from either brine water or mineral ore.
Brine extraction is conducted mainly in South America, and Chile is the world's leading producer of lithium extracted from brine water.

Lithium Extraction
In general, lithium components are extracted from brine water through an evaporation process.
The process of evaporating the brine water and extracting the lithium takes anywhere from one to two years. The extraction process also depends on weather conditions and has a significant impact on the environment. For those reasons, Chori has adopted a new extraction process for this project.

Errazuriz Group		Partial investment	SIMCO SpA (Project Conductor)	
Established:	1960s	→	Established:	July 2016
Location:	Santiago, Chile		Location:	Santiago, Chile
Business activities:	Mining, fishery, food processing, insurance, automotive, etc.		Details:	Able to commence commercial production immediately due to its ownership of rights to extract brine water from the Maricunga salt flat.

Project Outline

Total cost:	Approx. ¥25.0 billion
Produced resource:	High-purity lithium compounds
Construction area:	Area surrounding Maricunga salt flat
Start of commercial production:	2022
Estimated production volume:	Approx. 20,000 MT per year (converted to lithium-carbonate)

Lithium Compound Production Project in Chile

In this section, we will discuss the three strengths demonstrated by Chori throughout this project.

Yasushi Ueda
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Overview and Background of the Project

We will likely witness the growth of the lithium-ion battery market on the back of the global spread of electric vehicles (EVs) and their rising demand. In 2017, Chori decided to take part in this project based on the belief that the lithium compounds produced by SIMCO SpA, a subsidiary of the Errazuriz Group, reflect the level of quality necessary for lithium-ion batteries as well as their rising demand. For this project, we adopted a new production process to extract lithium components from brine water in place of the conventional evaporation process.

Chori first engaged in the import of lithium compounds in the 1970s and has been involved in the sale of lithium-ion battery materials to Asian markets in recent years. We will draw on this experience to contribute to the success of this project and fulfill our role of expanding sales of lithium-ion battery materials in Asia.

Inspection at Maricunga salt flat

Unique Global Network × History

The History behind Chori's Lithium Business and Its Road to This Project

While lithium compounds have become a topic of attention in recent years, owing in part to the awarding of the Nobel Prize for the development of lithium-ion batteries, Chori has been involved in this field for many years. Our journey began in the 1970s with the import of lithium compounds from the United States, which was followed by imports from South America into the 1990s. At the time, lithium compounds were limited to their use in lubricants and heat-resistant glass and the market was so small that I, who had just joined the Company, was put in charge of their business right away. However, the development of lithium-ion batteries revolutionized the industry and their potential spurred an upsurge in the production of lithium compounds across the globe. In addition to lithium compounds, in the 2000s Chori engaged in the business of nickel, cobalt, and manganese, all raw materials used in lithium-ion batteries.

Human Resources × Unique Global Network

Selection of Chori for the Project and Utilization of Its Strengths

Chori was selected to unite with the Errazuriz Group on this project for two main reasons. One reason is the fact that Chori is a "supermarket of raw materials," or in other words, it handles a range of raw materials for lithium-ion batteries.

Chori's extensive track record in the sale of lithium and related materials, such as nickel, cobalt, and manganese, has afforded the Company a wealth of knowledge in production technologies and markets. In addition to raw materials, we engage in the handling of cathode materials, anode materials, and other related materials, which allows us to provide the full lineup of ingredients for batteries. In reality, the number of trading companies that mirror our business is limited, as most companies focus on a particular type of material. Accordingly, Chori's track record in the business of lithium and the network of information that has been cultivated through this business were looked upon to guide this project forward.

The other reason for Chori's selection was that it had a clear exit strategy in place. The production of lithium compounds without the existence of a proper sales and exit strategy would not appeal to any supplier. For that reason, rather than focusing our attention on investments, we suggested the type of needs that are apparent among customers worldwide and established a framework to promptly address such needs. The ability to develop such an exit strategy, to sell commodities, represents one of Chori's strengths. We excel at leveraging our extensive information network to identify needs and at producing and selling commodities that reflect those needs. Chori's ability to sell such commodities was a critical factor in being selected for the project.

However, as demand for lithium-ion batteries continued to grow, we started to see shortages in the supply of lithium compounds. This was when we came across the opportunity to engage in this lithium compound production project with the Errazuriz Group in Chile, with which we have worked together with for over 20 years in the vehicles business. Engaged in a variety of fields including construction materials and food products, the Errazuriz Group boasts an extensive business network consisting of a range of trading companies in Japan. And for this project, they were in search of a company that would team up toward the discovery of a new lithium compound production process.

In general, the compounds are extracted from brine water through a process of evaporation. This process involves drawing brine water from wells to the surface to create large pools and waiting for it to evaporate. It takes roughly two years to produce the compounds and the costs involved are extreme. With this in mind, as well the significant environmental impact associated with the evaporation process, the Errazuriz Group was in pursuit of an alternative method for the production of lithium.

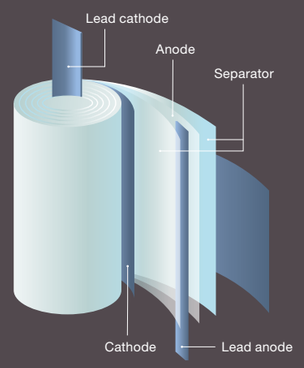
Chori's Lineup of Lithium-Ion Battery Materials

Cathode Materials
- Manganese compounds/manganese metal
- Lithium compounds
- Nickel compounds/briquette
- Cathode materials (nickel-lithium oxide, lithium-manganese oxide)
- Conductive auxiliary agent

Anode Materials
- Silicon anode materials
- Carbon anode materials
- Conductive auxiliary agent

Separator Materials
- Separator coatings

Electrolyte Materials
- Lithium compounds
- Fluorine materials



Extraction of lithium components from the groundwater beneath the massive salt flat

Human Resources

Environment-friendly

Strengths and Distinctive Qualities of the New Lithium Production Process

In our new production process, lithium compounds are produced by extracting only the lithium components from the brine water. The conventional evaporation process entailed the evaporation of groundwater, which reduced the water volume of salt flats and involved the risk of people residing at the foot of mountains not being able to draw water from wells, in addition to the loss of marine habitats. On the other hand, the new process is extremely friendly to the environment as it involves returning the drawn water to the salt flat, thereby maintaining its water volume. In addition, the new liquid compound production process has enabled us to drastically reduce production time in comparison with the evaporation process, and because it does not hinge on weather conditions, the new process allows us to adjust the production volume according to market conditions.

Another distinctive quality of the new process is its low production costs, which we were able to achieve through our global pursuit of manufacturers with cutting-edge technologies. We took advantage of the product quality assessment and analysis capabilities of CHORI Analysis & Technology Service (Suzhou) CO., LTD. by visiting manufacturers together with a production advisor from this Group company in order to pursue the highest-quality products at the lowest costs possible. As a result, we were able to reduce our costs by a significantly greater amount than what we had initially anticipated.

Human Resources

Pursuit of Further Business Growth

While we have succeeded in lowering environmental impact, improving the efficiency of production management, and reducing costs through the introduction of our new production process, the lithium compound market continues to be dominated by three global manufacturers. Just as it would be difficult to convince someone who has been consuming the same product to switch to something completely different, going head to head with the world's three leading manufacturers is certainly not an easy task. With that said, rather than competing against the industry's major players for the production of lithium compounds, Chori will step up its approach of appealing to customers that embrace the distinctive qualities of its raw materials and gear its sales efforts to that target market. By harnessing our strengths in the form of low environmental impact and more-efficient production management, we will differentiate ourselves from the three global manufacturers and overcome this massive obstacle.

Despite the unfavorable market environment stemming from the spread of COVID-19, the project is moving steadily toward its next stage. In addition to the new lithium compound production process, we are gearing up to launch a project that places even greater emphasis on the environment. With that said, we hope you look forward to Chori's continuous pursuit of becoming a company that fulfills its responsibilities to both local communities and the environment.