



Source. Kindel Medina in Pexels, 2021.

Overcoming Risk in a Changing World

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This problem situation was written by Anil Yasin Ar (anil.y.ar@tec.mx), with the purpose of serving as discussion material in the classroom; it does not intend to illustrate good or bad administrative practices. The story on this document is based on different people's experiences; some data has been modified at the request of the people and institutions involved.

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Firm Background

Founded in 2011 in Saltillo, Coahuila, Mexico, by Dr. Luis Hiliumx, the Hiliumx Group began by developing advanced battery systems for electric vehicles and renewable energy storage, including generators and large energy sources for industrial cooling systems. Over the past decade, Hiliumx Group has evolved from a startup specializing in smart microgrid batteries to one of North America's fastest-growing clean energy multinationals. Dr. Hiliumx aimed to develop modular, lightweight (smaller and lighter than traditional options), and highly efficient battery systems for electric vehicles, such as cars, SUVs, and trucks.

The company initially focused its financial resources and expertise on a small research team committed to developing solid-state battery prototypes using advanced lithium ceramics. In 2018, their efforts led to a major breakthrough: the patenting of ThermoLith™, a proprietary solid-state battery design. This innovative architecture combines heat-resistant ceramic electrolytes with AI-controlled charge management, resulting in a 40% decrease in charging time and improved safety for high-temperature operations. It sparked a disruptive innovation, paving the way for the development of next-generation long-haul electric vehicles, sport electric cars, and even space missions.

This breakthrough set Hiliumx Group as a strong contender against major companies like CATL, Panasonic, and LG Energy Solution, further supported by the firm’s own lithium mining operations in Mexico. Nevertheless, the success of the firm and its quasi-independent status from conventional suppliers (mines, etc.) attract many globally known brands. Leading automakers, including Rivian, Volvo Trucks, and Navistar, have secured battery supply agreements with Hiliumx Group. In 2021, Hiliumx Group launched its first Gigafactory, Hiliumx-1, in Austin, TX, USA, to continue its expansion and strategic moves toward becoming a globally established player. Over the next five years, the company expanded by opening facilities in Ontario (Hiliumx-2) and Wolfsburg, Germany (Hiliumx-3), targeting the European market while strengthening its position in North America and Latin America.

Additionally, Hiliumx Group introduced a Renewable Logistics Division that produces modular energy containers for port electrification and micro-grid initiatives in developing regions such as India and China to boost the electric vehicle market and become a key global player. By 2025, the Group employed over 18,000 staff members across 12 countries and achieved revenues exceeding US\$11.2 billion, reflecting an 18% year-over-year increase.

Table. Hiliumx Group’s international presence and offices/locations functions.
EV stands for electric vehicles.

Facility / Region	Function	Explanation
Saltillo, Mexico	Corporate HQ, R&D, and domestic production	Core innovation hub
Ontario, Canada	Gigafactory for North American EV	Access to U.S. markets via USMCA
Wolfsburg, Germany (EU)	European manufacturing & recycling facility	Supplies EU automotive sector
Shenzhen, China	Assembly and testing of EV units (Asia-Pacific)	Manages supply flow and production
Chennai, India	Asia-Pacific regional office	Expanding emerging-market presence
Detroit, USA	Component and raw material supplier network	Near-shoring operations for market share and USMCA

Source. Own elaboration, 2025.

A closer look at Alternatives

“Our innovation advantage means little if our raw materials or markets are hostages to geopolitical frictions. We need a *reliable and comprehensive* supply strategy.” Dr. Luis Hiliumx.

Dr. Hiliumx Group has come to realize that rising tension between the U.S. and China presents significant risks to Hiliumx Group’s operations and market structure. Current agreements with Chinese suppliers are set to expire in the second half of 2026, and alternative non-Chinese sources have not yet been able to meet the demand (quantity) for ThermoLith™. This dependency on specific resources has become increasingly critical as new competitors are entering the market, thereby boosting demand and driving up raw material prices. Additionally, Ganfeng Lithium, the current Chinese supplier, has stated that it will only sign a deal with Hiliumx Group if Dr. Hiliumx agrees to a 10-year contract. However, due to the current business climate and political environment, some executive boards are not happy with a ten-year commitment.

The Andean region, particularly Argentina, emerged as a desirable alternative. Argentina’s lithium deposits are abundant, extraction costs are competitive, and its government has expressed interest in foreign partnerships under transparent ESG frameworks. This initiative is named Project Andean Light. It was conceived as a cornerstone of the idea of supply independence. However, Argentina’s macroeconomic fragility, policy volatility, and labor complexities have created uncertainty.

Current Events

“We’re not deciding whether lithium prices are right or not. We’re deciding whether Argentina’s volatility can be mitigated within our appetite for risk and considered as a good fit,” Dr. Luis Hiliumx.

Dr. Hiliumx emphasized that choosing the right location is vital for the company's future. He advises on thoroughly examining current events and developing a clear understanding to make a smart investment decision. This process is essential for fully assessing risks and making an informed final choice.

a. Argentina

By December 2025, Argentina was navigating a turbulent yet opportunity-rich environment. The government had re-entered negotiations with the International Monetary Fund (IMF) in an effort to stabilize the economy amid persistent inflation, a rapidly depreciating currency, and rising fiscal pressures (Warner, 2025). Earlier in the year, a nationwide strike highlighted deep concerns about economic uncertainty and labor dissatisfaction, further raising questions about the country’s complex domestic market dynamics (Reuters, 2025a). Despite these challenges, Argentina continued to strengthen its position in the global energy industry and in the energy transition. Investments in infrastructure, ongoing rare-earth mineral exploration, and expanding extraction capabilities positioned the country to become one of the world’s key lithium suppliers (Penelli, 2025).

Furthermore, recent positive developments in the region have also strengthened Argentina’s role on the international stage. MERCOSUR finalized a long-awaited trade agreement with the European Union in September 2025 (European Commission, 2025). As a result, catering goods and services to Europe, in and out of the country, have become easier and more efficient. On the contrary, negotiations with the United States have slowed and sparked unexpected regional tensions.

b. China

Similar to Argentina’s trajectory, China has become one of the most critical players in the EV manufacturing industry and a leading supplier of rare-earth minerals. China makes up approximately 85 percent of the world’s output. (Hu & Tang, 2025). The country’s ability not only to explore and extract but also to refine and process gives it a monopoly-like advantage (Brewer, 2025). All aspects can be coordinated within the same legal framework, location, and market dynamics. However, this setup is vulnerable to domestic shocks and offers limited diversification options.

Another important point to consider is the Chinese firms' expansion into South America. China's state-owned enterprises simultaneously accelerated acquisitions across South America, including new lithium-related ventures in Bolivia, reflecting the country's continued efforts to secure upstream resources essential for battery technologies (Ramos, 2024). China is strategizing to capture the majority of the rare earth mineral reserves since global lithium demand is widely expected to multiply over the coming decade, with the International Energy Agency (IEA) indicating that demand already tripled between 2020 and 2024 and could triple again by 2035 under its core scenarios, driven overwhelmingly by electric vehicles and battery storage (IEA, 2025a).

c. Rest of the Globe

At the regional level, Mexico's EV market remained modest in absolute terms during 2025 compared to the global market, but it experienced rapid growth: early 2025 saw nearly 290% more electrified vehicle sales compared to the same period in 2024, and pure battery-electric vehicle sales increased over 70% from 2023, driven by bold goals set by local industry groups (Gallego Llano, 2025). Major manufacturers such as BYD publicly announced plans to double EV sales in Mexico between 2024 and 2025 and to establish local production capacity, signaling confidence in the country's medium-term market potential (Reuters, 2024).

India, on the other hand, has slowly been adopting EVs but actively repositioning itself in the upstream and midstream parts of the critical minerals supply chain. With the launch of its National Critical Minerals Mission in 2025, the government aims to boost domestic mining, processing, recycling, and strategic stockpiles of lithium, cobalt, rare earth elements, and other vital minerals. The initiative has set clear targets for project development, processing parks, and recycling capacity through 2030–2031 (Press Information Bureau - Government of India, 2025). India's efforts to access and control critical minerals have become crucial in determining its competitive edge, shaping national industrial strategies, and defining its long-term role in the electric-mobility transition.

In the United States, the electric vehicle (EV) market saw steady growth through 2025, driven by rising consumer adoption, improved affordability, and expanding infrastructure. According to the International Energy Agency (IEA), U.S. electric car sales increased by around 10% in 2025 compared to the previous year, keeping EV market share steady at about 10–11% of new-car sales (IEA, 2025b). On the supply side, it is anticipated that the U.S. will make significant investments in the exploration and extraction of rare earth minerals over the next few years. A recent example supporting this is the Trump administration's new public-private partnership with Vulcan Elements, which offers a \$1.4 billion (USD) incentive package (Reuters, 2025b).

All this progress shows that the stakes are high for Dr. Hiliumx and his team. If Hiliumx Group delays its strategic moves too long, it risks being locked out of the region. If it proceeds too quickly, it may confront operational paralysis in a high-risk environment. As a result, Hiliumx Group's executive board has tasked the international business department to determine whether this move is acceptable from a risky perspective.

- What would you say are the visible risk factors if Hiliumx Group signs an agreement with Ganfeng Lithium? (Please list the risk factors and explain them.)
- Do you think Argentina is a good investment option? (Please create a 3 by 3 risk matrix and calculate the risk score.)
- In your opinion, would it be feasible to invest in India? (Please check the current events as well as the information provided in the case to assess risks involved.)
- Based on current global events, should the corporation scale back its operations and focus on production in North America and Latin America? In other words, what are the risk factors of exiting from the Asia-Pacific region?
- Considering all the information you collected and assessments performed, what is your conclusion? Which location and strategy are best for lithium sourcing? Depending on your decision, what risk mitigation strategies can the Hiliumx Group board adopt?

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