



Avasta Independent briefing on CATL Secondary IPO

April 21, 2025

Issues that Contemporary Amperex Technology Co. Limited (CATL) should address more clearly in its operations and disclosures for the benefit of prospective investors

Commissioned by Injustice Pool LLC in March 2025

Table of Contents

DISCLAIMER:	3
MANDATE FROM INJUSTICE POOL LLC:	4
EXECUTIVE SUMMARY:	5
SUMMARY OF FINDINGS:	8
PATENT PORTFOLIO DISCREPANCIES	8
CAPITAL STRUCTURE AND GEOPOLITICAL EXPOSURE	13
IP & COMMERCIAL VIABILITY ANALYSIS	16
POSITIONING STRATEGY BY SCENARIO	21
INVESTMENT CREDIBILITY AND RISK PROFILE	25
MATERIAL CONCERNS CLASSIFICATION	26
QUESTIONS FOR GRANT THORNTON CHINA (CATL AUDITORS):	27
QUESTIONS FOR CATL MANAGEMENT:	28
APPENDIX:	30
REFERENCES	37

Disclaimer:

Avasta's analysis does not constitute any assessment of enterprise value, investment worthiness, or a formal recommendation to invest or not into CATL. This document can be used to inform making an investment decision, or not, into CATL. Avasta has identified areas that a potential investing party would likely want to have more robust answers to as part of its due diligence guided by the observations that have been made or concerns that have been raised within this document.

Any commentary outlined with *Avasta Note:* should be considered as Avasta's voiceover or opinion on a respective point or a section – not an explicit or conclusive statement. *Avasta's Notes* outline the thinking that inform an inference, qualified opinion, or hypothesis made on the topic or information evaluated.

Mandate from Injustice Pool LLC:

Avasta was retained to provide an independent assessment of CATL given Avasta's domain expertise in intellectual property, transactional due diligence and financial analysis. Avasta was not briefed as to whether there is/are any party or parties beyond Injustice Pool LLC that are beneficiaries of Avasta's findings.

Avasta explicit mandate signed in March 2025 is to serve as an objective evaluator, analyzing CATL's stated market potential, intellectual property (IP) holdings, and financial projections to assess whether there are material discrepancies that could impact institutional investors. Given the complexity of the listing and the potential implications for shareholder protection, Avasta's role is to provide a structured, outside-in review to validate concerns and highlight key risks.

This delivery has focused on:

1. High-level review of CATL's filings and public claims regarding market position and IP assets.
2. Independent evaluation of potential discrepancies in financial and IP disclosures.
3. Preliminary valuation range assessment to determine if CATL's claims align with industry benchmarks and market expectations.
4. Risk assessment for institutional investors to determine if further scrutiny is warranted.

Executive Summary:

Contemporary Amperex Technology Co., Limited's (CATL) secondary IPO filing was analyzed from the perspective of conducting independent, objective due diligence as if CATL was a company to be acquired, invested in, or lent to. Hence, most findings and considerations pertain to the financial materiality that exists in CATL's disclosures, gaps identified, and discrepancies that need to be addressed by CATL and/or its auditors due to practices that fall outside of norms.

MOST CRITICAL CONCERNS:

Assignment of underlying security to foreign debtors and investors:

In the event of bankruptcy or other financially material dispute, we seek clarification that CATL's shareholders or debt holders that are residents or citizens outside of China (*Outside Investors*) will have title to CATL's intellectual property portfolio as security or collateral. Unless indicated explicitly otherwise, and verified by external auditors (Grant Thornton China as of this writing), the majority of CATL's IP portfolio (primarily patents) belongs to the Chinese state regardless of whether the patents are filed through international subsidiaries like Hong Kong to existing Chinese regulations that retain intellectual property rights in China superseding foreign claims without an explicit filing as per Article 19 of China Patent Law and explicit release under Article 10 of the Patent Law.

This may very well mean that CATL's sole security is in the physical plant, property, equipment and inventories outside of Chinese jurisdiction unless the Chinese patent portfolio is irrevocably assigned to CATL's non-Chinese subsidiaries in such a manner that *Outside Investors* of CATL can recoup a portion of their investments in the event of bankruptcy. As such, we are concerned that the security value of the underlying CATL business is overstated in the secondary listing documents since CATL's leadership has not demonstrated that applications under Article 10 for its patent portfolio has been approved to provide the type of security that Hong Kong listed companies have access to under Hong Kong Law.

A material change in CATL's primary patent filing entity

Beginning in 2024 CATL's patent applications with the USPTO shifted to becoming almost exclusively from CATL's Hong Kong subsidiary and at a substantial rate that has grown to dozens of distinct patent applications daily in 2025. CATL's Hong Kong operations are relatively immaterial as acknowledged by CATL in their Hong Kong exchange listing documents (*pages 14, 67-80 of Hong Kong Prospectus*). These operations are so minimal, that CATL had to request, and get granted, numerous exceptional exclusions to meet Hong Kong listing requirements (*pages 67-80 of Hong Kong Prospectus and additional reference in balance of document*).

What is concerning is that the volume of patent applications would seemingly map to billions of dollars of R&D expenditures in the previous few years. Based on typical IFRS accounting and tax practices, the research costs for these patents would have to be transferred from CATL's China entities to Hong Kong. There is a question of why there has been zero disclosure or comment on if and how this practice is being conducted and at what financial value by CATL's management, external auditors and investment bankers. This is crucial since the patents tied to this R&D would form the basis of investor security under Hong Kong law in the event of dissolution or liquidation. Due to Chinese company registration requirements utilization of security under Hong Kong law requires explicit release of patent rights by CNIPA after these patents have already been filed in China. This gap in disclosure creates a significant financial gap in the R&D expenditures and intellectual property protections of CATL.

In addition to these core concerns this document explores the following topics:

1. The discrepancy in the number of patent families applied for and granted by CATL (*page 2 of Hong Kong Prospectus, <https://insights.greyb.com/catl-patents/>*)
2. Transfer pricing and internal licensing treatment of the patent portfolio since the primary patent filing entity has changed but patent-related expenditures still appear to be solely occurring in China
3. The low acceptance rate of CATL's patent applications, especially given the volume of applications and the large size of its patent filing team
4. CATL's ability to address 1260H designation from the US government and how this may impair the company in providing necessary risk assurance to investors, especially US-based ones

(<https://www.federalregister.gov/documents/2025/01/07/2025-00070/notice-of-availability-of-designation-of-chinese-military-companies>)

5. Indications in CATL's Hong Kong filings that the secondary IPO shares will not benefit from the same disclosure requirements as the pre-existing shares in the company (*page 64 of Hong Kong Prospectus*)
6. Significant changes in share ownership positions in CATL's Chinese shares including by one of JP Morgan's ETF funds (*JP Morgan is acting as one of the investment banks for CATL for the secondary IPO*)

Summary of Findings:

This is a review of public filings and market claims that covers statements and discrepancies identified in patent protections, financial protections, shareholder disclosure requirements and claimed financial potential.

Patent Portfolio Discrepancies

CLAIMED VS. REGISTERED PATENTS:

Significant discrepancy identified between CATL's claimed patent portfolio (approximately 32,000 patents filed and registered publicly) and independently verifiable patents. According to CATL's Hong Kong filing (*page 143*), "As of September 30, 2024, we owned 14,782 registered patents, along with 25,010 patents under application worldwide." However, this figure does not align with external verification sources. Additionally, there is no disclosure from CATL how many of these are distinct patents versus common patent families (individual patents that have been concurrently applied for and granted in various patent issuing jurisdictions globally).

As an example, a patent originally granted in the US and subsequently granted in the EU, leveraging US filing information, are two different patents but a single patent family. A public domain assessment from Insights by GreyB identifies that there are over 31,000 patents globally that fall into over 17,000 patent families implying a lot of duplicate patent filings – a completely legitimate practice but overstating the volume of patents to an unsophisticated investor. (<https://insights.greyb.com/catl-patents/#how-many-patents-does-catl-have>).

Only a fraction of these can be independently verified through third party sources.

1. Scale IP's database shows only 3,400-3,700 registered patents (including US, EU, some other Asian jurisdictions and some Chinese precedent ones that have been recognized) that are searchable and interactive. (*ScaleIP is a patent aggregator tool based in United States. www.scaleip.com, paid database license required*).

Avasta Note: *It is recommended to conduct to an independent patent analysis to provide scrutiny on the nature of CATL's patent portfolio as there is a high volume*

of patents applied for and not granted. Furthermore, CATL is filing for patents in many more jurisdictions than other comparable battery technology companies such as Panasonic, BYD, or CALB.

2. USPTO search reveals a recent surge of patent registrations, with roughly 50 patents filed per week since the start of 2025, suggesting an unusual acceleration of filing activity.
3. The majority of the 2025 filings appear to be coming through CATL's Hong Kong entity rather than their mainland Chinese entity, raising questions about jurisdictional legitimacy as CATL's Hong Kong operations are limited and any underlying support for the patent filings is being declared through the Hong Kong entity without public disclosure about internal transfer pricing, recognition of cost, nor assignment of title to the Hong Kong entity from the original Chinese entity that would have conducted the research since Hong Kong doesn't have any corresponding research facilities.
4. This implies that there is IP transfer happening from an accounting perspective across jurisdictions before the filing process is begun. While this is at times a recognized practice, the volume of such activities and the materiality to the business operations should be disclosed under public company listings and comments from auditors.

Avasta Note: *This practice of transferring research to the Hong Kong subsidiary prior to legal registration is highly concerning as it may result in a break in the chain of legal custody as to the legal protectability of the patent portfolio. In jurisdictions such as USA, France, Canada or the United Kingdom, this practice is not as concerning as title to security reverts to the debtors or shareholders in order of rights priority, not to the state as in the case of China registered patents and Chinese law.*

There may also be a lack of supporting material and technical documentation to support the patent application by the new entity. The development cost of the patent may not be correctly calculated as part of the IFRS requirements as the underlying research for patents likely covers multiple fiscal years of research.. Additionally, under Chinese practice, any IP developed in China and transferred to a foreign subsidiary still remains the property of the Chinese state and subsidiary rights can be

retracted by the government. Unregistered patent rights in China are required to be registered with CNIPA. If they are not registered, then under Chinese practice the assignor retains these rights, meaning that any transfer of unregistered IP to a Chinese subsidiary is not a full title transfer of rights unless they are subsequently registered in China.

CATL has not acknowledged that this sequence of IP protection is happening in their Hong Kong prospectus or how it will be handled to provide security. Considering the substantial volume of patent filings that are now through the Hong Kong Subsidiary and the billions of dollars per year in R&D spent in other jurisdictions, primarily China, we deem that this is materially necessary disclosure on behalf of CATL, the auditors and investment banks as to the value of these rights.

Additionally, this may be a WTO violation if these transfers before USPTO filings do not transfer both knowledge (supporting research and records) and title to the Hong Kong entity. Under Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), a transfer of IP cannot be done in a manner that is uneven between jurisdictions to take advantage of policy or tax status in one jurisdiction taking advantage of another.

What is crucial here, is whether the transfers were conducted at fair market value and if there is now an internal transfer price back to mainland China for the patents filed in the USPTO by the Hong Kong Subsidiary for use and commercialization of these patents.

CATL should be able to clearly demonstrate the following in its patent application performance, by jurisdiction:

1. Unique patent application filed
2. Duplicate patent application filed
3. Unique patent application registered
4. Duplicate patent application registered
5. Geography of origin for development of patent
6. Legal entity of origin for development of patent
7. Present legal entity that owns the underlying registered patent
8. Transfer Price Value of the IP transferred before USPTO (and other patent body registration) filings
9. Existence of an internal royalty for patents that have had a change in ownership
10. Jurisdiction of ownership for the Patent (what laws would apply in the event of a patent dispute or liquidation of assets)

FILING VS. APPROVAL RATIO:

The acceptance rate on CATL's patent filings appears unusually low, with more than a 3:1 ratio of filed versus granted patents, suggesting a strategy of mass filing rather than targeted, high-quality patent development program. Considering that the trailing average of acceptance rates for patents in the USPTO is between 49% and 60% over the past five years (https://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm, *Avasta calculations of granted patents divided by applied for patents*), CATL's performance on filing vs acceptance is concerning. Furthermore, CATL has not explicitly disclosed the number of patents that have been granted or issued.

COMPARABLES:

BYD has approximately 3,500 active patents (per PitchBook data) despite operating across a much broader set of verticals than CATL, making CATL's claimed ~32,000 patents appear disproportionately high for their focus area¹.

1. Samsung, by comparison, has approximately 330,000 active patents with 267,000 employees (CATL has 116,000 employees) across dozens of other IP domains (outside of batteries) and across several more decades²
2. CATL claims 20,000³ employees are working in R&D and patent filing, which is extraordinarily high compared to IBM (3,000 employees in R&D⁴) and Samsung (10,000 globally in R&D⁵). While the utilization of a high number of R&D employees is more common in China, the low acceptance ratio may indicate that R&D investments are ineffective and/or inefficient.

***Avasta Note:** Due to the substantially higher patent filing rate in a very niche domain of research (battery technology, related enclosures, etc.) compared to all other comparable battery research companies (Panasonic, BYD, LG, Samsung, CALB, and others) CATL should be able to articulate why such a substantial portion of its operating cash flow needs to be directed to these patent filings, especially as the acceptance rate is quite low and competitors appear to be able to develop much stronger portfolios with much lower application requirements. From an investment*

¹ *Design vs. Utility Patent Distribution in Battery Manufacturers' IP Portfolios," LexisNexis PatentSight Analytics, Q1 2024*

² *Samsung Patents – Insights and Stats," GreyB, 2023*

³ *Robin Zeng: CATL's Prodigious Gambler," Interconnected by Kevin Xu, accessed April 2025*

⁴ *"IBM Research Annual Letter 2024," IBM Research Blog, accessed April 2025*

⁵ *"R&D Center," Samsung Electronics – About Us, accessed April 2025.*

perspective, CATL can be determined to be an inefficient utilizer of its R&D investments.

Given the volume and pace of patent filings, we would encourage investors to have CATL explicitly disclose how many of unresolved patent applications are unique filings vs duplicates. For the duplicates, it is also critical to understand how many of these are concurrent applications without any jurisdiction having granted the patent yet.

Capital Structure and Geopolitical Exposure

FINANCIAL AND MARKET CLAIMS

FINANCIAL POSITION:

CATL reports \$40 billion in cash reserves, raising questions about the necessity of their target \$5.8 billion capital raise from the Hong Kong listing⁶.

***Avasta Note:** CATL may be seeking foreign currency reserves rather than operational capital, suggesting potential issues with financial repatriation of China-domiciled assets as cash and asset security for foreign operations. What's important to note that this filing with the explicit blessing of the CCP due to the materiality of CATL in the Chinese economy and informing the geopolitical positioning for the CCP.*

The actual \$ amount of the cash raised is relatively immaterial from an operational point of view. However, because it is raised in a non-Mainland-China jurisdiction allows CATL management to disseminate funds to other jurisdictions much easier due to the lack of restrictive capital controls that Mainland China companies operate under.

REVENUE VS. PROFIT TRENDS:

Financial data shows declining revenue year-over-year, while profits have increased, creating an unusual divergence⁶.

1. Cash flow from operations is declining despite increasing profitability, raising a need to clarify why this is the case and provide guidance on when and why reinvested capital will be recouped.
2. Annual R&D expenditures are also declining, which seems contradictory to their aggressive patent filing strategy. The varying volume of patent applications and the frequent delay in patent application processing – often 1-2 years in many jurisdictions, results in an ambiguous understanding of the matching principle in knowing when the expenditures for underlying patent applications was incurred versus when they have been, are expected to be granted.

⁶ "CATL Quarterly Financial Results," Q4 2024 Earnings Report, March 2025.

3. Given that CATL is seeking to use the IPO to pursue growth in much higher cost countries, that would imply that revenue and profits will likely be at a much lower growth and margin than its historical performance

GEOPOLITICAL CONSIDERATIONS

UNITED STATES MARKET ACCESS:

CATL was designated as 1260H entity under a U.S. Government clause on January 7, 2025, restricting their access to the US market. This designation came after initial investment bank involvement⁷

- The U.S. market represents approximately \$85 billion for EV batteries in 2025 estimates, representing significant market access risk and reducing the share of the global batteries marketplace in which CATL is able to compete⁸

Avasta Note: The intersection of geopolitics and the profitability of CATL's foreign-market revenues is likely to face increasing scrutiny—particularly if the company must pursue vertical integration for raw materials sourcing, processing, and manufacturing in higher-cost regions like Europe. CATL appears to be betting that domestic or regional production will be more acceptable to European stakeholders than to US-based ones.

Before its designation under Section 1260H, CATL had been in discussions with Tesla and Ford regarding technology licensing for U.S.-based manufacturing, structured either as licensing agreements or joint ventures—where the cost burden would fall on the domestic partners. These types of arrangements—focused on IP and technology licensing—would have represented CATL's highest-margin revenue opportunities⁹.

Now, with that revenue stream potentially off the table, CATL faces heightened concentration risk in Mainland China, where it already holds over 40% market share and is encountering growing competition¹⁰.

⁷ "CATL: Market Expectations vs. Industry Realities," Financial Times Analysis, July 2024

⁸ "EV Battery Supply Chain: Valuation and Risk Assessment," Bloomberg Intelligence, August 2024

⁹ "Tesla Battery Supplier Diversification Strategy," Reuters Special Report, August 2024

¹⁰ China Association of Automobile Manufacturers Monthly Report, September 2024

CCP CONNECTIONS:

Extensive documentation shows deep ties between CATL's leadership and the Chinese Communist Party.

- Founder Zeng Yuqun is a member of the Chinese People's Political Consultative Conference (CPPCC) National Committee¹¹.
- *Several institutional investors in CATL are affiliated with Chinese state entities (ChinaAMC, E Fund, China Merchants Bank investment arm).*
- *Further data is available in a separate document referenced in Appendix B*

Avasta Note: *Exploring the materiality of CCP connections is outside Avasta's mandate, however, at a minimum, any investor, especially, a U.S.-based one should take consideration the geopolitical risk in investing into a company of the size and materiality to the Chinese Government. A number of other Chinese companies such as Alibaba and Tencent have been identified to be much more strongly linked to Chinese-Government compliance requirements than what was disclosed at the time of their public listing.*

Given then the geopolitical tensions at the time of this writing between the U.S. and Chinese governments, combined with the 1260H designation, participating in CATL's Hong Kong listing hold substantially higher political risks than a year earlier.

¹¹ "CPPCC Member Zeng Yuqun on Promoting Battery Technology Innovation," CPPCC, March 8, 2022

IP & Commercial Viability Analysis

JURISDICTIONAL IP RISKS

MULTI-JURISDICTION STRATEGY:

Recent evidence shows CATL filing patents through multiple subsidiaries and across multiple jurisdictions, particularly focusing on Hong Kong entity filings for US registrations.

- Analysis suggests this could be a response to increasing jurisdictional risks rather than normal business practice.
- Similar multi-jurisdictional filing behavior is now being observed with competitors like LG and Samsung, suggesting an industry-wide response to patent enforcement challenges.

DISCREPANCIES IN FILING ORIGIN:

USPTO (United States Patent & Trademark Office) data shows many patents being filed through CATL's Hong Kong entity, especially since the fall of 2024, rather than the mainland Chinese entity, raising questions about the true origin of intellectual property.

***Avasta Note:** How is it that, suddenly, CATL has this Hong Kong entity, without an R&D department, that has suddenly begun filing a large volume of patents in the U.S.? This runs counter to any legitimate IP Holdco that a company would normally establish for internal licensing. Furthermore, such a Holdco would typically be established after the underlying patents have been registered and been given at least some kind of commercial value potential in the future.*

In our perspective, this transfer of know-how without necessary recognition and registrations creates uncertainty around "custody misrepresentation" or "origin misrepresentation" of the intellectual property. The entity in question may not be able to credibly defend its applications, as it may not possess all the necessary technical or legal components to support the filings.

While transfer of rights to patent filings is a common practice before formal filings, there is still a requirement for a financial value to be put upon these transfers.

Considering the volume of patents registrations through the Hong Kong Subsidiary (in the hundreds of filings in Q1 2025 alone) the financial value is significant. Also, CATL needs to disclose directly or through its auditors if any of the costs incurred in the USPTO applications by the Hong Kong Entity occurred in prior fiscal years. Typically, a disclosure would need to be made on adjustments to expenditures in previous fiscal years. That has not occurred here.

To reiterate, CATL has spent tens of billions of dollars in R&D in the past several years. Transferring that expense to a foreign subsidiary with a different tax structure would typically require a formal acknowledgement and note from the auditors. CATL needs to give evidence that it has acquired Foreign Filing License (FFL) from CNIPA for all of its patents filed through Hong Kong. Without such an assignment, the USPTO filing by the Hong Kong Subsidiary can be disputed. We refer here to Article 19 of the Chinese patent law and the precedent of the case in the link below.

First-ever Successful Invalidation Challenge Due to Unauthorized Foreign Filing, Eagle IP, accessed April 2025. <https://www.eagle-ip.com/publications/first-ever-successful-invalidation-challenge-due-to-unauthorized-foreign-filing/>

We encourage that CATL address how this type of practice is not a potential TRIPS violation. If this practice is condoned, it may create unfair advantage of Hong Kong based IP transfer practices.

While Avasta's mandate has to specifically explore CATL activities, we suggest that a scrutiny of other mainland China companies potentially acting in a similar manner to better assess how similar this type of practice is to non-CATL, mainland-China-based companies. The difficulty may be the lack of volume that is evident in CATLs practices as they are one of the largest active patent filing entities globally, regardless of jurisdiction.

PATENT SIMILARITY ASSESSMENT

CONTESTED PATENTS:

Several CATL patents have been invalidated, including in China, and the company acknowledges the risk of further invalidations as part of their filings¹².

- CATL is involved in significant patent litigation with competitors, including:
 - CATL vs. LG Energy Solution (mutual infringement claims)¹³
 - CATL vs. SVOLT Energy (dispute over alleged misappropriation of proprietary technology)¹⁴
 - SK Innovation and CATL (ongoing disputes over battery technology patents)¹⁵
 - CALB vs. CATL (mutual infringement claims)¹⁶
 - CALB vs CATL and Tesla (CALB patents invalidated by CNIPA)¹⁷
 - CATL via ATL entity vs Zhuhai (Texas jurisdiction)¹⁸

PATENT QUALITY CONCERNS: There is a pattern of over-registering protections, possibly for internal performance metrics rather than legitimate intellectual property protection.

***Avasta Note:** Anecdotally this is a systemic practice of Chinese companies just going through the procedure of over-registering protections, not for the sake of providing precedents in those markets, but for the purposes of those departments in those companies, showing that they are doing their job.*

If CATL is unable to substantially strengthen the acceptance and defensibility of their patent portfolio, it will put the long-term viability of profits in question. CATL does not hold a technology advantage with its patents. Rather, it owns a production advantage within its own patent portfolio that allows the company to

¹² "CATL Files Invalidation Requests Against CALB Patents," AFDIP – CNIPA Update, November 1, 2024

¹³ "CATL Files Patent Infringement Lawsuit Against LG Energy Solution," U.S. District Court for the District of Delaware, Case No. 1:22-cv-00982, August 2022

¹⁴ "CATL vs SVOLT: Trade Secret Misappropriation Case," Beijing Intellectual Property Court, Case No. (2021)京73民初536号, July 2021)

¹⁵ "SK Innovation Files Inter Partes Review Challenges Against CATL Patents," United States Patent and Trademark Office, IPR2023-00892 through IPR2023-00897, July 2023

¹⁶ "CALB sues CATL over patent infringement in escalating battery rivalry," PV Magazine, October 29, 2024

¹⁷ "CALB sues CATL over patent infringement in escalating battery rivalry," PV Magazine, October 29, 2024

¹⁸ "Enhanced Damages Award for Chinese Client in Texas Federal Court," Quinn Emanuel Urquhart & Sullivan LLP, July 29, 2024

set the price and, generally, have a price advantage against more efficient battery competitors.

There is a lack of evidence that CATL's technology can meet the wants and needs of the market for the combination of faster charging and longer battery life despite its recent announcement of fast charging capabilities¹⁹. We are not clear how CATL's patent high-application-driven patent portfolio enables long-term protection for CATL shareholders given that other companies appear to either be more effective or more efficient with what patents they apply for and get granted.

To reiterate, CATL's current advantage is that where competitors like BYD and Panasonic have gone downstream toward manufacturing integration with integrated battery technology, CATL has gone upstream—leveraging its raw material volume demands to command volume discounts, cost controls, and exclusivity with mining facilities and other suppliers. That strategy is valid only as long as the underlying demand for CATL's products—which sit on the lower end of the cost curve—continues to meet a 'good enough' performance capability in the market.

¹⁹ <https://www.reuters.com/technology/chinese-battery-maker-catl-launches-second-generation-fast-charging-battery-2025-04-21/>

COMMERCIAL VIABILITY

CONTESTED TECHNOLOGY:

The financial impact of patent disputes appears material but not company-threatening, with one referenced lawsuit at approximately \$40 million for five patent violations, and a more recent case around \$140 million²⁰.

MARKET SHARE VULNERABILITY:

If U.S. market access is restricted, CATL could lose significant market opportunity.

- 67% of CATL's revenue comes from China, with the balance from international markets²¹.
- Loss of full US market access could theoretically impact \$50 billion of their market cap on a pro-rated base given current market share ratios globally vis-à-vis the US market ²².

***Avasta Note:** CATL is dependent on long-term contractual relationships with customers who require its battery technology and manufacturing capabilities. CATL's investment into upstream (raw material sourcing and conversion) gives the company a cost edge, however, its revenue is dependent on it being an appealing vendor to purchase technology and manufactured goods from.*

The Hong Kong prospectus refers to global market data for battery technology without disclosing that the US portion may be completely unavailable to it due to the 1260H classification and how it affects projected revenues. This omission is likely overstating disclosed CATL's forecasts as a percentage of future global market share.

²⁰ "Analysis of CATL and LG Energy Solution Patent Litigation," Finnegan IP Law Firm Research Brief, March 2023

²¹ CATL Quarterly Financial Results, Q4 2024 Earnings Report, March 2025

²² "U.S. Electric Vehicle Market Size, Share & Growth Report," Global Market Insights, accessed April 2025

Positioning Strategy by Scenario

VALUATION ASSESSMENT

MARKET CAPITALIZATION:

CATL's market cap is approximately \$150 billion (with the proposed raise representing a relatively small portion at \$5.8 billion). This represents a dilution of less than 4%²³.

CAPITAL EFFICIENCY QUESTIONS:

Significant questions exist about the efficiency of R&D spending relative to patent portfolio quality and commercialization. This comment is not a criticism of the company's strategy but, rather, an encouragement for investors to get sufficient personal comfort and consensus with management guidance as to why such substantial resources are spent on R&D and patent filings that have had a lack of success in the past.

GROWTH REQUIREMENTS

MARKET SHARE CHALLENGES:

CATL claims approximately 36% of global market share in battery technology yet it faces increasing competition²⁴.

- Competitor's market shares: BYD (14%), LG (14%), Panasonic (7%), and others gaining ground. BYD specifically is growing aggressively, driven by its own vertical vehicle sales²⁵
- CATL faces potential market access restrictions in key growth markets, particularly the US. Furthermore, under the Section 1260H designation, US-based or US dependent companies may reduce or eliminate dependency on CATL's

²³ "Global Battery Manufacturer Valuation Comparison," Morgan Stanley Research, September 2024

²⁴ "China Association of Automobile Manufacturers Monthly Report," September 2024

²⁵ "Leading Lithium-Ion Battery Manufacturers by Market Share," Statista, accessed April 2025.

technology to remain compliant with US operating compliance requirements to sell products to the US Department of Defence²⁶

STRATEGIC EXPANSION RISKS:

The purpose of the Hong Kong listing claims it to be funding European expansion, which would likely come at lower profitability than their core Chinese business²⁷.

- An important point of consideration is that Hong Kong shares typically trade at a discount to Chinese ones due to their mainland Chinese equivalents. This is due to perceived political risk and reduced access for mainland investors, potentially diluting shareholder value²⁸.
- The claim that this fundraising is intended for European expansion does not align with the significant changes the company has made to its IP filing practices. Expansion into Europe is a costly endeavor, but it could be funded through China-domiciled capital, subject to government approval. Given that government authorization was required even to list in Hong Kong, this secondary offering may be better interpreted as an effort to internationalize CATL as an investment vehicle—without being subject to the same level of scrutiny that would be required in the U.S. or Europe.

***Avasta Note:** Given the European dependency on Stellantis and the indication that capital raised would be for European expansion from a Hong Kong base, it would be a clearer demonstration of the matching principle if the patents that CATL will be dependent on are also registered in the European markets of manufacturer and sale. However, there is a complete lack of disclosure from CATL on how they will utilize IP rights to protect their European manufacturing by being explicit as to how the underlying IP is registered in Europe.*

- CATL's need for cash is debatable, and the fact that it is receiving significant exemptions from filing requirements—while also changing its IP filing practices—should raise concerns. These changes, which require Chinese government approval, are now presented as originating from a Hong Kong-based entity. This discrepancy should be carefully examined by investors before making any investment decisions in CATL.

²⁶ "US adds Tencent, CATL to list of Chinese firms allegedly aiding Beijing's military," Reuters, January 6, 2025

²⁷ "CATL Investor Relations Presentation," Q4 2023 Earnings Call, February 2024)

²⁸ "Hong Kong prepares for influx of listings from mainland China," Financial Times, January 27, 2025

***Avasta Note:** Based on public disclosures from CATL and competitors, it is very difficult to ascertain what is CATL's competitive advantage outside of its Mainland China base. The company already has less than 25% of non-China market share. Also, market share growth is suspect in light of American Tariffs and CCPs guidance that US-based operations are off the table for the time being.*

The \$5.8 billion investment is factually insufficient to compete for a proportionate share of the European market without additional support coming from Mainland China. CATL's success in Europe will be dependent on vehicle manufacturers that decide against pursuing vertical integration in battery technology like BYD to be competitive.

We would request that CATL be more explicit on the financial returns possible from this capital raise and if any of it is supported by cash reserves from Mainland China to distribute risks.

INTANGIBLE ASSET VALUE

IP ASSET OVERSTATEMENT RISK:

Based on the analysis of patent claims versus verifiable registrations, there appears to be a significant risk that CATL's intangible assets related to IP are overstated.

- The 3:1 ratio of filing to acceptance, plus the jurisdictional questions, suggest the quality of the patent portfolio may not match the company's claims.

***Avasta Note:** To reiterate analysis of the patent portfolio, CATL needs to demonstrate that its patents are both defensible and commercially distinct in that they provide financial advantage to themselves and their customers. Patents for the sake of patents can impair the business and give it a false sense of security or revenue potential. Given the volume of patent filings, the onus is on CATL leadership to provide evidence, even if trailing, that the investment is providing a financially competitive advantage, not just novelty in research. They also need to disclose if patent family applications are generally being granted across jurisdictions or if there is disagreement between patent-granting authorities. CATL has already experienced numerous occasions when its patents have been contested, including in China. If the patent protections are weak or irregular, then the underlying security to shareholders may be weaker than implied.*

Other companies that have historically had a high volume of patent filings haven't necessarily had a competitive advantage. While decades ago, companies like IBM,

Qualcomm and others were able to have patent filings be a leading indicator of future business performance, their collective volume of patent filings was still substantially lower than CATL has today.

Additionally, as stated previously, the ultimate legal title, jurisdiction of ownership, and enforceability of intellectual property rights are critical to the financial value of these patents – particularly for shareholders participating in the Hong Kong secondary listing. According to the listing documents, CATL has received and exemption from standard Hong Kong exchange disclosure requirements for its mainland China operations. As a result, investors in the Hong Kong class of shares must rely on the lower-quality disclosures provided under mainland Chinese regulatory standards, at their own cost and risk.

It is important to highlight that, due to the exemptions granted by the Hong Kong exchange, CATL's disclosures fall far short of the filing requirements expected of a U.S.-listed company or a fully independent Hong Kong-listed entity.

The extent of these inconsistencies—along with material omissions that are typically mandated for Hong Kong-listed companies—obscures CATL's true operating practices. This gives rise to a meaningful comparison with the resignation of EY as auditors of Super Micro Computer in late 2024. That incident triggered a 32% drop in Super Micro's share price, from which the company has yet to recover, due to diminished investor confidence in the accuracy of its financial reporting.²⁹

²⁹ "Super Micro Computer stock plunges 30% as auditor Ernst & Young quits," Quartz, October 30, 2024

Investment Credibility and Risk Profile

KEY RISKS FOR SECONDARY LISTING

DISCLOSURE REQUIREMENTS:

CATL is receiving unusual waivers from Hong Kong Stock Exchange listing requirements.

- The CATL raise requires many exclusions from listing requirements in Hong Kong, taking advantage of the Exchange's decline in importance globally³⁰
- The lower exclusion requirements further increase the risk that the Hong Kong shares will be traded at a further discount to the mainland share valuation
- Several major ETFs and funds (including JP Morgan's asset management arm) have significantly reduced their holdings in CATL, indicating a broad decline in institutional confidence. Fintel data shows multiple funds with over 25% reduction in position size between the date of CCPs approval of the listing on March 13th and before the announcement of American Tariffs on April 2nd. Note that no fund materially increased their position in this time. Prior to February 28th, 2025, there are numerous occasions of increases in position in CATL including increases of 105%-240%³¹.
 - April 1, 2025: LIT – Global X ETF: -30%
 - March 31, 2025: ZABDFX – Diversified: -42%
 - March 28, 2025: TEMP – JPMorgan ETF: -72%
 - March 27, 2025: CNYA – iShares MSCI China ETF: -26%

Avasta Note: These shifts suggest that large investors may perceive elevated risk surrounding CATL's valuation, regulatory exposure, or prospects tied to the Hong Kong secondary listing. ETFs rarely have substantial changes in their investment positioning.

³⁰ "Hong Kong stock market's status as global hub set to 'diminish severely,'" Economist Intelligence Unit, September 2024

³¹ "Top 86 ETFs with 300750 / Contemporary Amperex Technology Co., Limited (SZSE)," Fintel, accessed April 2025

Material Concerns Classification

Below are outlined concerns with the investment worthiness on material topics and their related concern level.

LOW CONCERN

1. Basic financial reporting appears to be in compliance with standards
2. Current patent litigation is within normal bounds for the industry
3. Overall business model is viable with strong market position within China especially

MEDIUM CONCERN

1. Discrepancy between claimed and verifiable patent portfolio
2. Unusual Hong Kong entity patent filings raising jurisdictional questions
3. Waivers from Hong Kong Stock Exchange listing requirements (note all the exemptions referenced in their filings in pages 73-76 especially)
4. Declining revenue with increasing profits and declining cash flow
5. Purpose of capital raise, given existing cash reserves

HIGH CONCERN

1. Weak R&D efficiency and expenditure effectiveness
2. Possible systemic practice of over-filing patents for internal metrics rather than legitimate IP protection raising questions on long-term value
3. Risk of significantly overstated intangible asset value
4. Exemption on having to disclose Mainland China filing data as part of Hong Kong listing requiring Hong Kong investors to source that information independently
5. Potential challenges in foreign market access affecting growth projections
6. Lack of transparency regarding the extent of Chinese Communist Party (CCP) involvement or ownership in CATL, which may present governance risks and raise concerns for international investors
7. Most crucially, CATL has not demonstrated clear title or IP ownership in a way that provides security to shareholders in the Hong Kong listing.

Questions for Grant Thornton China (CATL Auditors):

Below are recommended select questions to CATL's auditors, Grant Thornton, below on behalf of individual or institutional investors when conducting their own due diligence to participate in CATL's secondary listing or consider CATL's inclusion in any weighted stock portfolios or ETFs on the Hong Kong exchange.

Financial Materiality of IP registered by subsidiaries but seemingly developed in operating companies:

1. What is the financial materiality of transferring R&D efforts to subsidiaries that are then used to file patents, Hong Kong specifically? How large are these sums and how many previous fiscal years need to be restated?
2. How are they valued in the transaction? What types of financial calculations are being used?
3. How are they leased back to operating entities and at what rate? Are the rates compliant with WTO statutes, BEPS, and TRIPS?
4. What guidance are you giving to investors on the defensibility of such practices?. What precedent, if any, is Grant Thornton referring to with such a lack of transparency or disclosure on what are seemingly billions of dollars in expenditures?
5. What other companies have you advised or referenced to approve this?
6. What IFRS statutes are being used to support a transfer of IP before it is registered or assigned? If this is allowed under Chinese or Hong Kong practices, please provide reference and precedent.

USA SEC & related IPO equivalence:

1. What aspects of this IPO do not meet filing requirements in the U.S. under standard exchanges (NYSE, NASDAQ)
2. What are the gaps in disclosure and procedure relative to U.S. filing requirements – how would CATL 'cure' such gaps?

Questions for CATL Management:

Below are recommended select questions to CATL Management below on behalf of individual or institutional investors when conducting their own due diligence to participate in CATL's secondary listing or consider CATL's inclusion in any weighted stock portfolios or ETFs on the Hong Kong exchange.

Filing practices on patent applications:

1. How many individuals and/or 3rd parties does CATL employ to file patents?
 - a. This is distinct from the claims of 20,000 individuals conducting R&D
2. What are the countries of origin for research for USPTO filings filed by Hong Kong and other subsidiaries?
3. How far back does the research go to justify the patent applications?
4. If CATL is filing patents through its subsidiaries without having them be registered through the entity that developed the patent, can CATL attest to being the sole originator of these patents? i.e. they are not developed by another party but assigned to CATL?
5. What is the relationship between present revenues and historic patent registrations? Essentially, what percentage of its revenue is dependent on its history of patent registrations (not just filings).
6. What is the projected longevity of patents that are presently material for revenue generation and/or cost of production reductions?
7. How are present R&D activities and corresponding patent filings complementing or protecting financially material patents and what share are expected to inform new revenue sources?
8. Given that CATL decreased its R&D expenditure in 2024, how is it that patent applications have increased exponentially? What is the general time period during which 2024 & 2025 filings were actually invested into in the form of R&D?

IPO materiality:

1. What is the financial materiality of this cash raise – i.e. how much will it drive future shareholder value of existing investors and any new investors?
2. How much of the IPO is being made available to existing investors and, if so, at what discount?
3. Being a publicly listed company already, why is management diluting existing shares, and at a discount, rather than raising equivalent cash through bonds in Mainland China protecting existing shareholder equity?

Use of Funds vs available funds:

1. What is the company's target capital structure and optimal cash balance?
2. Is there a plan to return capital to shareholders if internal use cases are limited?
3. What portion of the cash balance is legally or logistically restricted to Mainland China?
4. If any of it can be transferred out of Mainland China, why is it not used for the purposes of expansion since the IPO amounts to less than 4 % of present market capitalization and less than 15% of current cash reserves?
5. How does CATL plan to allocate capital across China vs. international operations over the next 3-5 years?
6. How much of the existing ~43B in cash is used as security for debt vs available for operating cash flows?

Appendix:

Appendix A - Analysis Of CATL's \$43 Billion In Cash And Equivalents

The following analysis is based on CATL's publicly available quarterly and annual financial filings as of FY2023 and FY2024.

As of December 31st, 2024, CATL reported approximately \$43 billion USD (362 billion CNY) in cash and cash equivalents on its balance sheet. A deep dive into the company's financing history reveals that approximately 60% of this balance (around \$26 billion USD) **can be directly linked** to capital raised between 2020 and 2024.

1. **Equity Financing:** CATL raised \$10 billion USD through post-IPO equity issuances, \$3 billion in 2020 and \$7 billion in 2022.
2. **Debt Financing:** An estimated \$14 billion USD was raised via debt issuances over the same period.

Given that these capital raises were conducted primarily in Mainland China, it is reasonable to assume that a significant portion of these funds is held domestically.

Beyond financing activities, CATL generated approximately **\$16 billion USD** (*Figure 1*) in net cash flow from operations, investing, and financing activities combined over FY2023 and FY2024 – roughly **37% of its current cash balance**. However, tracking the geographic distribution of these operational funds is more complex.

Using revenue geography as a proxy, 30.5% of CATL's FY2024 revenue (\$15.38B of \$50B total) originated outside of Mainland China. Applying this proportion to the net cash inflow from operations suggests that approximately \$5 billion USD of the current cash balance may be held offshore.

This estimation, however, does not factor in the cash usage tied to international cost centers, including CATL's facilities in Germany and Hungary, and its upcoming Spanish plant.

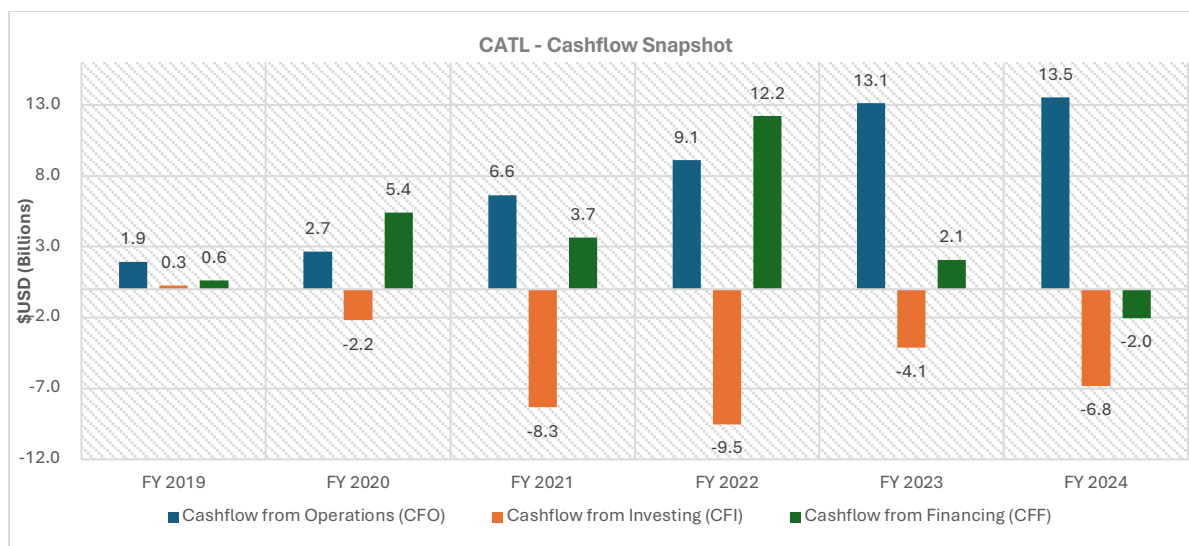


Figure 1

Concerns Around CATL's Cash Position

While CATL's robust cash position provides a substantial buffer against market uncertainty and global supply chain volatility, it also raises critical questions.

When benchmarked against peers in the battery manufacturing industry (*Figure 2*), CATL consistently holds one of the highest cash-to-revenue ratios. This level of liquidity far exceeds operational requirements and, from a capital efficiency perspective, is suboptimal.

In a capital-intensive industry undergoing rapid technological evolution and aggressive global expansion, idle cash represents a missed opportunity – whether in accelerating R&D, building capacity in strategic geographies, or enhancing shareholder returns.

For comparison, CALB – another key player in the sector – has been gradually reducing its relative cash holdings by redirecting capital into property, plant, and equipment. This more aggressive reinvestment approach contrasts with CATL's more conservative stance.

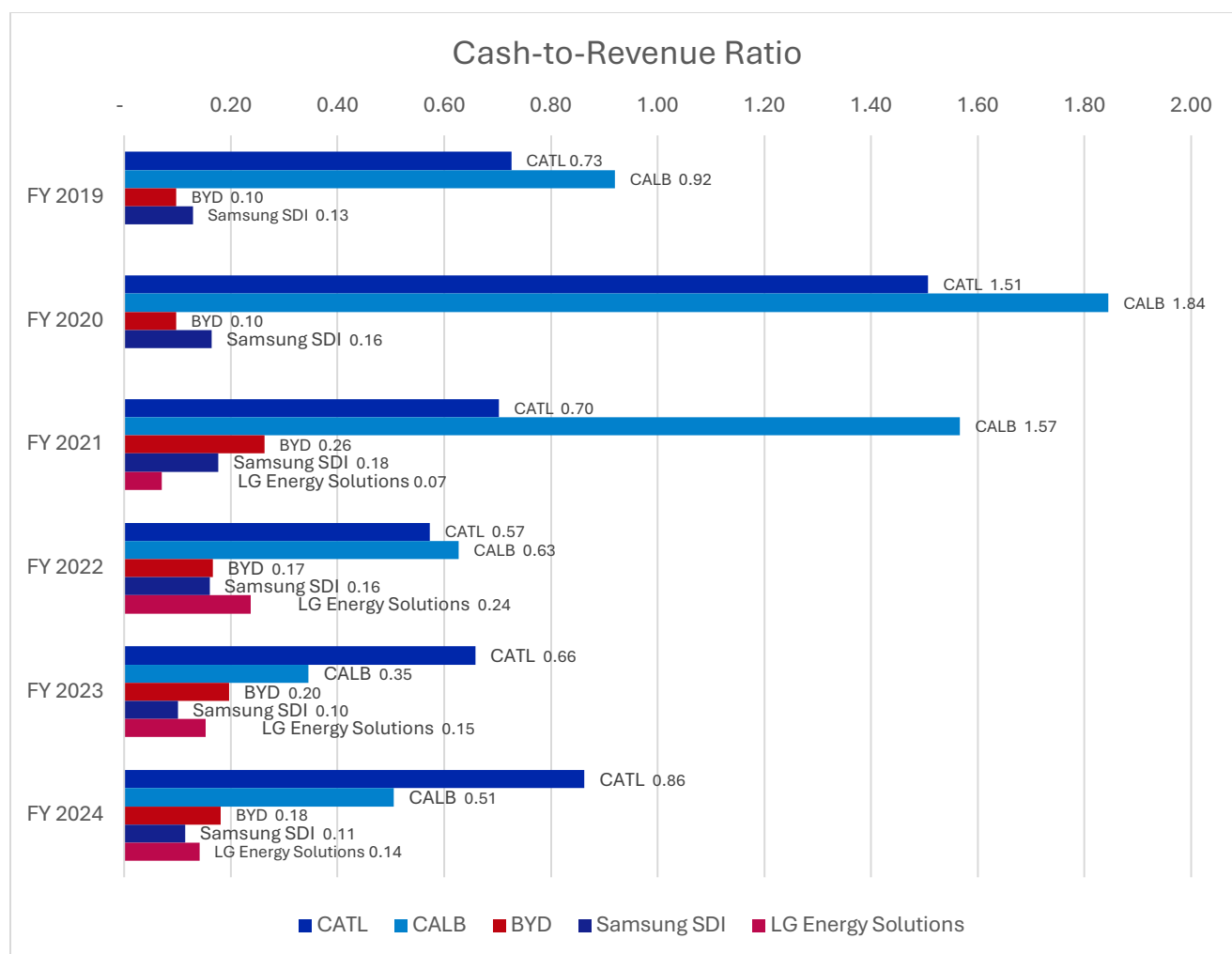


Figure 2

Conclusions on Cash and Capital Requirements

In summary, CATL's \$43 billion cash reserve appears to be primarily sourced from equity and debt financing conducted in Mainland China. A modest portion, potentially \$5 billion USD, could be linked to offshore operations.

The size of this cash balance, particularly in the context of CATL's global ambitions, adds a layer of complexity to the strategic narrative. Investors may begin to question whether the company is optimally positioned to deploy its capital in ways that sustain leadership in a rapidly evolving competitive landscape.

Appendix B - CATL's Strategic Affiliations

The tables below outline key relationships between CATL and various political, financial, and industrial entities. They include individuals affiliated with CATL who hold positions in government advisory bodies, state-backed funds, industry groups, and other institutional platforms relevant to national industrial policy.

These affiliations are based on publicly available information as of April 2025 and were compiled to provide context around CATL's institutional positioning and potential channels of influence.

Name	Type	Partners	Date	Investment	Ownership	Summary	Status
CATL (Qinghai) Limited	Subsidiary	N/A (Wholly-owned)	Nov-12	N/A	100%	Early regional subsidiary established in Qinghai province marklines.com	Active
Lithium CATL (Beijing) Limited	Subsidiary	N/A	Jun-14	N/A	100%	Wholly-owned subsidiary in Beijing to expand operations marklines.com	Active
CATL GmbH (Germany)	Subsidiary	N/A	2014	N/A	100%	German subsidiary (R&D center) established to support European expansion marklines.com	Active
Guangdong Bramp Recycling Technology Co., Ltd	Subsidiary (acquisition)	N/A	Jan 2015 (acquired)	Undisclosed (66.72% stake)	66.72%	Battery recycling company acquired by CATL to start its battery recycling business marklines.com . Now a key recycling subsidiary (Bramp).	Active
Contemporary Lithium Power Co., Ltd.	Subsidiary	N/A	Oct-15	N/A	100%	Subsidiary established in 2015 (later renamed to CATL) as part of corporate restructuring marklines.com	Renamed (now part of CATL)
CATL (Jiangsu) Limited	Subsidiary	N/A	Jun-16	N/A	100%	Regional subsidiary in Jiangsu province to expand manufacturing footprint marklines.com	Active
CATL (Hong Kong) Limited	Subsidiary	N/A	Aug-17	N/A	100%	Hong Kong subsidiary established for international business and financing operations marklines.com	Active
CATL France	Subsidiary	N/A	Jun-17	N/A	100%	Wholly-owned French subsidiary established as part of global expansion marklines.com	Active
CATL Canada	Subsidiary	N/A	2017	N/A	100%	Canadian subsidiary launched to tap the North American market catl.com	Active
CATL (USA), Inc.	Subsidiary	N/A	Sep-17	N/A	100%	U.S. subsidiary in Detroit for sales and service, supporting North American clients marklines.com	Active
CATL Japan (CATL Japan KK)	Subsidiary	N/A	Oct-17	N/A	100%	Japanese subsidiary established to serve local automakers and for R&D collaboration marklines.com	Active
Dongguan Runyuan Amperech Technology Ltd.	Subsidiary	N/A	Jul-17	N/A	100%	Manufacturing subsidiary in Dongguan to expand battery production capacity marklines.com	Active
CATL (Thuringia) GmbH	Subsidiary	N/A	Jun-19	N/A	100%	German subsidiary (CATL Thuringia) established to build CATL's first European battery plant in Erfurt (Thuringia) marklines.com	Active
Sichuan Contemporary Amperech Technology Co., Ltd.	Subsidiary	Possibly local government support	Oct-19	N/A	Majority	Subsidiary in Sichuan (e.g., Yibin) for a major battery manufacturing base marklines.com	Active
Yichuan Contemporary Amperech Resources Ltd.	Subsidiary	N/A	Apr-22	¥865 million (btd for mining rights)	100%	Resource-focused subsidiary that acquired lithium clay mining rights in Yichuan, Jiangxi to secure lithium supply catl.com	Active

Name	Type	Partners	Date	Investment	Ownership	Summary	Status
CATL-FAW Jiefang New Energy JV	Joint Venture	FAW Jiefang (truck division of FAW)	2022	Undisclosed	Undisclosed (joint control)	Joint venture with FAW's truck unit to develop and promote battery technology for commercial vehicles, including battery-swapping heavy trucks (first swap stations launched 2022) indianautotrucks.com catl.com	Active
CATL-Stellantis JV (Spain)	Joint Venture	Stellantis N.V.	Dec 2024 (announced)	€4.1 billion	50/50	Planned 50-50 JV with automaker Stellantis to build a 50 GWh lithium-ion phosphate (LFP) battery plant in Zaragoza, Spain by 2026 autowireless.aie	Planned
Contemporary Brump Lygend (Indonesian project)	Special Purpose JV (Consortium)	Brump (CATL), Lygend, PT Arian, PT IBH (Indonesian)	Apr 2022 (announced)	\$5.968 billion (total)	CATL's CBL controls 60-70% of most project SPV's	CATL-led integrated project in Indonesia covering nickel mining, smelting and battery material production. Through subsidiary CBL (Contemporary Brump Lygend), CATL and partners Arian & IBH are investing nearly \$6 billion across six sub-projects (CATL's stake holding majority 60-70% in refining & battery ventures) battimindonesia.com	Under development
IBC-CBL Battery Cell Plant JV (Indonesia)	Joint Venture	Indonesia Battery Corporation (IBC)	Oct-24	\$1.18 billion	Undisclosed (likely joint equal share)	JV between CATL's unit CBL and Indonesia's IBC to build a 15 GWh EV battery cell factory in Karawang, West Java by 2027 indonesia.com (Part of CATL's broader Indonesian supply chain investment)	Under development
Valmet Automotive (Finland)	Equity Investment	n/a (minority stake in Valmet)	Jan-17	Not disclosed	22% stake	CATL took a 22% ownership stake in Finnish vehicle engineering firm Valmet Automotive as part of a strategic partnership in EV battery pack development valmetindia.aie	Active (holding)
Neo Lithium Corp. (Canada)	Equity Investment	n/a	Sep-20	CS\$5 million	8% stake	Strategic stake in Neo Lithium, owner of the 3Q lithium brine project in Argentina; CATL acquired ~8% via private placement indonesia.com (Ended after Neo Lithium was acquired by Zijin Mining in 2022, yielding CATL a return) chinaforeignaffairs.com	Ended (2022)
Millennial Lithium Corp. (Canada)	Acquisition	n/a	Sep 2021 (announced)	CS\$76.8 million	100% (pending closing early 2022)	CATL agreed to acquire 100% of Millennial Lithium, a Canadian lithium developer with projects in Argentina, outbidding a rival indianautotrucks.com This gives CATL direct access to ~4.12 Mt LCE of lithium reserves (Pustos Granadas project) catlindonesia.com	Active (subsidiary)
Pilbara Minerals Ltd. (Australia)	Equity Investment	n/a	2019 (stake acquired); Mar 2023 (sold)	~A\$43.8 million (initial)	~4.9% stake	CATL bought ~4.9% of lithium miner Pilbara Minerals in 2019 at A\$0.30/share indonesia.com It sold this stake in 2023 for A\$601 million (A\$4.10/share) indonesia.com - netting a large profit, while retaining lithium offtake rights via a separate agreement indonesia.com	Ended (sold 2023)
Ksantu Cobalt Mine (DRC)	Equity Investment	China Molybdenum (CMOC)	Apr-21	\$137.5 million	25% of project holding company (23.73% effective of mine)	Through subsidiary Ningbo Brump CATL acquired a 25% stake in CMOC's KFM Holding, which owns 95% of the giant Ksantu copper-cobalt mine in the DRC indonesia.com This secures CATL a long-term supply (~24% of cobalt from Ksantu) indonesia.com	Active
Yibin Tianyi Lithium Industry Co., Ltd.	Joint Venture	TAKA Ultra Clean (68%), CATL (25%)	Nov-18	CNY 58.4 million (CATL's 10% initial stake) theinvestorcenter.com	25% (after expansions)	Lithium chemicals JV in Yibin, Sichuan; Yibin Tianyi operates a 20,000 ton/year lithium hydroxide plant supplying CATL indianautotrucks.com Initially formed in 2018, it's majority-owned by materials firm TAKA Ultra Clean (68%) with CATL later increasing to ~25% indianautotrucks.com The JV has made strategic investments (e.g. 9.9% of Australia's Global Lithium) to secure upstream resources indianautotrucks.com	Active

References

1. "Global Battery Manufacturer Valuation Comparison," Morgan Stanley Research, September 2024.
2. "EV Battery Supply Chain: Valuation and Risk Assessment," Bloomberg Intelligence, August 2024.
3. "CATL: Market Expectations vs. Industry Realities," Financial Times Analysis, July 2024.
4. "China Association of Automobile Manufacturers Monthly Report," September 2024.
5. "CATL 2023 Annual Report," Contemporary Amperex Technology Co. Limited, March 2024.
6. "China Battery Manufacturing Capacity Utilization Report," Ministry of Industry and Information Technology, Q2 2024.
7. "CATL Investor Relations Presentation," Q4 2023 Earnings Call, February 2024.
8. "BYD Increases Vertical Integration with Expanded Battery Production," CnEVPost, May 2024.
9. "Tesla Battery Supplier Diversification Strategy," Reuters Special Report, August 2024.
10. "CATL Files Patent Infringement Lawsuit Against LG Energy Solution," U.S. District Court for the District of Delaware, Case No. 1:22-cv-00982, August 2022.
11. "LG Energy Solution Countersues CATL for Battery Patent Infringement," U.S. District Court for the District of Delaware, Case No. 1:22-cv-01146, September 2022.
12. "In the Matter of Certain Lithium-Ion Battery Cells and Products Containing Same," U.S. International Trade Commission, Investigation No. 337-TA-1325, December 2022.
13. "Analysis of CATL and LG Energy Solution Patent Litigation," Finnegan IP Law Firm Research Brief, March 2023.
14. "CATL vs SVOLT: Trade Secret Misappropriation Case," Beijing Intellectual Property Court, Case No. (2021)京73民初536号, July 2021.
15. "Court Documents Reveal Scale of CATL-SVOLT Dispute," South China Morning Post, Business Section, September 2022.
16. "Intellectual Property Protection in China's Battery Industry," SNE Research Special Report, January 2023.
17. "SK Innovation Files Inter Partes Review Challenges Against CATL Patents," United States Patent and Trademark Office, IPR2023-00892 through IPR2023-00897, July 2023.
18. "Solid-State Battery Patent Landscape Analysis," IPlytics GmbH, Patent Analytics Report, May 2024.

19. "Legal Battles Delay Next-Generation Battery Deployment," ElectrivePro Industry Analysis, September 2024.
20. "EV Battery Patent Quality Benchmark Study," PatentSight and LexisNexis IP, June 2023.
21. "Design vs. Utility Patent Distribution in Battery Manufacturers' IP Portfolios," LexisNexis PatentSight Analytics, Q1 2024.
22. "Technical Differentiation in Battery Patent Claims," Battery Benchmarking Industry Report, April 2024.
23. "Geographic Distribution of Battery Manufacturer Patent Portfolios," Derwent Innovation Report, Q2 2024.
24. "CATL's U.S. Patent Position: Opportunities and Risks," Fish & Richardson P.C., Client Advisory Report, March 2023.
25. "International vs. Domestic Patent Filing Strategies of Battery Manufacturers," World Intellectual Property Organization Statistical Report, 2023.
26. "LFP Battery Patent Expiration Impact Assessment," Benchmark Mineral Intelligence, January 2023.
27. "Comparative Performance Analysis: BYD Blade Battery vs. CATL LFP Cells," Battery Testing International Results, August 2023.
28. "North American Battery Manufacturing Investment Tracker," Energy Storage News, Q3 2024.
29. "Lithium-Ion Battery Price Survey," BloombergNEF, 2024 Edition.
30. "Battery Price Forecast 2024-2030," Benchmark Mineral Intelligence, July 2024.
31. "CATL Quarterly Financial Results," Q1 2024 Earnings Report, April 2024.
32. "Solid-State Battery Performance Benchmarking," The Faraday Institution Research Report, May 2024.
33. *"Leading Lithium-Ion Battery Manufacturers by Market Share," Statista, accessed April 2025.*
34. "Top 86 ETFs with 300750 / Contemporary Amperex Technology Co., Limited (SZSE)," Fintel, accessed April 2025.
35. *"R&D Center," Samsung Electronics – About Us, accessed April 2025.*
[<https://www.samsung.com/us/about-us/our-business/r-and-d-center/>]
36. *"IBM Research Annual Letter 2024," IBM Research Blog, accessed April 2025.*
[<https://research.ibm.com/blog/research-annual-letter-2024>]
37. *"CPPCC Member Zeng Yuqun on Promoting Battery Technology Innovation," The Chinese People's Political Consultative Conference (CPPCC), March 8, 2022.* [http://en.cppcc.gov.cn/2022-03/08/c_723442.htm]
38. "CALB sues CATL over patent infringement in escalating battery rivalry," PV Magazine, October 29, 2024. [<https://www.pv-magazine.com/2024/10/29/calb-sues-catl-for-patent-infringement-as-battery-rivalry-escalates/>]
39. "Enhanced Damages Award for Chinese Client in Texas Federal Court," Quinn Emanuel Urquhart & Sullivan LLP, July 29, 2024.

[\[https://www.quinnemanuel.com/the-firm/publications/enhanced-damages-award-for-chinese-client-in-texas-federal-court/\]](https://www.quinnemanuel.com/the-firm/publications/enhanced-damages-award-for-chinese-client-in-texas-federal-court/)

40. "CATL Files Invalidation Requests Against CALB Patents," AFDIP – China National Intellectual Property Administration (CNIPA) Update, November 1, 2024. [\[https://afdip.com/newsevents/IP_Updates/IP%20New/2024/1101/814.html\]](https://afdip.com/newsevents/IP_Updates/IP%20New/2024/1101/814.html)
41. "Hong Kong prepares for influx of listings from mainland China," Financial Times, January 27, 2025. [\[https://www.ft.com/content/ef6e0d1d-2b00-4134-be2f-e9b09ad932e1\]](https://www.ft.com/content/ef6e0d1d-2b00-4134-be2f-e9b09ad932e1)
42. "US adds Tencent, CATL to list of Chinese firms allegedly aiding Beijing's military," Reuters, January 6, 2025. [\[https://www.reuters.com/world/us-adds-tencent-catl-list-chinese-firms-allegedly-aiding-beijings-military-2025-01-06/\]](https://www.reuters.com/world/us-adds-tencent-catl-list-chinese-firms-allegedly-aiding-beijings-military-2025-01-06/)
43. "U.S. Electric Vehicle Market Size, Share & Growth Report," Global Market Insights, accessed April 2025. [\[https://www.gminsights.com/industry-analysis/us-electric-vehicle-market\]](https://www.gminsights.com/industry-analysis/us-electric-vehicle-market)