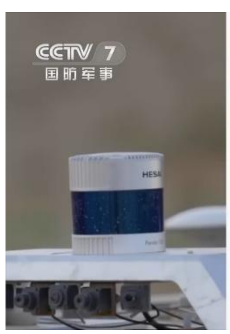
COMPANY: Hesai Group | NASDAQ: HSAI
INDUSTRY: Automotive Parts and Equipment

PRICE (AS OF CLOSE 3/17/2025)
USD 22.30
MARKET CAP
USD 2.8 BN

We are short Hesai Group ("Hesai" or the "Company"), which in our opinion is a Nasdaq-listed Chinese scam actively lying to investors, the Department of Defense, and a United States federal court. In our view, it dishonestly attempts to escape its designation as a "Chinese military company" by insisting that it has no involvement with the Chinese military. Yet, we found clear smoking-gun photographic and video evidence that Chinese military vehicles are outfitted with Hesai LiDAR systems. Nor do we trust Hesai's financial disclosures. It claims revenues that, in our opinion, do not appear to be consistent with the purchasing volumes of its largest customer. It claims industry leading margins which defy the laws of financial physics. It claims that its business has finally turned a corner to sustained profitability while failing to disclose to investors that it has lost its largest customer and it is laying off up to 30% of its employees. In short, we think Hesai is full of lies, from its suspect financials to its denials made to the government and in court regarding its LiDAR and the Chinese military. In our opinion, it is completely untrustworthy as a business and uninvestable as a stock.

1. **Caught Red Handed: Newly Surfaced Photos Show Chinese Combat Vehicles Using Hesai's LiDAR, Cementing its Designation as a "Chinese Military Company," Killing its Lucrative U.S. Business and Inviting Divestiture and Delisting**. Despite the obvious military application of LiDAR, Hesai has repeatedly told investors that its LiDAR products are for "civilian use only" and that Hesai does not "sell out products to any military in any country." It said the same under penalty of perjury in U.S. court, even going so far to say that it could not sell to the Chinese military because its LiDAR are not suitable and even "impossible" for military use. We believe that Hesai has been lying to investors and to U.S. authorities.

   a. **We found Smoking Gun Photos of Hesai's LiDAR on Chinese Combat Vehicles**. We uncovered multiple videos and pictures showcasing new military vehicles clearly equipped with Hesai's LiDAR. We even found similar smoking gun videos produced by the Chinese government owned CCTV. In our opinion, not only does this indicate that under penalty of perjury Hesai is blatantly lying in its pending lawsuit against DoD, but that it is lying to U.S. investors. **The consequences for investors will be catastrophic**.



   b. **Hesai's Deep Ties with the Chinese Military Industrial Complex**. Indisputable evidence that Hesai's LiDAR products are clearly used in Chinese military vehicles should come as no surprise to anyone familiar with the evidence of deep historical ties between Hesai and the Chinese military industrial complex, including evidence to suggest that the Chinese government assisted Hesai in developing its LiDAR. First, Hesai was registered at an industrial park whose stated purpose was to open up industrial channels for military-civilian integration. Additionally, Chinese-language media reported that this park provided the Company with **free facilities**.

   c. **Hesai Will Almost Certainly Lose DoD Case, Effectively Blocking Company from Lucrative and Critical U.S. Autonomous Vehicle Market**. In January 2024, the Department of Defense ("DoD") placed Hesai on the Section 1260H list of companies designated as "Chinese military companies." In response, Hesai sued the DoD to be removed from the list.

The court will rule on the case shortly, but photos and videos we uncovered showing multiple examples of Hesai LiDAR on Chinese military vehicles indicate not only that Hesai will lose this case (badly and quickly), but that it has been lying to investors and the U.S. government, including a U.S. federal district court. Hesai already conceded in court papers that its inclusion on the 1260H list of Chinese military companies has jeopardized ongoing contract negotiations, disrupted existing and potential customers relationships, and forced it to pause advanced plans to establish a manufacturing facility in the U.S. Losing the case will only exacerbate these problems.

First, we think that Hesai will soon lose its U.S. business. Hesai's American customers, such as GM (Cruise) and Amazon (Zoox) have military contracts, which we believe would be at risk if they continue to buy from a business like Hesai that is soon to be officially cemented on the DoD's list of Chinese military companies. Furthermore, even outside the context of any military contracts, in this geopolitical climate we doubt that any of Hesai's major U.S. customers will be eager to partner with a designated Chinese military company, especially one whose products appear on Chinese military vehicles. As such, we believe that Hesai will soon lose a customer cohort which historically accounted for 40% of its revenues and an estimated 57% of its gross profit.

d. **We Expect That New Trump Administration Declarations Will Lead to Divestiture and Delisting.** The Trump administration recently declared that Chinese technology companies with ties to the Chinese military are a threat to U.S. interests and national security, and it has outlined steps to prohibit American investors and institutions from investing in such businesses. Hesai is a poster child for this threat: according to a former employee, the Company allegedly stole its technology from American firms, technology which now has found important uses in Chinese military vehicles. We expect that American regulators will bar or deter investment in Hesai, forcing divestiture of its stock by many key holders. We also believe Hesai is on a path to be delisted. We do not believe that this administration will permit a company whose valuable technology is prominently displayed on Chinese military vehicles to raise capital from investors on the American stock market. In our view, the best recent analogy is TuSimple, another U.S.-listed Chinese company that divested its American business and delisted from the U.S. capital markets in part over allegations that it represented a threat to American national security interests. TuSimple is only the most recent example. In May 2021, three Chinese telecoms--China Mobile, China Unicom and China Telecom--were also delisted from the NYSE under Trump's executive order that barred U.S. investment in companies that the U.S. deemed to aid the Chinese military. We think Hesai is next.

2. **Undisclosed to Investors, Hesai Just Lost its Largest Customer**. In late 2024, Hesai's stock price quadrupled after management claimed on an earnings call that after five years of consistent losses, Hesai had finally become profitable. But this is a mirage. We believe that the only reason Hesai turned a ~$20 million net profit in Q4 2024 was because **it received a one-time $20 million break fee payment from its largest customer, who undisclosed to investors, terminated its contract with Hesai**. We think that misleading disclosures fooled investors into believing that Hesai's business had turned a corner to profitability, when its quarterly outperformance was not due to a fundamental improvement in the business. Rather than turn a corner, we believe that Hesai is now in a perilous position due to the (undisclosed) loss of its leading customer. This likely explains the news that, undisclosed to investors, Hesai now appears to be laying off up to 30% of its employees. Mass layoffs are not a sign of a business emerging into a bright future of consistent profitability, but of a business struggling with the loss of a key customer.

3. **Mercedes Deal Likely Not "Exclusive" and Appears Illusory**. Last week, Hesai's stock ripped 50% on the announcement of a new "**exclusive multi-year contract**" with a mysterious European OEM and a leaked anonymous source claiming that said partner was Mercedes. In our view, investors have been fooled by Hesai yet again. First, **just a few weeks ago, the Mercedes Chief Technology Officer told investors that Mercedes** will not use LiDAR in its advanced driving assistance systems to be offered in China this year because it was not necessary. Second, investors should be even more suspicious because oddly, Mercedes did not confirm the deal. Rather, the Reuters article which identified Mercedes simply referred to an anonymous source. Our guess would be Hesai? If Mercedes was a new partner, why wouldn't Mercedes publicly confirm the deal? Third, this alleged deal is almost certainly not "exclusive" by any conventional definition because Mercedes already has an established LiDAR partner in Luminar (NASDAQ: LAZR). Notably, Hesai's competitors also took to twitter to debunk the notion that Hesai had an "exclusive" deal with Mercedes. That did not stop the Company's founders from taking advantage of the spike, as they cashed out USD 68.6 million. We believe this announcement appears far more akin to stock promotion than a promising substantive development.

4. **Reported Sales to Largest Customer Inconsistent with Purchasing Volumes, Implying Significant Revenue Inflation**. Hesai reported RMB 949 million of revenues from Cruise, its largest customer, from FY 2019 – 2023. But such reported revenues are inconsistent with the number of Cruise vehicles and the average selling price ("ASPs") of Hesai's LiDAR. At industry

reported ASPs, Cruise's fleet appears to be far too small to reconcile such purchasing volume from Hesai. Unless Hesai was masking sales to non-disclosed customers (e.g., military suppliers), the apparent inconsistency between Hesai's reported revenues and the product purchases of its largest customer suggests, in our view, that Hesai significantly inflated its reported revenues during this period. By how much? Our calculations suggest that Hesai's revenue attributable to its largest customer is 48%-67% less than reported, depending on which source for the Company's ASPs investors choose. Bottom line, it does not appear, in our opinion, that Hesai's largest customer purchased enough LiDAR for the Company's reported revenues to be true, suggesting that Hesai significantly overstated revenues.

5. **Inexplicable Margin Expansion Raises Suspicion that Hesai's Industry Leading Margins are Likely a Mirage**. LiDAR is a tough business for every other company but Hesai, which claims to generate ~41% industry-leading gross margins while most peers either report negative or barely break-even gross margins. Yet suspicion abounds. The Company has two types of LiDAR: low margin advanced driver-assistance systems ("ADAS") LiDAR and higher margin autonomous mobility (now called robotics) LiDAR. Hesai admitted to investors that gross margins on its autonomous mobility LiDAR are **5x greater than** low margin ADAS LiDAR. Yet Hesai achieved a +9% (856 basis point) LiDAR product gross margin expansion last year, by our calculation, even though the proportion of revenue from its low margin ADAS LiDAR went from 40% in 2023 to 62% in 2024. When questioned by puzzled analysts, the Company refused to give further detail. Hesai's reported financials do not appear to behave according to the basic laws of financial physics. If a business has two segments: a low margin product line and a high margin product line with 5x higher gross margins, then it stands to reason that blended gross margins should obviously come down as the proportion of revenue attributed to the low margin product increases. That Hesai somehow showed a +9% (856 basis point) gross margin expansion despite selling far more low margin products makes us suspicious that, in our opinion, Hesai's reported profitability is likely fabricated.

6. **IPO Pulled from China – But Good Enough for America Despite Persistent Material Weaknesses**. U.S. listed Chinese companies are often ripe with financial or accounting fraud – making unremedied material weaknesses a significant red flag. Compounding our concerns, Hesai withdrew its plan to IPO in China days after the PRC government enacted new regulations stipulating that any company falsifying its financials could face imprisonment. Somehow an IPO not suitable for China was apparently appropriate for the U.S. capital markets, despite the fact that Hesai has warned of a material weakness in both internal controls and that it lacks sufficient skilled staff in the U.S. with knowledge of GAAP accounting to ensure that its financials comply with U.S. GAAP and SEC requirements.

   Ultimately, we do not think that U.S. authorities will permit a Chinese military company whose products are equipped on Chinese military vehicles to take advantage of the privilege of American capital markets.

1. Caught Red-Handed: Newly Surfaced Photos Show Chinese Combat Vehicles Using Hesai's LiDAR, Effectively Killing Hesai's U.S. Business and Setting it on the Path to Delisting.

Despite the obvious military application of LiDAR, Hesai has repeatedly and consistently told investors that its LiDAR products are for "civilian use only" and that Hesai does not "sell our products to any military in any country." It said the same under penalty of perjury in U.S. court. As part of its lawsuit against the Department of Defense to be removed from a list designating it as a Chinese military company, Hesai insisted that it does not sell LiDAR to the Chinese military, nor could it sell to the Chinese military because its LiDAR are not suitable and even "impossible" for military use.

We believe that Hesai has been lying to investors and to U.S. authorities. We found multiple videos and pictures from Chinese authorities showcasing new military vehicles clearly equipped with Hesai's LiDAR. **We even found smoking gun videos produced by the Chinese government owned CCTV showing Hesai's LiDAR on Chinese military combat vehicles**. In our opinion, not only does this indicate that under penalty of perjury Hesai blatantly lied to a U.S. judge in U.S. court, but that Hesai is blatantly lying to U.S. investors. The consequences for investors will be catastrophic.

First, we think Hesai will almost certainly lose its pending case against the DoD. Hesai already conceded in court papers that its inclusion on the 1260H list of Chinese military companies has jeopardized ongoing contract negotiations, disrupted existing and potential customers relationships, and forced it to pause advanced plans to establish a manufacturing facility in the U.S. Losing the case will only exacerbate these problems.

In particular, we think losing the case will impede Hesai from selling its highest margin products to historically its biggest revenue generating customers: American autonomous driving companies. Hesai's American customers, such as GM (Cruise) and Amazon (Zoox) also have military contracts, which we believe would be at risk if they continue to buy from a business like Hesai that is soon to lose its case to overturn its designation as a Chinese military company. Furthermore, even outside the context of any military applications, in this geopolitical climate we doubt that Hesai's major U.S. customers, such as GM and Amazon, will be eager to partner with a DoD designated Chinese military company. As such, we believe that Hesai will soon lose a customer cohort which historically accounted for 40% of its revenues and an estimated 57%% of its gross profit.

Worse is likely to follow. The Trump administration recently declared that Chinese technology companies with ties to the Chinese military are a threat to U.S. interests and national security, and it has outlined steps to **prohibit American investors and institutions from investing in such businesses**. Hesai is a poster child for this threat: according to a former employee and patent infringement litigation, Hesai allegedly stole its technology from American firms, technology which now has found important uses in Chinese military vehicles. We expect that American regulators will bar or deter investment in Hesai, forcing divestiture of its stock by many key holders.

Like some past Chinese companies with close ties to China's military, **we also believe Hesai is on a path to be delisted**. In the current geopolitical climate, we do not believe that the U.S. will permit a company whose valuable technology is prominently displayed on Chinese military vehicles to raise capital from investors on the American stock market. In our view, the best recent analogy is TuSimple, another U.S.-listed Chinese company that divested its American business and delisted from the U.S. capital markets in part over allegations that it represented a threat to American national security interests. TuSimple is only the most recent example. In May 2021, three Chinese telecoms--China Mobile, China Unicom and China Telecom--were also delisted from the NYSE under Trump's executive order that barred U.S. investment in companies that the U.S. deemed to aid the Chinese military. We think Hesai is next.

a. Hesai Tells U.S. Investors and Authorities that it does not sell LiDAR to the Chinese Military

In January 2024, the Department of Defense ("DoD") placed Hesai on the Section 1260H list of companies identified as "Chinese military companies." In response, Hesai filed suit against the DoD to be removed from the list, claiming that it does not sell LiDAR to the Chinese military and that it has no connections to the Chinese military industrial complex. The litigation is currently playing out in district court, with a key **hearing of a motion for summary judgment set to be heard in court on March 20, 2025**.

Immediately after being added to the 1260H list, Hesai issued a press release, claiming that Hesai's Lidars "are for civilian use only" and that "**we do not sell our products to any military in any country, nor do we have ties of any kind to any military in any country**."

Hesai Group Statement on the U.S. Department of Defense "Chinese Military Companies" List

February 1, 2024

PALO ALTO, Calif., Jan. 31, 2024 /PRNewswire/ -- We are deeply disappointed to learn that Hesai has been added to the U.S. Department of Defense's list of "Chinese Military Companies." We believe this inclusion is unjust, capricious, and meritless.

Hesai lidars are for civilian use only. We do not sell our products to any military in any country, nor do we have ties of any kind to any military in any country. Hesai is a publicly traded, privately owned company (Nasdaq: HSAI) with an independent corporate governance structure.

Our lidars have never been designed or validated to military specifications. All Hesai's lidar products are classified as EAR99 by the Bureau of Industry and Security of the U.S. Department of Commerce, which indicates that the products are not suitable for any military application.

Source: Hesai Press Release, January 31, 2024

Under repeated questioning from analysts and investors, Hesai has insisted time and again that the Company "has no connections to" and "[has] **never sold anything to DoD or any military**." Management stated point blank that its products are "designed exclusively for a civilian application, are not designed or validated for military use."

Yifan Li
Co-Founder, CEO & Director

I would like to clarify and emphasize again that Hesai has strictly operates within the civilian sector and has no connections or affiliation with any military. Our products are designed exclusively for a civilian application, are not designed or validated for military use. We remain undoubted in our commitment to developing market-leading LiDAR technologies that reduce accident, save lives and make global transportation safer for everyone, and protecting the interest of our shareholders remains our top priority.

Source: Hesai Q1 2024 Earnings Call

Yifan Li
Co-Founder, CEO & Director

Thank you, Tim, and thank you for the question. We have consistently maintained that our inclusion on the 1250H (sic) [1260H] List was a mistake. Our products are strictly for commercial and surveillance use, and we have no connection to any military bodies. We're not a vendor to any military bodies either. As we discussed in the previous earnings calls, being on the DoD means strictly that the U.S. Department of Defense, aka the Pentagon, cannot buy our products starting mid-2026. But to be honest, as far as we know, we've never sold anything to DoD or any military. And we definitely don't plan in the future. Or in simple terms, we've never generated any revenue from DoD or any other military. And again, we don't expect to.

Source: Hesai Q2 2024 Earnings Call

Yifan Li
Co-Founder, CEO & Director

We believe it's also validated the truthfulness of our position, which has remained consistent throughout this entire process. However, we are disappointed that DoD relisted us on a different basis. After acknowledging that its original evidence was insufficient, we had hoped that the DoD would correct its mistakes and move on. But instead, it has continued to falsely accuse us of associating with the Chinese military. This is especially frustrating because the government never really asked us a single question or try to confirm any fact with us before they made the decision to relist us.

The government did share with us the new basis of our relisting. Though due to the ongoing nature of the lawsuit, we're currently limited in what we can discuss. From our first reading, immediately realized that DoD's "Few evidence" and its "Few rationale" are just as faulty and flawed as the original listing was. We can state definitely that DoD has not accused Hesai of being owned or controlled by any military bodies, selling products to any military bodies or otherwise directly supporting any military bodies. The DoD instead puts forward vague claims that Hesai somehow supports Chinese military-civil fusion.

Source: Hesai Q3 2024 Earnings Call

As recently as November 2024 and March 2025, during interviews with Bloomberg, its CEO again unambiguously claimed that Hesai's products are strictly for commercial use and it has no connection to the Chinese military. Just last week, he even said on Bloomberg TV that there is "**no way that military can use" Hesai's LiDAR**.

But I do want to make two points, right? One is that it's a strictly civilian product. It's designed for civilian use and lighter by its nature. It's a 3D scan device, **but the product later we build is far from the specs that military needs. So there's no way that military can use that in the battlefield or anything**.
And the truth is that we were never part of any military efforts or engagement or technology or product. And then we've been telling our customers and investors and everybody that it is the case, that we're transparent, we're honest.

Source: Bloomberg, March 11, 2024 (8:02, 8:41)

Hesai not only publicly denies selling products to the Chinese military but stated so in court in its lawsuit against the Department of Defense. In a motion filed in December 2024, Hesai stated unequivocally, **under penalty of perjury**, that not only does it "**not supply its products for military use, it could not do so. That is because all of [Hesai's] products are strictly designed and manufactured at civilian specifications…**" and thus not suitable for military use. In another motion filed in January 2025, Hesai went so far as to say that it is "**impossible to use Hesai's products on the battlefield**."

Likewise, uncontradicted evidence shows that Hesai's products are not covered by the Chinese government's list of sensitive or strategic technologies restricted from export, either. NDAR1709. And the record shows that not only does Hesai not "supply its products for military use, it could not do so" because "all of Hesai's existing products are strictly designed and manufactured at civilian specifications for commercial and passenger vehicles, which are significantly below battlefield standards for any country's military" (*e.g.*, "they have a lower internal component temperature range, they have a lower vibration/shock endurance, they are not radiation proof, etc.")—making it "impossible to use Hesai's products on the battlefield." *Id.*

Source: Case 1:24-cv-01381-PLF Document 49 Filed 01/29/25

Again and again, Hesai denies selling LiDAR to the Chinese military, and states that it could not do so because it would be "impossible" for Hesai's LiDAR products to be used by the military. It tells investors, U.S. courts, and regulators the same thing.

b. Clear, Unimpeachable Evidence of Hesai LiDAR on Chinese Military Vehicles

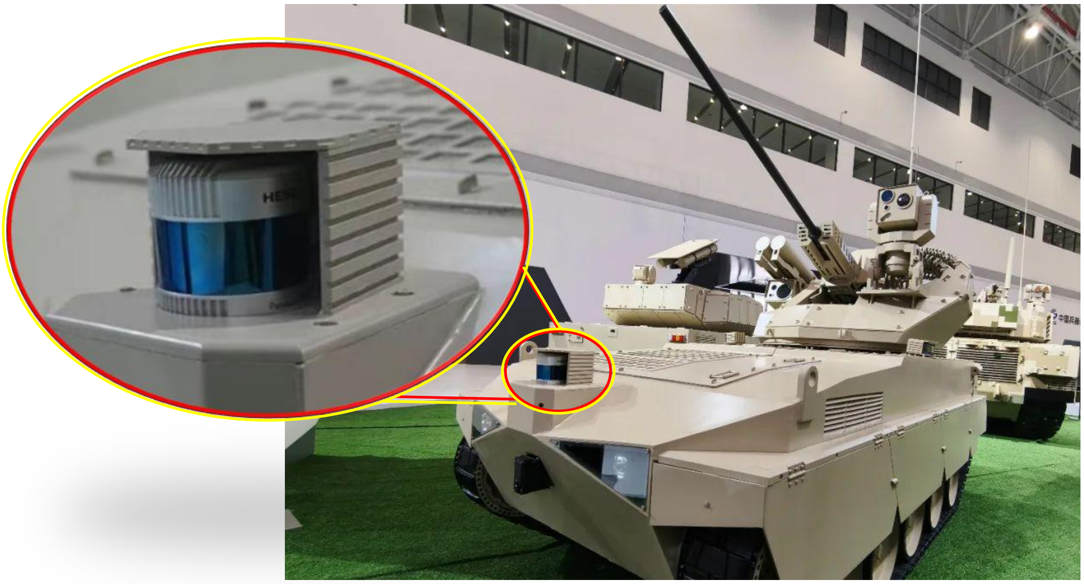
We have found smoking gun evidence suggesting that this is clearly a lie. Images of Hesai's LiDAR on combat vehicles are clearly visible on Chinese national television. According to a national defense and military program on CCTV, a prominent TV broadcaster owned by the Chinese government, a Hesai Pandar128 is clearly visible on top of a Chinese military combat vehicle.

Source: [YouTube, Uploaded in February 2025]

Source: [YouTube, Uploaded in February 2025], [Hesai Website]

These videos are taken directly from content produced by the government owned CCTV, meaning there is little reason to question their authenticity or doubt their accuracy. They show unequivocally that Chinese military vehicles are equipped with Hesai LiDAR, suggesting, in our opinion, that Hesai is blatantly lying to investors, American courts and regulators. This is not the only example.

In November 2024, at the 15th China International Aviation & Aerospace Exhibition, Norinco Group, a Chinese state-owned enterprise that manufactures commercial and military products, showcased its combat vehicles, including VU-T5 Tracked Unmanned Ground Vehicle. The pictures taken at the exhibition clearly show this battlefield vehicle is equipped with Hesai's LiDAR.



Source: Norinco Group, WeChat

Additional images of Chinese battlefield vehicles equipped with Hesai LiDAR are available online. While some do not clearly display Hesai's label, we believe they are also Hesai's LiDAR based on their shape and design.

Source: YouTube, July 2024

Source: [*Pictures Taken at the 12th China International Aviation & Aerospace Exhibition*](), [*Hesai Website*]()

Source: [*https://www.globaltimes.cn/page/202107/1227901.shtml*](), [*Hesai Website*]()

Source: Defesa Brasil, Hesai Website

Source: Defesa Brasil, Hesai Website

Source: Chinese News Articles, Hesai Website

In our opinion, these videos and images show that Hesai not only directly or indirectly sells LiDAR to the Chinese military but that it lied not only to investors and regulators but also just recently in U.S. court. Hesai told the court unequivocally that **it did not and could not sell LiDAR to the Chinese military because its products could not be used for military applications**. In fact, it stated that it would be "impossible" to use its LiDAR in military applications. This is obviously not true, because the photos and videos clearly show Hesai LiDAR on Chinese military vehicles.

We corroborated this evidence with a former Hesai employee. He told us point blank that based on his visit to the manufacturing facilities and time he spent with Hesai's founders, he believes that Hesai stole their IP from American companies in Silicon Valley and now supplies products to the Chinese military. He was so uncomfortable with what he learned about Hesai that he resigned.

> *I will tell you that I have personally visited both of their manufacturing facilities in Shanghai **and have very strong reason to believe that the company supplies sensors to the Chinese military**, even though they strongly deny this accusation publicly.*
>
> ***After spending time with the company's three founders, I also believe the company originally stole their IP from companies in Silicon Valley and took that IP back to China where the Chinese government helped them establish a foothold and build-out manufacturing operations**. They later went back and acquired some of the technology companies that established early patents for the technology so they could defend the IP in future lawsuits.*
>
> ***I resigned from Hesai once I learned some of the above.***
>
> *- Former Hesai Employee*

The account of the former employee corroborates the indisputable video and photographic evidence. Hesai's LiDAR are clearly used, in our opinion, on a variety of Chinese military vehicles.

c. Hesai's Deep Ties with the Chinese Military Industrial Complex

Indisputable evidence that Hesai's LiDAR products are clearly used on Chinese military vehicles should come to no surprise to anyone familiar with the evidence of deep historical ties between Hesai and the Chinese military industrial complex, including evidence to suggest that the Chinese government assisted Hesai in developing its LiDAR.

For example, Hesai's registered address was in the TZRZ Military and Civilian Science and Technology Innovation Industrial Park, whose stated purpose was to open up industrial channels for military-civilian integration and build a sound development system for military and civilian cooperation.

上海打造军民融合产业园及产业联盟

2019-04-15 15:41 来源：新华网

上海嘉定工业区13日揭牌建立天舟融智军民融合产业园，首批重点产业项目集中签约入驻。同时，成立了军民融合产业联盟。

据了解，天舟融智军民融合产业园规划用地27公顷，总投资100亿元，将重点把航天、航空、核能、轨道交通、无人机等一批军工科技成果向民用领域转化。未来，这个军民融合产业园将发挥“科技创新，产业聚合、军地对接”的平台作用，打通军民融合产业通道，形成产业生态体系，构建军转民、民参军、军民融合的良性发展体系。

上海嘉定工业区负责人表示，以天舟融智军民融合产业园的建设为契机，成立产业联盟，助力园区企业在军民融合产业领域开展交流与合作，推动园区集成电路、物联网、智能制造、新能源汽车等战略新兴产业的发展，服务嘉定科创中心重要承载区的建设。首批加入联盟的有宝翼碳纤维、航天星际能量、钧嵌传感技术、天链轨道交通检测技术等项目。

作为上海科创中心建设的重要承载区，上海嘉定从科研资源、空间承载、政策扶持、人才服务等方面构建了全方位、全链条的产业生态体系。

On the 13th, Shanghai Jiading Industrial Zone unveiled the establishment of Tianzhou Rongzhi (TZRZ) Military-Civilian Integration Industrial Park, and the first batch of key industrial projects signed contracts and settled in. **At the same time, a military-civilian integration industry alliance was established**.

It is understood that the Tianzhou Rongzhi (TZRZ) Military-Civilian Integration Industrial Park is planned to cover an area of 27 hectares with a total investment of 10 billion yuan. It will focus on transforming a number of military scientific and technological achievements such as aerospace, aviation, nuclear energy, rail transportation, and drones into the civilian field. **In the future, this military-civilian integration industrial park will play the role of a platform for "scientific and technological innovation, industrial aggregation, and military-civilian docking", open up the military-civilian integration industry channel, form an industrial ecological system**, and build a benign development system of military-to-civilian, civilian-to-military, and military-civilian integration.

The person in charge of Shanghai Jiading Industrial Zone said that taking the construction of Tianzhou Rongzhi Military-Civil (TZRZ) Integration Industrial Park as an opportunity, an industrial alliance was established to help enterprises in the park to carry out exchanges and cooperation in the field of military-civil integration industry, promote the development of strategic emerging industries such as integrated circuits, Internet of Things, intelligent manufacturing, and new energy vehicles in the park, and serve the construction of an important bearing area of Jiading Science and Technology Innovation Center. The first batch of projects to join the alliance include Baoyi Carbon Fiber, Aerospace Interstellar Energy, Junjian Sensing Technology, and Tianlian Rail Transit Detection Technology.

As an important carrier area for the construction of Shanghai Science and Technology Innovation Center, Shanghai Jiading has built a comprehensive, full-chain industrial ecological system in terms of scientific research resources, space support, policy support, and talent services.

Source: China Economic Network Article, April 2019

Additionally, Chinese-language media reported that when Hesai was founded in 2014, this presumably Chinese military related industrial park provided the Company with **free facilities**.[1]

[1] Jiading Industrial Zone, who provided free facilities to Hesai, established a military-civilian integration industrial alliance and the TZRZ Military and Civilian Science and Technology Innovation Industrial Park in 2019.

如今在国内外激光雷达领域声名鹊起的禾赛科技，成立之初仅有三名人员。2014年，在斯坦福大学研究激光传感器的孙恺回国创业，因为已经有了成熟的产品——激光甲烷遥测仪，在一次创业大赛上被招商人员一眼相中。虽然手握核心技术，但团队缺少启动资金和场所。对此，嘉定工业区提供了免费厂房，并帮助其从辖区内的光机所引入了更多激光领域的人才。

Hesai Technology, which is now famous in the field of LiDAR domestically and abroad, had only three people at the beginning of its establishment. In 2014, Sun Kai, who was studying laser sensors at Stanford University, returned to China to start a business. …

Although he had core technology, the team lacked start-up funds and venues**. In response, Jiading Industrial Zone provided free facilities** and helped it introduce more talents in the laser field from the Institute of Optics and Mechanics in the area.

Source: Chinese News Articles, October 2020

These are not the only connections between Hesai and the Chinese government. Hesai's ties with the Chinese Government are documented in a report referenced by a Washington think tank, which reported that one of Hesai cofounders, Li Yifan, being a member of the Chinese Communist Party.

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光荣与力量——2023感动上海年度人物推选活动

Aug 23, 2023 — 8李一帆，男，汉族，1986年3月出生，中共党员，上海禾赛科技有限公司联合创始人、首席执行官。他带领禾赛科技通过原创性、引领性科技攻关，解决激光 ...

Li Yifan , male, Han nationality, born in March 1986, member of the Communist Party of China , co-founder and CEO of Shanghai Hesai Technology Co., Ltd.

Source: Chinese Government Website

Not only is the Chinese military clearly equipping vehicles with Hesai LiDAR, but its deep ties with the Chinese military industrial complex suggest that it will lose its case with the DoD and effectively lose access to customers in the US market and even risk potential delisting.

d. Hesai Will Almost Certainly Lose DoD Case, Effectively Blocking Company from Lucrative and Critical U.S. Autonomous Vehicle Market

In January 2024, the Department of Defense placed Hesai on the Section 1260H list of companies identified as "Chinese military companies." Hesai filed suit to challenge this designation in federal district court, but given the wide discretion that courts give to agency's findings—and the evidence that the government presented in court—we think it is simply a matter of time before the court rules in favor of the DoD.

In its motion for summary judgment, the DoD showed substantial evidence supporting its finding that Hesai is a "military-civil fusion contributor" to the Chinese defense industrial base. As explained in detail in court filings, in defining "Chinese military company," Congress requires DoD to place on the Section 1260H List entities that are "identified as a military-civil fusion contributor to the Chinese defense industrial base" and "engaged in providing commercial services, manufacturing, producing, or exporting." DoD concluded that Hesai qualified as such because it is a military-civil fusion contributor and provides commercial services of developing dual-use technologies with substantial applications in both the civilian *and military* sectors.[2]

[2] The DoD presented ample evidence in support of its finding that Hesai was a **"military-civil fusion contributor to the Chinese defense industrial base**" based on four statutory criteria, namely that Hesai is affiliated with the Chinese Ministry of Industry and

technology. The Department received information that Hesai is engaged in the development, manufacture, and sales of LiDAR, which enables a broad spectrum of applications across passenger or commercial vehicles with advanced driver assistance systems, autonomous vehicle fleets providing passenger and freight mobility services, and other applications such as last-mile delivery robots, street sweeping robots, and logistics robots in restricted areas. *See* NDAR 11 n.13.[14] DoD thus determined that Hesai develops LiDAR products that enable applications across passenger and commercial vehicles and that are used in robotics. NDAR 11. Based on information that LiDAR, including Hesai's products, has become "the main 'eyes' for self-driving vehicles and driver assistance systems in both military and civilian vehicles," NDAR 1715, DoD concluded that LiDAR is recognized as a dual-use technology with substantial applications in the civilian and military sectors. NDAR 11. And based on information that "China is . . . pushing ahead with the 'eyes'" of autonomous vehicles "that send the signals to the computer to interpret," and that "[a]t the front line of this race towards fully-realized autonomous vehicles is the push to dominate the

Source: Case 1:24-cv-01381-PLF Document 47, Filed 01/08/25

In response, Hesai argues that it does "not supply its products for military use [and it] could not do so because all of *Hesai's existing products are strictly designed and manufactured at civilian specifications.*" Hesai repeatedly and consistently tells investors – and represents to the district court – that *it is* ***"impossible to use Hesai's products on the battlefield"*** because they do not provide the durability and performance needed for that environment. Instead, Hesai insists that it only produces commercial products unsuitable for military use because its products *"have a lower internal component temperature range, a lower vibration/shock endurance, and are not radiation proof."*

Likewise, uncontradicted evidence shows that Hesai's products are not covered by the Chinese government's list of sensitive or strategic technologies restricted from export, either. NDAR1709. And the record shows that not only does Hesai not "supply its products for military use, it could not do so" because "all of Hesai's existing products are strictly designed and manufactured at civilian specifications for commercial and passenger vehicles, which are significantly below battlefield standards for any country's military" (*e.g.*, "they have a lower internal component temperature range, they have a lower vibration/shock endurance, they are not radiation proof, etc.")—making it "impossible to use Hesai's products on the battlefield." *Id.*

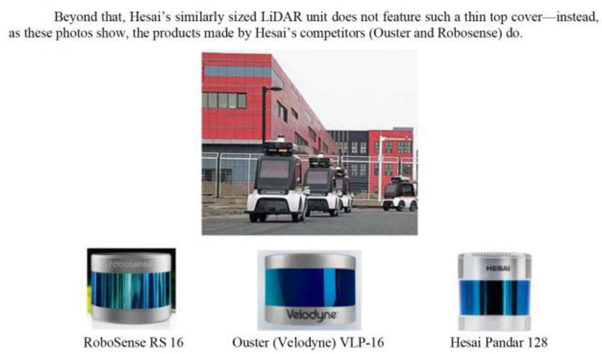
Source: Case 1:24-cv-01381-PLF Document 49, Filed 01/29/25

Yet, the photos we uncovered belie these claims. **After all, if it is impossible to use Hesai's LiDAR on the battlefield, what's Hesai's LiDAR doing on Chinese combat vehicles**?

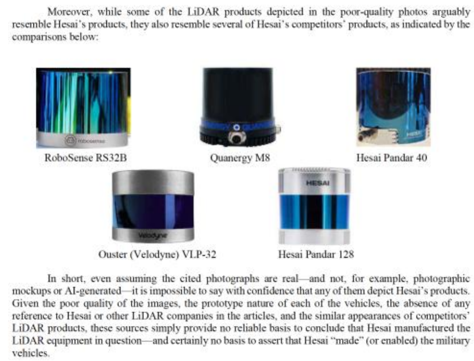
Notably, the court filings show that in Spring 2024 the government produced to Hesai certain "open-source images" that purportedly show Hesai's LiDAR products on Chinese military vehicles. In a letter from Hesai to the government dated April 11, 2024, Hesai claimed that the photos did not demonstrate that the LiDAR on the vehicles were Hesai products and, in fact, appeared to be products manufactured by Hesai's competitors.

Information Technology ("MIIT"); Hesai knowingly receives assistance from the Government of China under the Chinese military industrial planning apparatus; Hesai is affiliated with a military-civil fusion enterprise zone; and that Hesai advertises on a on non-governmental military equipment procurement platform.

April 11, 2024 letter from Hesai refuting that it manufactured the LiDAR depicted in photos


Beyond that, Hesai's similarly sized LiDAR unit does not feature such a thin top cover—instead, as these photos show, the products made by Hesai's competitors (Ouster and Robosense) do.

RoboSense RS 16 | Ouster (Velodyne) VLP-16 | Hesai Pandar 128


Moreover, while some of the LiDAR products depicted in the poor-quality photos arguably resemble Hesai's products, they also resemble several of Hesai's competitors' products, as indicated by the comparisons below:

RoboSense RS32B | Quanergy M8 | Hesai Pandar 40

Ouster (Velodyne) VLP-32 | Hesai Pandar 128

In short, even assuming the cited photographs are real—and not, for example, photographic mockups or AI-generated—it is impossible to say with confidence that any of them depict Hesai's products. Given the poor quality of the images, the prototype nature of each of the vehicles, the absence of any reference to Hesai or other LiDAR companies in the articles, and the similar appearances of competitors' LiDAR products, these sources simply provide no reliable basis to conclude that Hesai manufactured the LiDAR equipment in question—and certainly no basis to assert that Hesai "made" (or enabled) the military vehicles.

Source: Case 1:24-cv-01381-PLF Document 54 Filed 02/14/25

However, the photos that we recently uncovered put an end to any more of Hesai's denials. Contrary to Hesai's claim that it is "impossible" for its LiDAR to be used for military purposes, the photos we newly uncovered unequivocally show that Hesai's LiDAR – and not its competitors'–are incorporated into Chinese combat vehicles. As shown above, several of the photos and videos we found even show Hesai's label clearly visible on the military vehicle.

Source: YouTube, Uploaded in February 2025

In our opinion, Hesai is caught red-handed. We see no way that Hesai can continue denying that its LiDAR has no military use while, at the same time, the Chinese military is clearly equipping vehicles with Hesai's LiDAR. We think the federal court will see it the same way and cement Hesai's place on the 1260H list of Chinese Military Companies.

The DoD could also argue, persuasively, that pictures and videos of Hesai LiDAR on Chinese military vehicles represent demonstrable and conclusive evidence that Hesai is selling LiDAR to the Chinese military. In fact, the DoD already presented evidence to the court that Hesai previously advertised on a military equipment procurement platform in the People's Republic of China, and that some of its products were previously sold to a leading defense research university in China. Previously when confronted with these facts and less conclusive pictures earlier in the litigation, Hesai tried to argue that, despite a robust export control compliance program, it cannot control if some of its downstream customers turn around and sell Hesai products to the military. This excuse strikes us as weak and improbable – Hesai is a Chinese company, we highly doubt that its key technological products are featured in showcases for next generation military vehicles without the Company's knowledge and without the careful coordination of PRC authorities. It is also irrelevant whether Hesai sells to the military directly or through an intermediary, all that is required is what the DoD found and evidenced: that "*Hesai furthers Chinese military-civil fusion by developing dual-use technologies with substantial applications in both the civilian and military sector.*" The DoD has statutory discretion to designate Hesai on the Chinese Military Company ("CMC") list regardless of whether the sales are direct or not.

Litigation outcomes are always unknown, but the DoD is almost certainly likely to prevail, as the standard of judicial review over the agency's determination is a "low bar," particularly in cases such as this one which involve national security and foreign affairs.

In our view, Hesai's crushing defeat in court is even more certain given the recent evidence we uncovered of Hesai's LiDAR clearly equipped to Chinese military vehicles, especially considering that Hesai told a U.S. court, under penalty of perjury, that it could not sell LiDAR to the Chinese military because its products were not suitable for military use. Courts look unfavorably on litigants that blatantly lie.

We expect that the district court will soon rule in favor of the U.S. government, allowing the DoD to designate Hesai as a Chinese military company. In Hesai's own words, this listing substantially interferes with its ability to raise capital and solicit investment. But the consequences are greater than that.

The immediate consequences of such a designation are partially reputational, but policy makers view a CMC designation as a harbinger of future sanctions and other restrictions on U.S. business activities. To the extent that Hesai's U.S. customers, typically self-driving OEMs, have any contracts with the U.S. government, such contracts could be at risk if they continue to purchase from Hesai. U.S. law does not allow the Department of Defense to contract with a U.S. company that has in its supply chain a DoD designated Chinese military company.[3] Given that Hesai has historically sold to large OEMs such Cruise (GM) who have department of defense contracts, our understanding is that customers like GM will put their own DoD contracts at risk if they continue to purchase from Hesai. Even Zoox would likely drop Hesai, as Amazon also has substantial DoD contracts.

LiDAR is a highly competitive industry, so we would expect U.S. customers to simply cut off Hesai rather than incur the reputational damage, risk lucrative DoD contracts, and incur a potential multitude of second-order consequences of buying products from a business designated as a Chinese military company.

This will absolutely devastate Hesai's business, because even though it sells substantially more units to Chinese auto companies, these are low-priced, low-margin ADAS LiDAR products. Given the U.S. government's decision to place Hesai on a list of Chinese military companies, we believe that Hesai stands to lose 40% of its revenues and an estimated 57% of its gross profit.[4] But this is not the only devastating consequence facing investors from Hesai's lies.

e. New Trump Policy Portends Divestiture and Delisting

On February 21, 2025, President Trump signed a memorandum aimed at promoting foreign investment while protecting America's national security interests, particularly from threats posed by China. This memorandum aims to stop Chinese-owned companies from stealing U.S. technology and exploiting U.S. investors.

> **SAFEGUARDING AMERICAN INNOVATION:** President Trump is keeping his promise to prevent foreign adversaries from taking advantage of the United States.
>
> - President Trump: "We will also adopt new rules to stop U.S. companies from pouring investments into China, and to stop China from buying up America, allowing all of those investments that clearly serve American interests."
>   - President Trump also promised to "stop Chinese-owned" firms from "stealing our intellectual property, our workers' knowledge and then sending it back to Communist China. We're not going to let that happen."
>   - President Trump: "We have powers that haven't really been used in terms of environmental. If you invest over $1 billion in the United States, we're going to give expedited reviews."

Source: White House Fact Sheet

[3] *See* legal commentary, *DoD's Expanding List of Chinese Military Companies*, Jan. 22, 2025 ("DOD cannot award business to a company if it has prohibited links to entities on the CMC List.")

[4] In 2023, Hesai disclosed that its revenue from North America was RMB 748 million, which was 40% of Hesai's reported revenue. Applying the 50% gross margin implied by its management, we calculated that the Company's U.S. revenue generated RMB 374 million of gross profit, which was 57% of its reported gross profit.

The newly signed memorandum explicitly warns that the PRC is exploiting United States capital to develop and modern its military, and specifically highlights the danger of so-called dual-use technologies, like LiDAR, with civilian and military application.

There could not be a better example of this problem than Hesai, given the overwhelming evidence that its LiDAR are being equipped to Chinese military vehicles.

> The PRC is also increasingly exploiting United States capital to develop and modernize its military, intelligence, and other security apparatuses, which poses significant risk to the United States homeland and Armed Forces of the United States around the world. Related actions include the development and deployment of dual-use technologies, weapons of mass destruction, advanced conventional weapons, and malicious cyber-enabled actions against the United States and its people. Through its national Military-Civil Fusion strategy, the PRC increases the size of its military-industrial complex by compelling civilian Chinese companies and research institutions to support its military and intelligence activities.
>
> Those Chinese companies also raise capital by: selling to American investors securities that trade on American and foreign public exchanges; lobbying United States index providers and funds to include these securities in market offerings; and engaging in other acts to ensure access to United States capital and accompanying intangible benefits. In this way, the PRC exploits United States investors to finance and advance the development and modernization of its military.

Source: America First Investment Policy, February 21, 2025

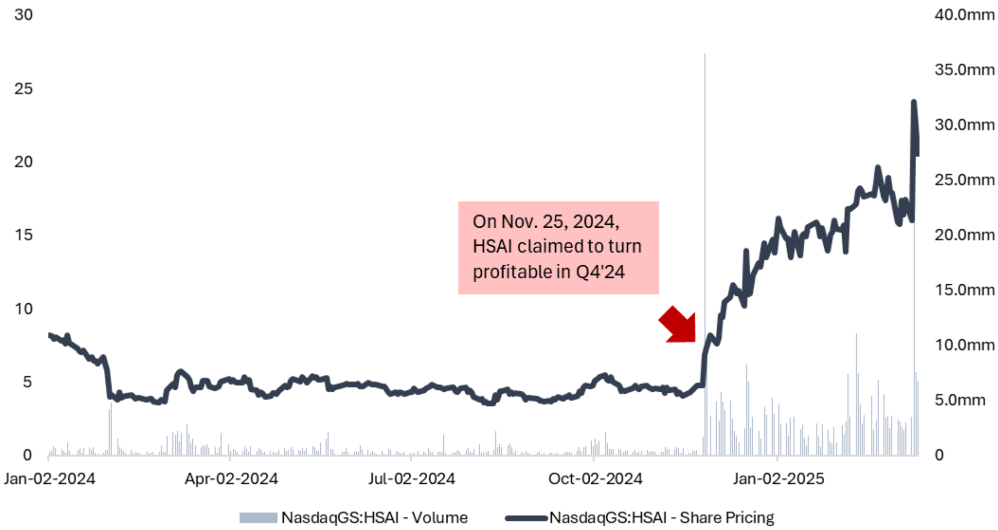
Given that this new memorandum states that "**the United States will also use all necessary legal instruments to further deter United States persons from investing in the PRC's military-industrial sector,**" Hesai is clearly at risk of losing all investment from any U.S. investor or institution that either must comply, or chooses to comply with, the Trump administration directive. Given the scale of Hesai's deception (lying in U.S. court that it is "impossible" to use Hesai's LiDAR for military applications when its products are clearly visible in Chinese military vehicles), and its alleged theft of U.S. intellectual property, we believe it will likely be delisted from U.S. exchanges. After all, why would the U.S. permit any company to steal U.S. technology, sell it (directly or indirectly) to the Chinese military, then list on U.S. stock exchange and take money from American investors?

Like past Chinese companies with close ties to China's military, **we also believe Hesai is on a path to be delisted**. In the current geopolitical climate, we do not believe that the U.S. will permit a company whose valuable technology is prominently displayed on Chinese military vehicles to raise capital from investors on the American stock market. In our view, the best recent analogy is TuSimple, another U.S.-listed Chinese company that divested its American business and delisted from the U.S. capital markets in part over allegations that it represented a threat to American national security interests. TuSimple is only the most recent example. In May 2021, three Chinese telecoms--China Mobile, China Unicom and China Telecom--were also delisted from the NYSE under Trump's executive order that barred U.S. investment in companies that the U.S. deemed to aid the Chinese military.

In our view, Hesai is squarely in the crosshairs of President Trump's new directive, and we would expect it to be delisted from American capital markets.

2. Undisclosed to Investors, Hesai Just Lost its Largest Customer

In late 2024, Hesai's stock price quadrupled after management claimed on an earnings call that after five years of consistent losses, the Company had finally become profitable. Investors bid up the stock, apparently on the mistaken belief that Hesai's money-losing business had turned a corner.



Source: Capital IQ

Yet we believe that such perceived profitability is a mirage, fostered by what, in our opinion, was a highly misleading disclosure by management. We believe that the only reason Hesai technically turned a $20 million net profit in Q4 was because **it received a one-time $20 million break fee payment from its largest customer, who undisclosed to investors, terminated its contract with Hesai**.

We think that misleading disclosures fooled investors into believing that Hesai's business had turned a corner to profitability, when its quarterly outperformance was not due to a fundamental improvement in the business, but this one-time break fee payment. Rather than turn a corner, Hesai, we believe, has been put in a perilous position by the (undisclosed) loss of its leading customer. This likely explains the news that, undisclosed to investors, Hesai is now laying off up to 30% of its employees.

- **Cruise: Hesai's #1 Autonomous Driving Customer**

Although investors sometimes assume that Hesai's largest customer has historically been Li Auto, this is not the case. Hesai may have sold more volume to Li Auto, but Hesai claims to have generated more revenue from selling higher priced LiDAR products to a U.S.-based OEM developing autonomous driving.

According to Hesai's 2023 20-F, its largest customer was a leading global OEM headquartered in the United States. This leading customer supposedly contributed 28.4%, or RMB 533 million, of revenue in 2023.[5]

> Although we have and continue to pursue a broad customer base, we are dependent on a collection of large customers with strong purchasing power. Revenues generated from our five largest customers accounted for 47.2%, 53.1% and 67.5% of our revenues for 2021, 2022 and 2023, respectively. In particular, in 2021, 2022 and 2023, one customer, a leading global OEM headquartered in the United States, accounted for 17.5%, 13.7% and 28.4% of our revenues, respectively. We directly receive purchase orders from this customer. The purchase orders generally provide volumes and prices of the LiDAR products, packaging and delivery arrangements, payment arrangements, inspection

Source: Hesai 2023 20-F

[5] Hesai stated this customer was a globally leading automaker headquartered in Detroit in its Chinese Prospectus.

We interviewed a former executive at Hesai with years of experience at Hesai and in the mobility industry, who confirmed that this leading customer was General Motors's ("GM") autonomous driving project, Cruise.

"In 2023, GM Cruise was the largest customer (of Hesai)."

- *Former Hesai Executive*

If we trace Hesai's disclosures back through its prospectuses, both the document filed in the United States and the prospectus for Hesai's aborted IPO in China, Cruise has been one of Hesai's major customers for five consecutive years. According to Hesai's various public filings, Cruise supposedly accounted for 20.8% of Hesai's revenues from 2019-2023, making it Hesai's largest customer over that five-year period.

%	2019	2020	2021	2022	2023	Cumulative
Customer A				24.3%	25.6%	
Customer B ⬅ Cruise	23.6%	10.4%	17.5%	13.7%	28.4%	20.8%
Customer C			12.7%			

Revenue

RMB M	2019	2020	2021	2022	2023	Cumulative
Total Revenue	348	416	721	1,203	1,877	4,564
Customer A				292	481	
Customer B ⬅ Cruise	82	43	126	165	533	949
Customer C			92			

Source: Hesai SEC Filings

Industry reports confirm the materiality of Cruise to Hesai. SPDB International listed out major players in Robotaxi industry and their LiDAR suppliers in its December 2024 LiDAR industry report. Among these ten companies, there are only four U.S. companies that use Hesai's LiDAR. Only one company, GM's autonomous driving unit Cruise, matches the description of Hesai's largest customer.

图表 34：Robotaxi 行业主要玩家车辆激光雷达配置情况对比

公司	激光雷达供应商	激光雷达单车总用量	长距激光雷达搭载量	短距激光雷达搭载量
Waymo	WAYMO	5	1	4
Cruise	HESAI	5	5	0
Aurora	Aurora, HESAI	7	3	4
百度Apollo	HESAI	5	1	4
滴滴	HESAI	5	1	4
Motional	OUSTER, HESAI	4	1	3
小马智行	robosense, HESAI	5	2	3
文远知行	HESAI	5	3	4
AutoX	HESAI, SiLC	2	2	0
Zoox	HESAI	8	4	4

资料来源：Yole、艾瑞咨询、各公司官网、公开资料、浦银国际整理

Source: Yole Group, SPDB International Report, December 2024

GM acquired Cruise in 2016 to spearhead its efforts in autonomous driving technology. However, Cruise faced a major setback in October 2023 when one of its self-driving robotaxis struck and trapped a pedestrian in San Francisco, critically injuring her.

San Francisco firefighters work to free a woman trapped under a Cruise robotaxi Monday night. (San Francisco Fire Department)

Source: The Washington Post, October 3, 2023

At the time, Cruise had around 1,000 autonomous vehicles. In late 2024, GM publicly announced its decision to shut down Cruise, marking the end of its robotaxi development business.

Dec 10 (Reuters) - General Motors (GM.N) said on Tuesday it will end robotaxi development at its majority-owned, money-losing Cruise business, a blow to the ambitions of the largest U.S. automaker which had made the advanced technology unit a top priority.

The Detroit-based car company said it would no longer fund work on self-driving robotaxis "given the considerable time and resources that would be needed to scale the business, along with an increasingly competitive robotaxi market."

Source: Reuter Article, December 2024

With its decision to pull the plug on Cruise, we believe GM also terminated its purchase agreement with Hesai. Yet when asked about this possibility, Hesai's management team appeared to deny it. On its Q3 2024 earnings call held in late November, two weeks before GM's announcement, an analyst asked the management for an update regarding its partnership with Cruise. The CFO's response implied the relationship with Cruise and Cruise's robotaxi business was still intact.

Cindy Huang
Morgan Stanley, Research Division

I have a follow-up question on OT128. Who will be the first batch of customers adopting this new product? And also, can we also get some update regarding our partnership with Cruise?

Peng Fan
Chief Financial Officer

> Your other question regarding GM Cruise updates. Based on public information, Cruise has made significant progress this year. Its group has invested additional funds into Cruise to support its ongoing operations and strategic initiatives. Following a temporary halt in operations since late 2023, the NHTSA closed its investigation into Cruise vehicles in August 2024.
>
> Recently, Cruise has resumed supervised autonomous driving tests in cities like Phoenix, Dallas, and Houston. Cruise is clearly making efforts to overcome challenges and solidify its position as a leader in autonomous vehicle technology. As you see, we recorded NRE revenues in Q3 from our L4 LiDAR, which is being prepared for potential large-scale deployment by a leading global robotaxi player in the coming year.

Source: Hesai Q3 2024 Earnings Call, November 24, 2024

We think that this was a highly misleading response. According to our interview with the Hesai former, GM Cruise terminated its contract with Hesai and paid a substantial cancellation fee in 2024.

"GM cancelled the orders in Q4 and gave Hesai a penalty fee for USD20 million"

~ Former Hesai Executive

We also confirmed this with a former executive at Cruise who suspected GM likely paid a break fee when GM shut down its robotaxi business and had to cancel purchase agreements with their LiDAR supplier.

Put simply, undisclosed to investors, Hesai has lost its #1 customer. Rather than disclose this material development to investors, Hesai gave no indication that the relationship had changed, and instead simply claimed on its November 2024 earnings call that its business was finally profitable.

> Looking ahead, we are expecting a record-breaking fourth quarter with light (sic) [LiDAR] shipments projected to reach 200,000 units, an astounding volume nearly matching our total shipments in 2023. Based on our current estimates, fourth quarter net revenues are expected to soar to nearly USD 100 million, delivering an estimated net profit of USD 20 million and a positive operating cash flow.

Source: Hesai 3Q 2024 Earnings Call

Based on our due diligence, this is a highly misleading characterization of the Company's financials. While Hesai may have technically achieved a positive net profit in Q4 2024, we believe that this was due solely to a large one-time break fee allegedly paid to Hesai by its departing customer, and was not attributable to any fundamental improvement to the underlying business.

We believe this break fee is the ~USD 20 million "payment" that Hesai received in Q4, which would increase its net profits from break even to USD 20 million, making it the Company's first profitable quarter.[6] On that earnings call, its CFO stated that the Company would approach revenue of USD 100 million, with an estimated net profit of USD 20 million because it received additional payments from a leading customer. Yet the Company failed to disclose the true nature of this additional payment.

> Taking it to the next level, we have received additional payments from a leading customer, propelling us toward an estimated USD 20 million net profit in Q4. This is an incredible achievement and a testament to the solid financial foundation we are building as we continue to drive growth and scale our success. Hopefully, that covers your question.

Source: Hesai 3Q 2024 Earnings Call

Sell side duly fell for the charade, announcing that Hesai received an additional payment from a leading global robotaxi player which propelled the Company to profitability.

[6] ~RMB 140 million

Management guides for GAAP profitability in 4Q 2024

Management guides for Hesai to achieve GAAP profitability in 4Q 2024 and non-GAAP profitability for full-year 2024. The company expects 4Q revenue to reach ~Rmb 720 million, with LiDAR volume of 200,000 units (up 129% YoY and 50% QoQ, with >90% being ADAS LiDAR) in the quarter at a gross profit margin of ~40%. Management also guides for stable operating expenses QoQ; with average quarterly other income and interest income of around Rmb 30 million, Hesai expects to break even in 4Q. Furthermore, Hesai has indicated it has received an additional payment of ~Rmb 140 million from a leading global robotaxi player, propelling the company towards profitability with an expected net profit of ~Rmb 140 million in 4Q 2024.

Source: Deutsche Bank Report, November 26, 2024

We think it is highly misleading to dangle a narrative in front of investors that a business which failed to make a profit for 5 years was finally profitable, particularly when the reason for its sudden profitability was not merely the receipt of a one-time payment, but a break fee tied to the loss of a critically important customer.

Excluding this one-time payment, we estimate that Hesai merely broke even in the last quarter. Considering that its largest customer was previously a leading purchaser of Hesai's high-margin products, we anticipate that Hesai's gross margin will decline following the termination of this purchase agreement.

We think that this likely explains why, after the termination of the Cruise contract, Hesai reportedly began laying off up to 30% of its employees, again without disclosing this development to investors.

Users on Maimai, the Chinese equivalent of LinkedIn, recently began reporting that Hesai was laying off a substantial number of its employees. One user, who was verified as Hesai employee, commented that the Company laid off 30% of its employees before January 1, 2025.

经济观察网 周信/文近日，有自称“禾赛科技”的员工在脉脉平台上称，禾赛科技正在开启裁员计划，裁员比例15%，赔偿月薪N+1，无年终奖。还有认证为“禾赛科技员工”的用户评论称，元旦前已经裁完，裁员比例为30%。

Recently, an employee claiming to be from Hesai Technology said on the Maimai platform that Hesai Technology is starting a layoff plan, with a layoff rate of 15%, compensation of N+1 monthly salary, and no year-end bonus. Another user certified as a "Hesai Technology employee" commented that the layoffs had been completed before New Year's Day, with a layoff rate of 30%.

Source: News Article, January 4, 2025

An employee from another LiDAR company was also aware of news of the layoffs at Hesai, per the report. Since the economic outlook for the next two years was not optimistic, he speculated that Hesai was laying off employees to conserve cash.

有激光雷达从业者向经济观察网表示：“听说了，此事应该属实，明后年的经济形式不乐观，禾赛希望多储存一些现金流，也是为了完成第四季度盈利目标，应对行业进一步加剧的价格战，所以裁员降本增效。”

A LiDAR practitioner told Economic Observer: "I heard that this is probably true. The economic situation next year and the year after is not optimistic. Hesai hopes to save more cash flow in order to achieve the fourth quarter profit target and cope with the further intensified price war in the industry, so it is laying off employees to reduce costs and increase efficiency."

Source: News Article, January 4, 2025

Layoffs of up to 30% of employees is inconsistent with Hesai's claims that it recently turned a corner and its suggestion that would be consistently profitable going forward. But mass layoffs are definitely consistent with a business facing the loss of its largest customer.

We think it is hugely misleading for Hesai to fail to disclose to investors not only that it had lost its leading customer, but that it was commencing massive layoffs (reportedly up to 30% of employees). Together, such news suggests that Hesai's business is likely in serious peril. Yet, in our opinion, the worst is still to come.

3. Mercedes Deal Likely Not "Exclusive" and Appears Illusory

Last week, Hesai's stock ripped 50% on the announcement of a new deal with a mysterious European OEM and a leaked source claiming that the partner was Mercedes. In our view, investors have been fooled by Hesai yet again, as this announcement appears far more akin to stock promotion than a promising substantive development.

On March 10, 2025, after market close, Hesai reported lackluster earnings, triggering a swift -17% decline in its stock price in furious afterhours trading. Yet before the market opened the next day, mysterious reports surfaced that Hesai had landed a potentially lucrative deal with Mercedes Benz to develop "smart cars for global markets" with Hesai's LiDAR. Per the reports, not only is this supposedly an "**exclusive multi-year contract**," but Hesai's LiDAR will also be used for models sold outside China. This news sparked a remarkable +81% swing in the Company's share price from the evening lows to the next day's close.

Exclusive: Mercedes to develop smart cars for global markets with China's Hesai lidar

By **Reuters**

March 11, 2025 9:37 AM CDT · Updated 6 hours ago

Aa

SHANGHAI, March 11 (Reuters) - Mercedes-Benz will develop smart driving cars for global markets equipped with Hesai's lidar sensors, a person with direct knowledge said, the first time a foreign automaker has sought to use such Chinese-made technology for models sold outside China.

It coincides with an increase in trade tensions as the U.S. intensifies efforts to restrict the adoption of Chinese components and software solutions in vehicles developed by global automakers.

Source: Reuters Article, March 11, 2025

In our opinion, this alleged partnership appears largely illusory, and we think investors have been fooled by an opaque Company disclosure timed to perfection with an unattributed leak.

First, just a few weeks ago, the Mercedes Chief Technology Officer announced that Mercedes would not offer LiDAR in its L2++ vehicles to be sold in China going forward. On February 20, 2025, the CTO stated unambiguously that Mercedes developed "advanced automated driving systems and assistance systems **without LiDAR**." He said that Mercedes was reducing variable costs to remain competitive in a price sensitive Chinese market. As a result, the assisted driving model Mercedes planned for release in China would not be equipped with LiDAR.

Markus Schafer

CTO, Development & Purchasing and Member of Management Board

At the same time, we are greatly lowering complexity and cost. We are driving down variable costs with lower unit costs for our new entry batteries with LFP technology, by making localization in China by developing advanced automated driving systems and assistance systems without LiDAR up to Level 2++ and without HD maps and through strategic cooperation on our entry-level hybrid engines.

Source: Mercedes Capital Market Day, Feb 20, 2025

On an earnings call that same day, the CTO elaborated that because of its advanced algorithms, Mercedes was able to delete the LiDAR in the car without impacting the performance of its assisted driving performance. As a result, Mercedes would no longer be equipping cars in China with LiDAR.

Markus Schafer
CTO, Development & Purchasing and Member of Management Board

Yes. I think you're hitting the point. I think one of the great customer benefits that customers enjoy in China right now is assisted driving and especially what we call Level 2++ driving. And this is really an additional help and assistance to the customer.

The clear goal we have to be at benchmark levels with this car, with this AI, with the supercomputer and the car, with the sensor set that we have in the car, with the compute algorithm to hit this benchmark level point to point, driving in very, very dense urban traffic and the key of the system was developed, especially in busy, busy China streets. So that's exactly what we're targeting.

What are we doing in terms of even topping the competition there, is reducing the hardware set there. So we are driving a high-definition mapless, we're not using a high-definition map. And our development with our algorithms, we were able also [delete] the LiDAR in the car. So we are able to perform on the same level as benchmark in China with less hardware. Plus, and we should elaborate in another workshop, what we call functional safety. So we have a long, long history of developing ADAS system. 25 years we are working on that in-house, especially when it comes to functional safety which is a key requirement from our point of view there to put you in a safe space there.

Source: Mercedes-Benz Group AG, 2024 Earnings Call, Feb 20, 2025

Mercedes just definitively told investors last month that it was removing LiDAR for its L2++ assisted driving system for the Chinese market because it was too costly and not necessary. So why would Mercedes be partnering with Hesai if Mercedes was eliminating LiDAR? Perhaps Hesai's press release is referring to a prototype or system under testing or development (such as the Level 4 prototype), but that is no guaranty that Hesai's LiDAR will be used in the final production model. Nor is it any guaranty, given that Mercedes technological advancements on current vehicles rendering LiDAR unnecessary, that Mercedes will even use LiDAR on these models in China. Perhaps this explains why the announcement was so vague, because the substantive commercial opportunity for Hesai is likely so small and attenuated?

Second, it is notable that neither the contract nor the partnership was confirmed by Mercedes: the source from the Reuters article was an unnamed "person with direct knowledge." The Reuters article suspiciously stated that Mercedes **"did not immediately respond to a request for comment**." If this was a major substantive partnership, why wouldn't Mercedes officially confirm or even comment on the deal? In the past, Mercedes proudly announced new LiDAR partnerships. Why not here?

The person, who declined to be named because the matter is private, said Mercedes (MBGn.DE) had deliberated for months over the decision because of legal and geopolitical risks.

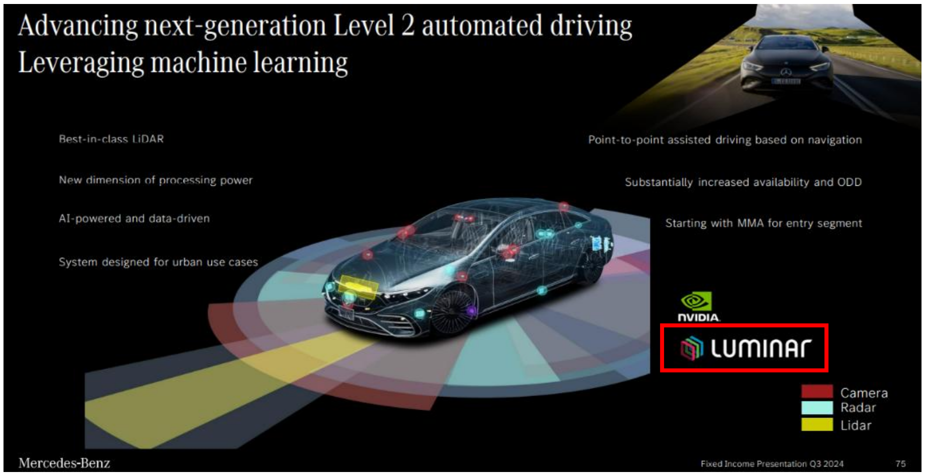
It eventually chose Hesai (ZN80y.F), China's largest lidar maker, because of its lower costs and its ability to produce at scale, the person added.

Mercedes did not immediately respond to a request for comment.

Source: [Reuters Article, March 11, 2025]

Third, we think that even if Mercedes agreed to work with Hesai (or a Hesai JV partner) in some limited fashion, **it almost certainly would not be an exclusive contract**. Mercedes already has an established LiDAR partner in Luminar (NASDAQ: LAZR).

Mercedes has been working with Luminar, an American LiDAR manufacturer, since January 2022. Mercedes issued official press releases announcing this partnership and has specifically mentioned Luminar on multiple earnings calls. In a recent investor presentation, Mercedes included Luminar on a slide highlighting the next generation of its Level 2 automated driving car.



Source: Mercedes Q3 2024 Investor Presentation, October 2024

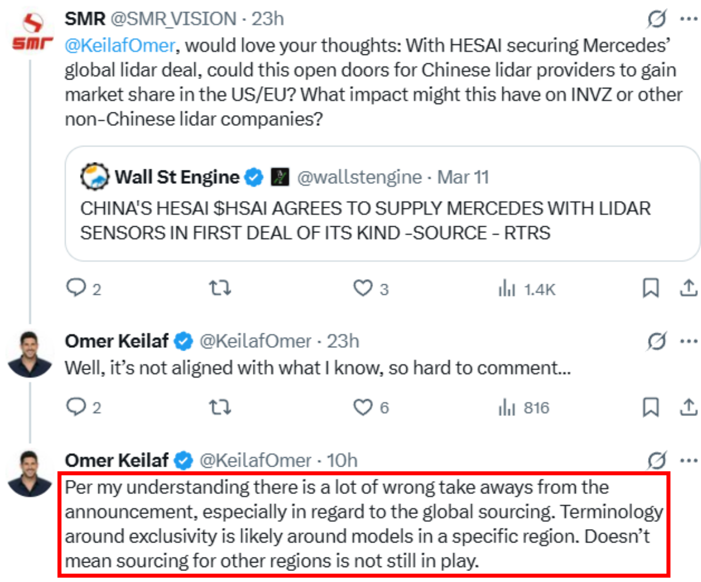
Not only has Mercedes been partnering with Luminar for years, but it is also a Luminar shareholder, acquiring 1.5 million shares when it announced a LiDAR deal with Luminar in January 2022. Even if Mercedes used another supplier for certain foreign markets, we doubt it would be an exclusive arrangement. It is equally unlikely that a new supplier could even displace Luminar as the primary LiDAR for Mercedes given their close historical ties.

Finally, Hesai's announcement is so lacking in detail that it is hard to decipher the scale and nature of the partnership, but perhaps the "deal" with Mercedes could be referring to the partnership involving a small Mercedes JV with Geely. In July 2020, Mercedes and Geely established a JV, smart Automobile Co. Ltd ("smart JV") that manufactures and sells electric vehicles globally. This JV sold 130,000 cars in total. This Chinese JV, which has historically sold only at most a few thousands car that equipped with LiDAR, recently began collaborating with a smart driving startup that uses Hesai's LiDAR.

At the beginning of 2025, the Geely and Mercedes smart JV and DeepRoute.ai announced a strategic cooperation to develop intelligent driving systems. DeepRoute is a Chinese startup focused on producing a smart driving platform, and according to industry sources, it incorporates Hesai's LiDAR on its platform.

If this is the deal Hesai referred to in its announcement, it is no surprise the Company did not provide further details. The market thinks Hesai has an exclusive contract with Mercedes: we suspect investors would puke if they learned Hesai only had an arrangement with a small Chinese JV between Mercedes and Geely which only sells several thousands of cars with LiDAR per year. We question whether this new contract would generate significant revenue for Hesai.

Notably, Hesai's competitors further support our argument that this so-called "exclusive" contract is likely illusory. When asked to comment on Hesai's new contract, the CEO of Innoviz Technologies (NASDAQ: INVZ), a LiDAR manufacturer, stated that the term "exclusive" was misapplied. If the deal exists, he conjectured that it is likely regarding a deal to supply LiDAR to models in a specific region.



Source: Innoviz Technologies' CEO

Furthermore, if this was a major deal, why wouldn't Hesai name the counterparty in its own press release? Rather, the name Mercedes was leaked by an unnamed source. The identity of the leaker was not revealed, but our guess would be that it was leaked by Hesai or its insiders. It makes sense. The stock was down -17% after earnings, and it appeared as though the next day would be a bloodbath. The strategic anonymous leak turned this brutal defeat into a massive stock rally. Taking advantage of this spike, the Company's founders sold 3 million shares and cashed out USD 68.6 million. Given that Hesai had the most to gain by leaking the name of Mercedes (and leaking it that morning), we would bet that Hesai was likely the leak.

Ultimately, we believe that Hesai's post earnings rally was likely in error, as it was based on an unattributed leak and not confirmed by Mercedes. Given that Mercedes told investors last month it was removing LiDAR from cars in China and already has a LiDAR partner in Luminar, we doubt that any proposed deal with Hesai is "exclusive" (like the Company claims), or that will be substantively material for investors.

4. Reported Sales to Largest Customer Inconsistent with Purchasing Volumes, Implying Significant Revenue Inflation

Hesai reported RMB 949 million of revenues from its largest customer, Cruise, from FY 2019 – 2023. But such reported revenues appear inconsistent with the number of Cruise vehicles and the average selling price ("ASPs") of Hesai's LiDAR. Unless Hesai was masking sales to non-disclosed customers (e.g., military suppliers), the inconsistency between Hesai's reported revenues and the product purchases of its largest customer suggest, in our opinion, that Hesai significantly inflated its reported revenues during this period. By how much? Our calculations suggest that Hesai's revenue attributable to its largest customer is 48%-67% less than reported, depending on which source for the Company's ASPs investors choose. Bottom line, it does not appear, in our opinion, that Hesai's largest customer purchased enough LiDAR for the Company's reported revenues to be true.

a. Largest Customer Did Not Purchase Enough LiDAR for Hesai's Reported Revenues to be True

As discussed in the previous section, we believe that Hesai's largest historical customer was Cruise. Hesai tells investors that its largest customer represented 28% or RMB 533 million of its revenue in FY 2023. Hesai's historical disclosures indicate that in the period from FY 2019 – FY 2023, Cruise accounted for RMB 949 million or 20.8% of the Company's total revenue.

Concentration of customers

The following customers accounted for 10% or more of revenue for the years ended December 31, 2021, 2022 and 2023:

	For the Year ended December 31,		
	2021	2022	2023
Customer A	*	24.3 %	25.6 %
Customer B	17.5 %	13.7 %	28.4 %
Customer C	12.7 %	*	*

RMB M	2019	2020	2021	2022	2023	Cumulative
Total Revenue	348	416	721	1,203	1,877	4,564
Customer B (Cruise)	82	43	126	165	533	949
% of total revenue	*23.6%*	*10.4%*	*17.5%*	*13.7%*	*28.4%*	*20.8%*

Source: Hesai Public Filings

The problem for Hesai is that such reported revenue is inconsistent with the number of LiDAR likely purchased by Cruise. Multiple sources, such as the industry research report excerpted below, state that Cruise used 5 LiDAR sensors on each vehicle.

Comparison of LiDAR configurations of major players in the Robotaxi industry

图表 34: Robotaxi 行业主要玩家车辆激光雷达配置情况对比

Total usage of LiDAR per vehicle

公司	激光雷达供应商	激光雷达单车总用量	长距激光雷达搭载量	短距激光雷达搭载量
Waymo	WAYMO	5	1	4
Cruise	HESAI	5	5	0
Aurora	Aurora HESAI	7	3	4

Source: Yole Group, SPDB International Report, December 2024

Furthermore, pictures of Cruise's car from a 2023 accident report confirm that the vehicle's sensor rack holds 5 LiDAR sensors.

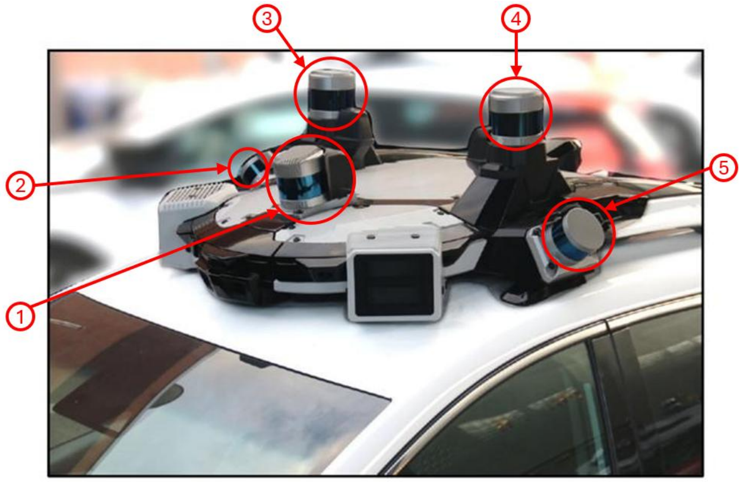
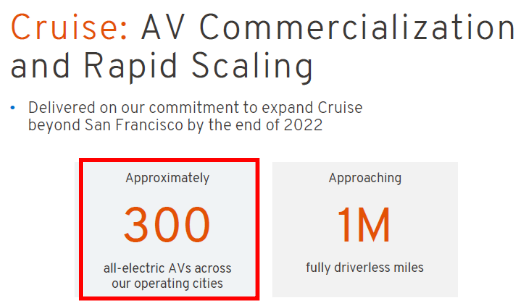


Figure 7. Roof mounted sensor array which includes lidars, cameras, and radars.

Source: [2023 Cruise Accident Report]

Based on news articles and GM's investor presentations, Cruise had approximately 300 autonomous vehicles as of 2022, and added an additional 700 autonomous vehicles in 2023.

GM Disclosed Cruise Had ~300 Autonomous Vehicles as of 2022



Source: *[GM Q4 2022 Investor Presentations]*

New Articles Reported Cruise had ~1,000 Autonomous Vehicles by late 2023

Updated 6:25 PM EST, Wed November 8, 2023

(CNN) — Cruise, General Motors' self-driving vehicle subsidiary, has recalled all 950 of its autonomous vehicles for a software update. Late last month, Cruise paused all its public testing operations while it investigated the incident that led to the recall.

Source: [CNN News November 2023]

At five LiDAR per vehicle, this would imply Cruise purchased 5,000 autonomous mobility LiDAR through 2023. We generously assume Cruise procured 25% more LiDAR sensors than required for its 1,000 autonomous vehicles, for testing and service.

Yet, even if we make generous assumptions in the Company's favor, these 6,250 LiDAR sensors are not consistent with Hesai's reported revenues. Goldman Sachs sell side reports an average ASP for the Pandar LiDAR series, which we believe is based on figures provided by the Company. As we discuss below, we think these sell side ASP figures are likely far higher than what Cruise paid. But notably, even if we use the elevated ASPs from the Goldman sell side report, the implied revenue from Cruise is far below the number reported by Hesai.

Exhibit 26: Hesai LiDAR segment key drivers

Value in Rmb mn	2021	2022	2023	2024E	2025E	2026E
LiDAR segment						
ASP (Rmb k)						
AD						
Pandar	94.3	94.3	71.5	82.5	74.2	68.3
QT	-	13.9	14.3	12.2	10.9	10.1
XT	-	20.9	14.3	12.2	10.9	10.1
ADAS						
AT	-	5.0	3.6	2.7	1.6	1.2
AT128	-	5.0	3.6	2.7	1.7	1.3
ATX	-	-	-	-	1.4	1.1
FT	-	-	2.0	1.5	1.1	1.0
Total ASP (Rmb k)	**49.0**	**13.9**	**7.8**	**3.9**	**2.8**	**2.1**

Source: Goldman Sachs Research Report, January 14, 2025

	2019-2022	2023	Cumulative
# of Cruise autonomous vehicles added	300	700	1,000
# of LiDAR per vehicle	5	5	5
	1,500	3,500	5,000
Est. LiDAR used for R&D or purchased as spare parts	25%	25%	25%
Est. # of LiDAR Cruise purchased	1,875	4,375	6,250
ASP for Hesai autonomous mobility Pandar LiDAR (RMB)	94,300	71,500	78,340
Est. revenue contributed by Cruise (RMB M)	177	313	490
Reported revenue contributed by Cruise (RMB M)	416	533	949
Est. Difference from reported revenue from Cruise (RMB M)	(240)	(220)	(460)
Est. % Less than Reported	***-58%***	***-41%***	***-48%***

Source: GM Investor Presentations, Hesai Public Filings, GS Research Report, SPDB International Report, BOC Estimates and Calculations[7]

We calculate that, based on the number of Cruise vehicles in the fleet, and even given the ASP of high-end autonomous mobility LiDAR presumably provided by Hesai to Goldman Sachs, Cruise was not purchasing nearly enough LiDAR for Hesai's reported revenues to be true. **By our calculation, Hesai's implied revenues from its leading U.S. customer were likely ~50% less than reported** from 2019-2023.

b. ASPs Were Likely Much Lower

Our calculations are likely generous because they rely on ASPs reported by sell side analysts, presumably with input from Hesai. Yet there is ample evidence to suggest that the real ASPs were much lower, meaning the implied revenue exaggeration was even greater than we calculate above.

We interviewed a former Velodyne executive, who as a direct competitor to Hesai was quite familiar with the price of various products. Before sourcing LiDAR from Hesai, Cruise previously purchased LiDAR from Velodyne.

The former Velodyne executive we interviewed, who worked on procurement with Cruise, stated that prices of LiDAR were highly dependent on volume. Given Cruise's likely purchase volume, he estimated that, in 2023, Cruise paid between RMB 35,500-56,800 ($5,000-8,000) for Hesai's high-end LiDAR, Pandar128. The expert further estimated that Hesai likely paid RMB 28,400 ($4,000) for the lower priced model, Pandar40.

> ***Blue Orca:*** *When you talked about price difference, can you provide us some insights into Hesai's price?*
>
> ***Expert:*** *At the time (2023), essentially* ***Velodyne's LiDAR was $30,000 each and GM wanted $5,000.*** *So,* ***I'm assuming they got something like $5,000 to $8,000 for that 128 LiDAR.***

[7] ASP for Hesai autonomous mobility Pandar LiDAR came from Goldman Sachs report published on January 14, 2025

Blue Orca: *The price range for Pandar40?*

Expert: *Pandar40 is lower than Pandar128. The pricing depends on who is buying and whether just strategic.* ***<u>But I'd assume that GM got it for like around $4,000….</u>***

-Expert Call with Former Velodyne Executive

The former Velodyne executive's estimates are also consistent with, and corroborated by, the ASPs reported in a leading industry report by Yole Intelligence. The consulting firm Yole, which is so credible that even Hesai references it in the Company's prospectus, reported that the ASP for autonomous mobility long range LiDAR was $5,451 in 2023.

Figure 16: Global LiDAR ASP for PC&LCV and Robotaxi

$1	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PC&LCV Long-range	$600	$603	$652	$760	$545	$474	$413	$371	$323	$291	$276
PC&LCV short-range	$-	$-	$350	$315	$300	$261	$227	$204	$184	$166	$149
Robotaxi Long-range	$12,100	$10,431	$8,550	$7,268	$5,451	$4,361	$3,924	$3,532	$3,179	$2,861	$2,575
Robotaxi Short-range	$3,203	$2,860	$2,600	$2,340	$1,755	$1,404	$1,264	$1,137	$1,024	$921	$829

Source: Yole Intelligence, CMBIGM

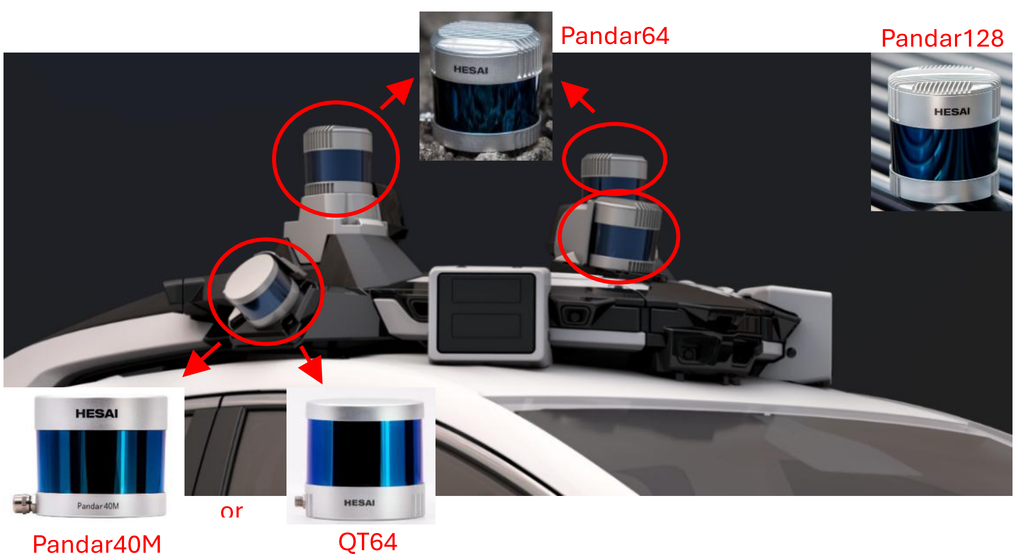
Source: Yole Intelligence, CMB International Report

Notably for investors, these ASPs are ~40% less than the ASP presumably provided by Hesai to Goldman Sachs.

RMB	Goldman Sachs	Expert	Yole
Pandar ASP in 2023	71,500	42,600	38,702
Est. % Less than Analysts Estimates		***-40%***	***-46%***

Source: Goldman Sachs Report, January 2025, Yole Intelligence, Conversations with Velodyne Former[8]

Cruise went through multiple LiDAR configurations. Although the setup of Cruise's LiDAR is not publicly available, based on the pictures of Cruise autonomous vehicle and our conversations with industry experts, we believe Cruise's vehicle is likely equipped with one Pandar128, two Pandar64, and two Pandar40M or QT64.[9]



Source: [Cruise Website](), [Hesai Website]()

[8] The Velodyne former estimated, in 2023, Cruise paid USD 8,000 (RMB 56,800) for Pandar128 and USD 4,000 (RMB 28,400) for Pandar40. Based on our conversation with the expert, we calculate the ASP for Pandar series was RMB 42,600 in that year.

[9] The picture suggests Cruise autonomous vehicle was equipped with three Pandar64. But we interviewed a Hesai former and a Velodyne former, both of them believe Cruise equipped with one Pandar128. Based on the shape of the two tiled LiDAR, we think they could be Pandar40M or QT64. QT64 is a cheaper model, which GS stated its ASP was RMB 14,300 in 2023.

The former executive at Velodyne estimated that, in 2023, Cruise paid RMB 56,800 for Hesai's Pandar128 and RMB 28,400 for Pandar40. Based on these ASPs and Cruise's LiDAR setup, we calculate that Hesai's revenue from Cruise in 2023 was only RMB 174 million, or 67% less than reported.

Hesai's Actual Revenue from Cruise is Calculated to be 67% Less than Reported

			2023
LiDAR Usage and Cost per Vehicle	# of LiDAR	ASP (RMB)	
Pandar128	1	56,800	
Pandar64	2	42,600	
Pandar40M	2	28,400	
Subtotal	5	198,800	
Est. spare purchase %		25%	
Est. LiDAR purchase per Vehicle (RMB)		248,500	248,500
# of Cruise autonomous vehicles added			700
Est. Revenue contributed by Cruise (RMB M)			174
Reported Revenue contributed by Cruise (RMB M)			533
Est. Difference from reported revenue from Cruise (RMB M)			(359)
Est. % Less than Reported			***-67%***

Source: Cruise Website, Conversation with Velodyne Former, BOC Estimates and Calculations[10]

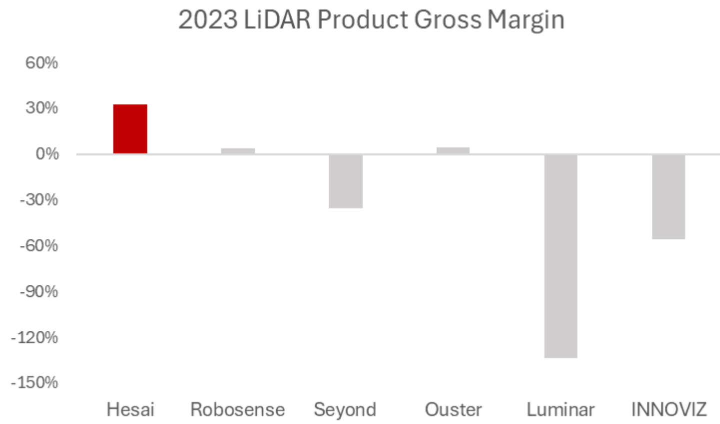
We believe our estimates are conservative as our calculations assume the two tiled LiDAR were Pandar40M, a model that is twice as expensive as QT64.[11] If Cruise's LiDAR setup included QT64, then Hesai's actual revenue from Cruise would be even lower.

Ultimately, whatever source an investor chooses for the ASP of the LiDAR (either the higher estimate provided by Goldman Sachs and presumably sourced from the Company, or the lower price reported by industry reports and experts), the reported purchases by Cruise do not match Hesai's reported revenues from its largest customer. Rather, we believe the evidence indicates that, unless Hesai was masking sales to other purchasers (like the Chinese military) as sales to its largest customer, Hesai likely inflated revenues from its largest customer by an estimated 48%-67%.

[10] We estimate the ASP for Pandar64 to be RMB 42,600 (USD 6,000) by taking the average of ASP for Pandar128 and Pandar40M, which was in line with the ASP for robotaxi long range LiDAR in 2023 stated in Yole Intelligence's report.
[11] Goldman Sachs report estimated the ASP for Hesai's QT LiDAR was RMB 14,300 in 2023.

5. Inexplicable Margin Expansion Raises Suspicion that Hesai's Industry Leading Margins are Likely a Mirage.

LiDAR is a tough business for every other company but apparently Hesai, which claims to generate industry-leading gross margins far in excess of its competitors. While its peers struggle to break even at the gross profit level, Hesai claims to generate a remarkable 41% gross margin on its LiDAR product sales in 2024 and 32% in 2023.[12]



Source: Companies Public Filings[13]

How does Hesai generate 41% blended gross margins when every other LiDAR company either reports negative gross margins or barely breaks even? Unpacking Hesai's industry leading gross margins raises a number of suspicions. In our view, they don't make sense and are internally inconsistent with Hesai's disclosures to the market.

Hesai offers LiDAR products in two categories: ADAS and autonomous mobility (now called robotics). In March 2023, Hesai's CFO disclosed that the ASP for autonomous mobility LiDAR sold at a 10x greater price than the ASP of ADAS LiDAR, **while the gross margin for autonomous mobility LiDAR was approximately 5x greater than that of ADAS LiDAR**.[14]

Tung-Jung Hsieh
Global CFO & Director

2023 is a transition year for Hesai, as we migrate from traditionally higher-margin Autonomous Mobility [products], a Pandar, XT and QT to the exploding but relative structurally lower margins ADAS sales of AT and FT. To give you an understanding of the difference, our average ASP for Autonomous Mobility has been over USD 5,000, with approximately 50% gross margins. Compared to that for ADAS, where the ASP is expected to be around USD 500 [Audio Gap] digit to low double-digit gross margins by year-end.

Source: Hesai Q4 2022 Earnings Call

Given that, according to the Company, gross margins for Autonomous Mobility LiDAR are 5x greater than ADAS LiDAR, investors would expect that as the proportion of shipments and revenue attributable to ADAS has risen dramatically in the past three years, the Company's blended gross margins would come down. [15]

---

[12] Hesai did not disclose the gross margin for its services revenue in 2024 in its earnings release. Thus, we estimate it to be 72.9%, consistent with the previous year. Other than LiDAR, Hesai also generates product revenue from selling gas detection products. Given its gas detection revenue only accounted for less than 2% of its product revenue in 2023, we didn't adjust for it in our 2024 estimated product revenue.

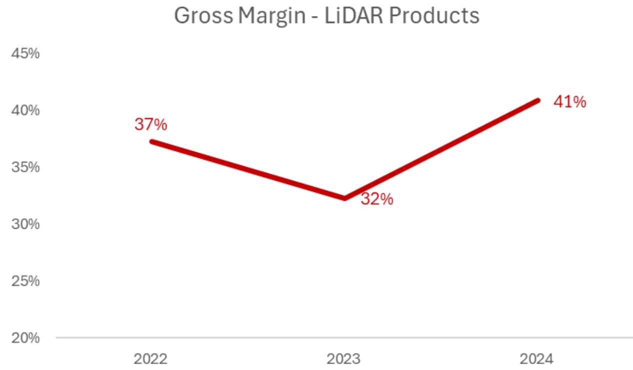
[13] We compared these companies gross margins in 2023 as most of these companies 2024 financials are not yet available. Robosense and Seyond report gross profit for their LiDAR products. Ouster does not provide revenue breakdown. Given that Hesai paid Ouster (Velodyne) licensing fee of $5 million in 2023, we assume this is a zero-cost revenue and exclude the $5 million from Ouster's reported revenue. Innoviz do not provide revenue breakdown, so we use its reported gross margins as LiDAR product gross margins.

[14] Hesai CFO stated that the gross margin for its ADAS LiDAR was expected to be low double-digit by year-end (2023). Thus, we assume ADAS gross margin was 10%. Given that its CFO stated gross margins for its autonomous mobility LiDAR were ~50%, we calculated that the gross margin for autonomous mobility LiDAR was approximately 5x greater than that of ADAS LiDAR.

[15] In March 2023, Hesai management stated that its long-term gross margin target for ADAS LiDAR was 25% to 30%. Thus, we expect that the gross margin for its ADAS LiDAR in 2024 to be similar to that of 2023.

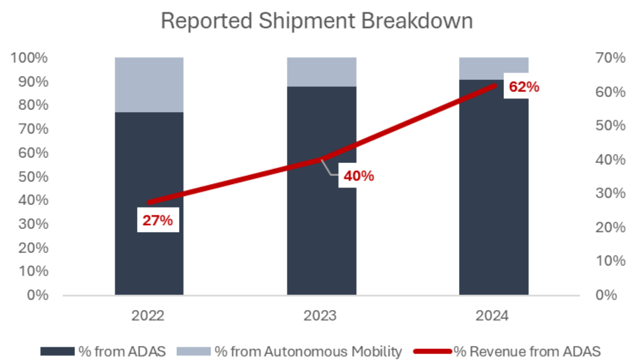
Simple economics suggest that as the Company sells more of its low margin products and far less of its high margin products, its overall gross margins would naturally decline. Yet Hesai, inexplicably, reports exactly the opposite.

According to Company filings, its LiDAR product's gross margins rose from 32% in 2023 to 41% in 2024.



Source: Hesai Public Filings

This +9% (856 basis point) margin expansion in 2024 is inexplicable considering that over the same period, revenue from low-margin ADAS (as a proportion of total) went from 40% in 2023 to 62% in 2024.[16]

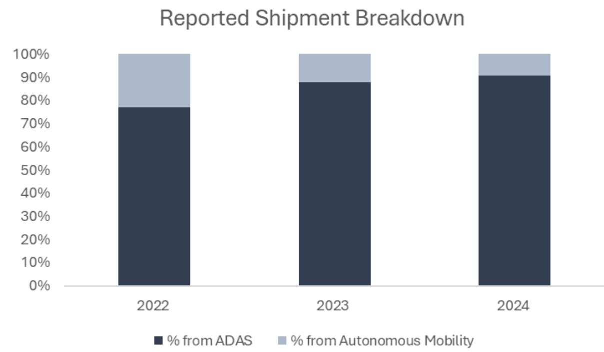


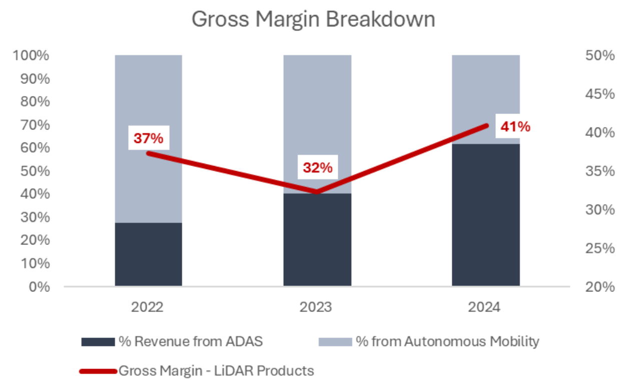
Source: Hesai Public Filings, Goldman Sachs Report, January 14, 2025

Hesai's reported revenues from low margin ADAS LiDAR, as a percentage of total revenue, went from 27% in 2022 to 62% in 2024. If the revenue attributable to the low margin product doubles, and now comprises the majority of the Company's revenues, simple finance math would suggest that blended gross margins should plummet. After all, gross margins on low margin products are 5x lower than high margin products, and Hesai is telling the market that it now sells far more low margin products.

Yet, despite a dramatic increase in the proportion revenue from low margin ADAS LiDAR in 2024, Hesai inexplicably reported that its blended gross margins jumped 856 basis points over that period. This strikes us as nonsense.

[16] We estimate Hesai's ADAS revenue with the Company's reported ADAS shipments and the ADAS ASP and segment breakdown from Goldman Sachs report published in January 2025.





Source: Hesai Public Filings, BOC Estimates and Calculations

Analysts were puzzled by this mysterious increase in Hesai's reported gross margin. Yet when asked to provide a breakdown by product, the Company suspiciously refused to give any details.

Ming Chung
Citigroup Inc., Research Division

Hi, David. This is Jeff. I have 2 questions. First is the excellent GP margins that we achieved in the first quarter. So could you give us a little bit more breakdown on the GP margins by products? And compared with the

Yuanting Shi
Investor Relations Director

Thank you, Jeff. Two questions. One is the breakdown. Unfortunately, we don't provide additional information on the breakdown between ADAS and the robotaxi. I do want to point out the fact that robotaxi is a smaller volume, much higher ASP, a relatively higher margin business that we have always had as a very important part of our business. And the ASPs even for the robotaxi has gone down, but it still remains at a much higher level than the ADAS, again, also as a gross margin. That's one of the key reasons that we are -- we have the opportunity to have a reasonable blended gross margin.

Source: Q1 2024 Hesai Earnings Call

Hesai's reported financials do not appear to behave according to the basic laws of financial physics. If a business has two segments: a low margin product line and a product with 5x higher gross margins, then it stands to reason that blended gross margins should obviously come down as the proportion of revenue attributed to the low margin product increases. But not with Hesai.

When asked for a reasonable explanation regarding this phenomenon, Hesai refused to give additional details, which only reinforces our suspicion that Hesai's profitability is likely a mirage. After all, almost every other LiDAR producer either loses money or barely breaks even on a gross margin basis, so investors should already be suspicious as to why Hesai can sell a product with declining prices year over year but report a dramatically different profitability profile than every other competitor in the space. The reported blowout in gross margins when the Company ramped up sales of its low margin products only compounds our suspicions that Hesai's reported profitability is either significantly inflated or simply made up.

6. Hesai IPO Pulled from China – But Good Enough for America Despite Persistent Material Weaknesses

U.S. listed Chinese companies are often rife with financial or accounting fraud – making unremedied material weaknesses a significant red flag. Compounding our concerns, Hesai withdrew its plan to IPO in China just days after the PRC government enacted new regulations stipulating that any company falsifying its financials could face imprisonment. Somehow an IPO not suitable for China was apparently appropriate for the U.S. capital markets.

In 2021, Hesai planned to go public in China but withdrew its IPO plan within a week after the PRC government enacted new regulations stipulating that any company falsifying its financials could face imprisonment.[17] Perhaps a coincidence, but given the evidence identified in this report that Hesai's reported revenue does not seem to match the purchasing volumes of its largest competitor and its inexplicable 856 basis point gross margin expansion (despite selling more low margin products), we do not have confidence in the authenticity and reliability of Hesai's financials. Compounding these suspicions, Hesai continues to have unremedied internal control deficiencies and material weaknesses which should, in theory, be easily fixable.

Hesai went public in February 2023. Including the historical financial statements in its prospectus, the Company has provided only five years of operating history for investors to review. Yet Hesai warns that these financial statements may not be reliable as the Company lacks sufficient staff experienced with U.S. GAAP to ensure the accuracy of its reported financials. An internal control deficiency that has not been remedied after three years.

This material weakness dates back to Hesai's first prospectus filed with the SEC in July 2021. In its first 20-F filed as a public company, Hesai stated that the material weakness had not been remedied and that additional deficiencies in its internal controls might exist.

> The material weakness that has been identified relates to lack of sufficient skilled staff with U.S. GAAP knowledge for the purpose of financial reporting, to ensure proper financial reporting to comply with U.S. GAAP and SEC requirements. Neither we nor our independent registered public accounting firm undertook a comprehensive assessment of our internal control for purposes of identifying and reporting material weaknesses and other deficiencies in our internal control over financial reporting. Had we performed a formal assessment of our internal control over financial reporting or had our independent registered public accounting firm performed an audit of our internal control over financial reporting, additional deficiencies may have been identified.

Source: Hesai 2022 20-F

A year after going public, this material weakness —stemming from a lack of skilled staff with U.S. GAAP expertise— remains unremedied. It is difficult to believe that Hesai struggles to hire sufficient skilled staff after two and half years, especially since the Company appointed a new CFO with decades of experience dealing the SEC after abandoning its China IPO plans and preparing for its US IPO.[18]

Ultimately, given the evidence that suggests, in our opinion, Hesai's financials are not reliable, such persistent material weaknesses only compound our suspicion that Hesai is misleading investors.

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[17] The new amendments to the PRC Criminal Law took effect on March 1, 2021. Hesai withdrew its application for listing on the Shanghai Stock Exchange on March 5, 2021.

[18] At the time of its U.S. IPO, Hesai's global chief financial officer was Louis T. Hsieh, who joined Hesai in April 2021. Mr. Heish resigned from this position on May 13, 2024, just a week before the Company's Q1 2024 earnings call when analysts begun questioning its gross margin.

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We are short sellers. We are biased. So are long investors. So is Hesai. So are the banks that raised money for the Company. If you are invested (either long or short) in Hesai, so are you. Just because we are biased does not mean that we are wrong. We, like everyone else, are entitled to our opinions and to the right to express such opinions in a public forum. We have a good faith basis for our opinions, and we believe that the publication of our opinions about the public companies we research is in the public interest.

You are reading a short-biased opinion piece. Obviously, we will make money if the price of Hesai stock declines. Like any investor, we attempt to maximize potential gains and minimize potential losses consistent with our risk tolerance on a case-by-case basis. That means that, depending on market conditions, we may exit our position at any time for any reason.

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