Koito Manufacturing (7276 JP)

An automotive volume proxy that will benefit from any easing of the chip shortage

ASIAN CENTURY STOCKS

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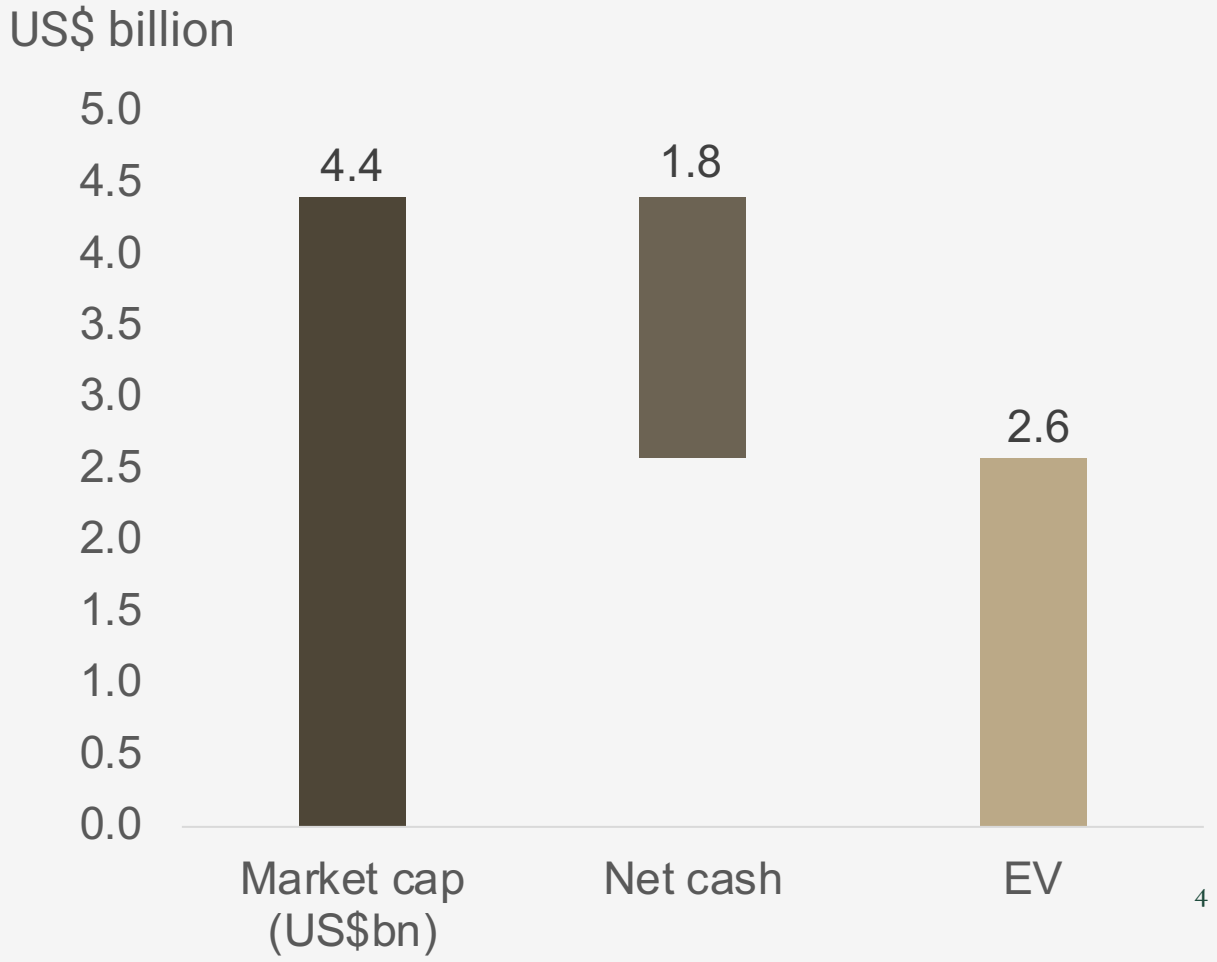
Summary

1. Koito Manufacturing ("Koito") is the world's largest producer of automotive lighting products. It was the first company to mass-produce LED headlamps in 2007 and is now at the forefront of introducing adaptive driving beams and other ADAS-related automotive lighting products.
2. The semiconductor chip shortage has led to severe production constraints for the global auto industry. OEMs have raised prices for vehicles that do get sold, making up for the shortfall in volumes. But auto parts suppliers such as Koito have not been able to raise prices, and have instead suffered along with volumes.
3. There are now clear signs that the semiconductor chip shortage is easing. The most compelling evidence comes from the fact that competing demand for semiconductors from consumer electronics is dropping off a cliff, enabling greater capacity to be shifted towards automotive-related chips. The global accumulated production shortfall is about 25 million vehicles.
4. A large portion of Koito's customers are Japanese auto OEMs such as Toyota, Nissan and Honda. The weakening of the Japanese yen is therefore strengthening a large portion of Koito's customer base. Koito also benefits from a translation effect of foreign earnings as the majority of Koito's revenues are from overseas. In the past, every JPY 1 depreciation in the JPY/USD exchange rate has boosted operating profit by JPY 0.4 billion.
5. Other than the weakening yen and improved volumes following a resolution to the semiconductor chip shortage, Koito should also benefit from the long-term shift from halogen and HID lamps to LED, as well as the shift to adaptive driving beams, which carry much greater ASP.
6. With these factors in mind, I believe that Koito will end up making close to JPY 90 billion in net profit by 2025, giving the stock a P/E multiple of around 7.0x, despite net cash representing more than 40% of the market cap.
7. The key risks are a delayed recovery to global auto production volumes from a 2023 recession and a potential share loss at key client Toyota to competitor Ichikoh.

Capitalisation

- Share price: JPY 1,981
- Shares outstanding: 322 million
- Market cap: US$4.4 billion
- Net cash: US$1.8 billion
- Enterprise value: US$2.6 billion

- Average daily trading volume: US$11 million

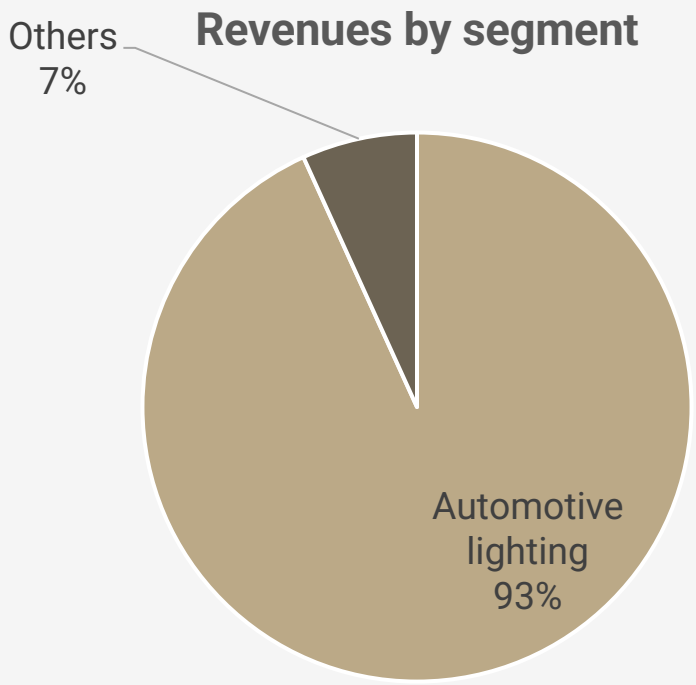


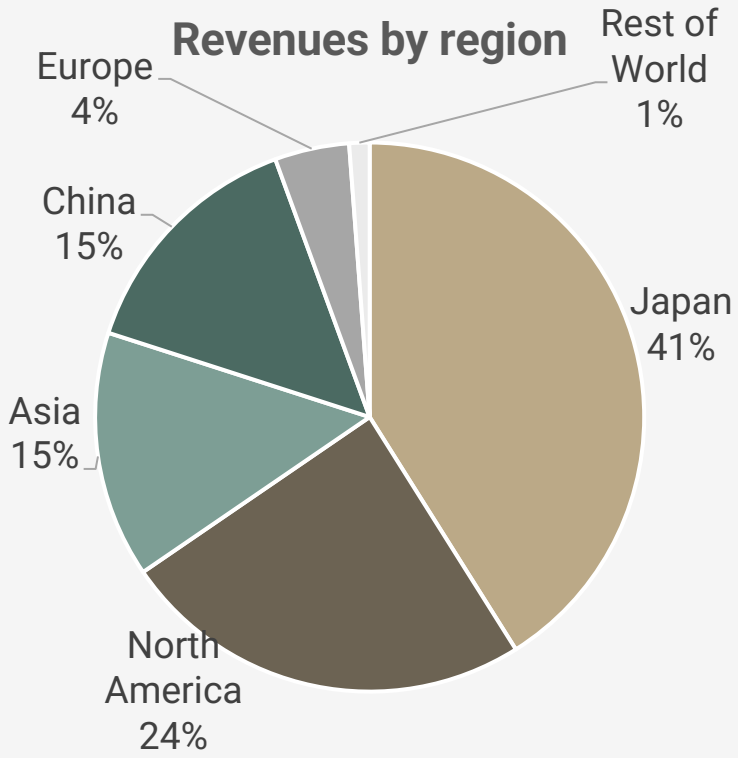
* JPY = Japanese Yen. JPY/USD = 144.7

Business overview

- Koito Manufacturing (“Koito”) is the world’s largest supplier of automotive headlights, with a 20% market share. It also has some exposure to aircraft-related lighting products.
- The company is affiliated with Toyota, which represented roughly 1/3 of sales pre-COVID. Roughly 2/3 of sales are to Japanese OEMs.
- A key driver of Koito’s is the increased adoption of LED headlamps as well as increased adoption of adaptive driving beams (ADB). The next driver of growth could be lighting technology combined LiDAR for use in advanced driver assistance systems.

Koito produces automotive lighting for a large variety of automakers around the world





Source: Bloomberg

Introduction to automotive headlamps

Halogen headlamps

- Incandescent lamp with a small amount of a halogen such as iodine or bromine added to extend its life
- Old technology

High-intensity discharge (HID)

- Greater luminance and luminous flux than traditional halogen bulbs.
- Also known as “xenon” lights
- More expensive than halogen lamps.

LED headlamps

- As much luminosity as HID
- A fraction of the power consumption of halogen
- Longer length of life
- More flexible design
- Thinner
- Turn on instantly

1. Koito's automotive lighting segment

- Koito's mainstay business are its head-lamps ("HL"), which are the front lights of passenger vehicles. It was the first company to commercialise LED headlamps in 2007.
- Koito also produces rear-combination lamps ("RCL") for passenger vehicles with similar technology.
- Additional lighting products are also sold, including fog lamps, emergency lights and cargo lamps

2. Koito's aircraft lighting and related products

- Koito's transportation equipment business is centred around lights used for aircraft and trains.
- When it comes to interior lights, it produces ceiling lights and sidewalk lights for aircraft, exit door indicator lights, "fasten seat belt" or "no smoking" warning signs, as well as individual reading lights for the passenger seats.
- Exterior lights for aircraft are primarily LEDs used for safety and warning purposes, including landing lights, taxi lights, rescue-search lights, navigation lights, anti-collision lights, etc.
- To a lesser extent, Koito also produces cockpit indicators which are electronic and distinct from the mainstay light business. An example is Koito's anti-icing heater control device, which is used to measure and control wing ice.
- Koito also produces control sticks for aircraft and landing gear-controllers
- In other industries, it's also involved in producing marine lamps used for safety purposes and programmable LED signs used to display bus routes.

Koito has production plants all across the world

Koito's corporate history

- Koito Manufacturing was founded by a man called Genrokuro Koito in Tokyo in **1915**. Its business was related to selling fresnel lenses for railway signal lamps.
- After almost two decades in the railway lamp business, Koito entered the motorcycle lamp business in **1932** and for four-wheeled vehicles in **1936**. The first client was the predecessor of Toyota, which was the start of a long and fruitful relationship.
- In **1975**, Koito developed jet-type headlamp washers, to remove dust from front-side lamps
- The first Koito halogen lamp for passenger vehicles was developed in **1978**, a few years after they became standard in the US and Europe.
- In **1981**, Koito developed plastic lenses to improve heat resistance and molding accuracy, for better aerodynamics.
- In **1989**, T. Boone Pickens went activist against Koito Manufacturing, hoping to unlock hidden value in the balance sheet. He was unable to get a board seat and ultimately gave up on the campaign.
- So-called discharge headlamps were developed in **1996**, with better light intensity and contribution to better fuel economy.
- In **2007**, Koito commercialised the world's first LED headlamp.
- In **2010**, a subsidiary of Koito that produced aircraft seat was found to have falsified test results, leading to a reputation loss for the company and a large product recall.
- The first adaptive driving beam was produces in **2014**, capable of switching between high beam and low beam within a single LED.

T. Boone Pickens' 1989 frustration with Koito Manufacturing

"Three years ago I purchased a 26 percent interest in Koito Manufacturing, a large Japanese auto-parts maker.

At the time, I knew little of the keiretsu system, but I saw an opportunity to profit and, at the same time, help the company move into the global marketplace.

My goal as largest stockholder was to gain a seat on Koito`s board of directors. I naively thought it was a reasonable request, since Koito`s second-largest shareholder, Toyota Motor Co., was awarded three board seats for its 19 percent ownership stake.

Wishful thinking on my part. Despite a 2 1/2-year effort, the Japanese denied what in American corporations is considered a right."

- T. Boone Pickens, 1992

Koito's 2010 airline seat incident

- In 2010, it was revealed that Koito's then-50% owned subsidiary Koito Industries had falsified test results for airline seats submitted to Japan's Ministry of Land, Infrastructure, Transportation and Tourism.
- The whistleblower was a supplier to Koito, who warned regulators that Koito's seats may not be compliant with safety standards across both fire hazards and impact protection.
- 150,000 seats in 1,000 Airbus and Boeing plans had to be recalled.
- Koito suffered a reputational loss, and also future business as some airlines banned Koito seats. Koito itself set aside US$44 million to cover potential claims for damages.
- More information in a 2010 New York Times article here.

I.H.T. SPECIAL REPORT: AVIATION

Fallout Over Seat-Safety Inspections Leaves Airlines in Limbo

Give this article

By Christine Negroni
Dec. 6, 2010

TOKYO — The two aviation safety inspectors supervising Koito Industries put in long days. "We often work late. We leave the office at 11 p.m.," said Takayuki Sakai, an airworthiness engineer at the Japan Civil Aviation Bureau.

Their 14-hour days are unlikely to end anytime soon. Mr. Sakai and his partner are assigned to help undo the damage caused when Koito, a large manufacturer of airplane seats, lied about the safety of its products.

At a news conference last Feb. 9, the chief executive of Koito apologized and said the company had falsified test data because it feared it might otherwise fail to keep to its delivery schedules.

The revelation of Koito's fraud grounded airliners around the world and prompted European countries and the United States to issue new seat inspection rules that could further interrupt business well into the next decade.

Not much is known about Koito's management team, but Chairman & CEO Masahiro Otake has been holding the reins for over 15 years

Masahiro Otake, age 75

- Masahiro Otake has in his current position of Chairman & CEO since 2015.
- But he's been effectively running the business in the position of President since 2007.
- Otake joined Koito in 1977 and has worked his way up the ranks.

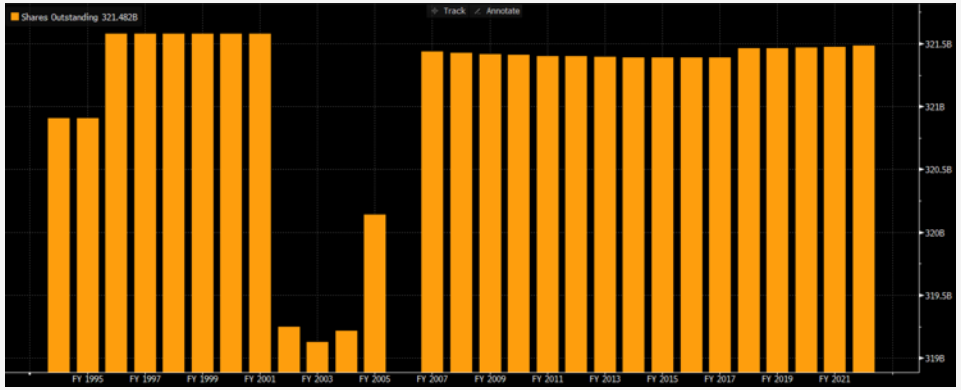
Michiaki Kato, age 63

- Michiaki Kato has been COO since 2021.
- He's also been with Koito for many years, having joined in 1982.
- He worked his way up by being general manager of the overseas (US / European) business since 2004.

Capital allocation and corporate governance

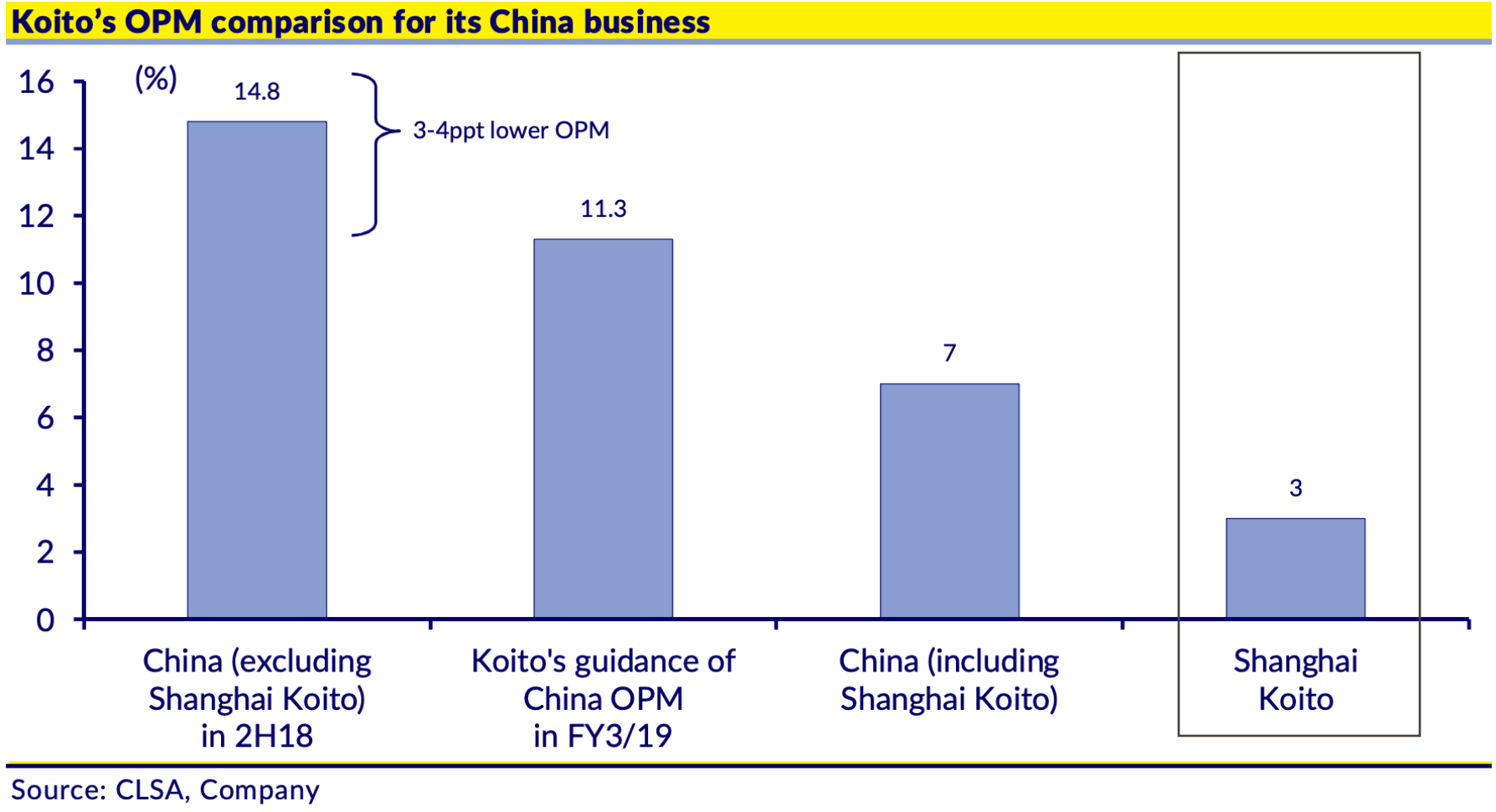
- Koito's acquisitions have mostly been related to advancing its ADAS-related headlamp offering:
  - A minority stake in Cepton Technologies for US$50 million in 2020, in order to produce LiDAR-equipped headlamps for its customers.
  - 37% stake in Israel's ADAS camera manufacturer BrightWay Vision for US$24 million.
  - But it also acquired acquiring the remaining stake in transportation equipment maker KI Holdings in Japan for US$84 million and also purchased India Japan Lighting Pvt for US$21 million to gain greater exposure to the Indian market.
- The major divestitures that have taken place include:
  - Shanghai Koito Automotive Lamp to Huayu for US$232 million. It's unclear what motivated this divestiture since it empowered a key competitor to Koito in the Chinese market.
  - A minority stake in Innovative Hightech Lighting Corp to Hyundai Motor back in 2007.
- The share count has been broadly flat for Koito, with the only share buyback having taken place in 2001, consisting of 1.16 million shares, a small percentage of the total then-outstanding shares of 322 million. I don't expect major dilution in the future.

Source: Bloomberg

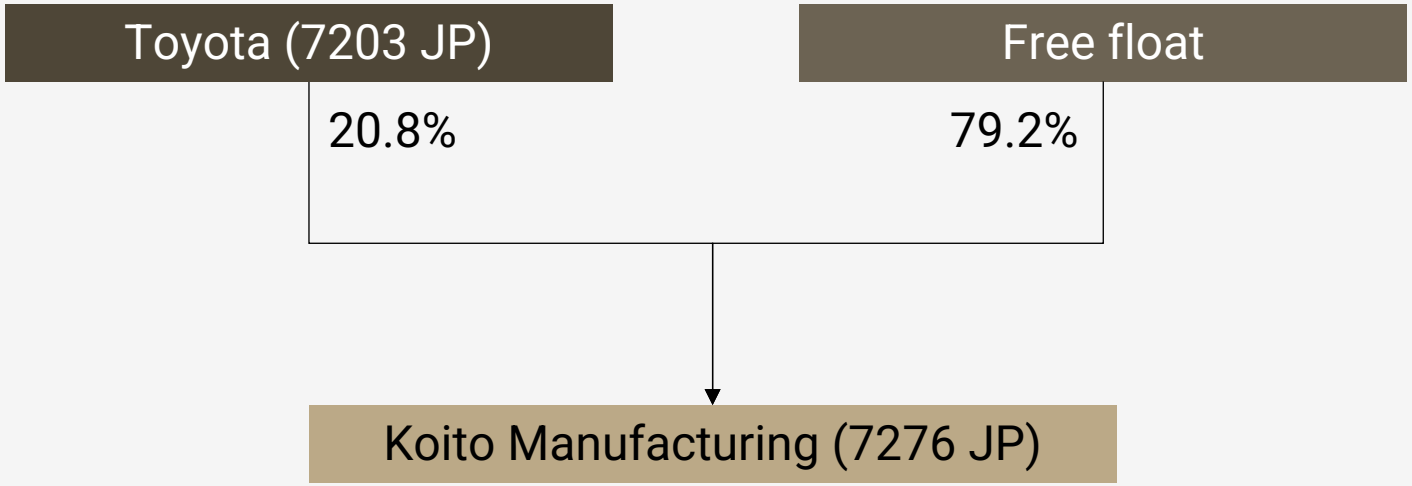


Source: Bloomberg

Shanghai Koito was not particularly profitable prior to Koito's divestiture of it. But the divestiture might have benefitted competitor Huayu.

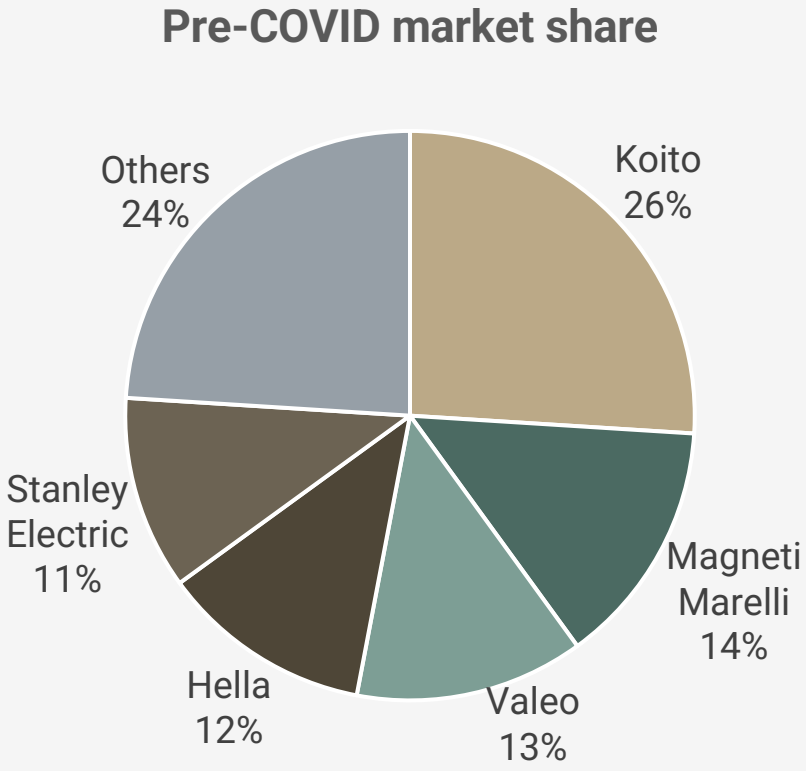


The corporate structure is simple with Toyota as the largest shareholder… even though it's technically not considered part of the Toyota keiretsu



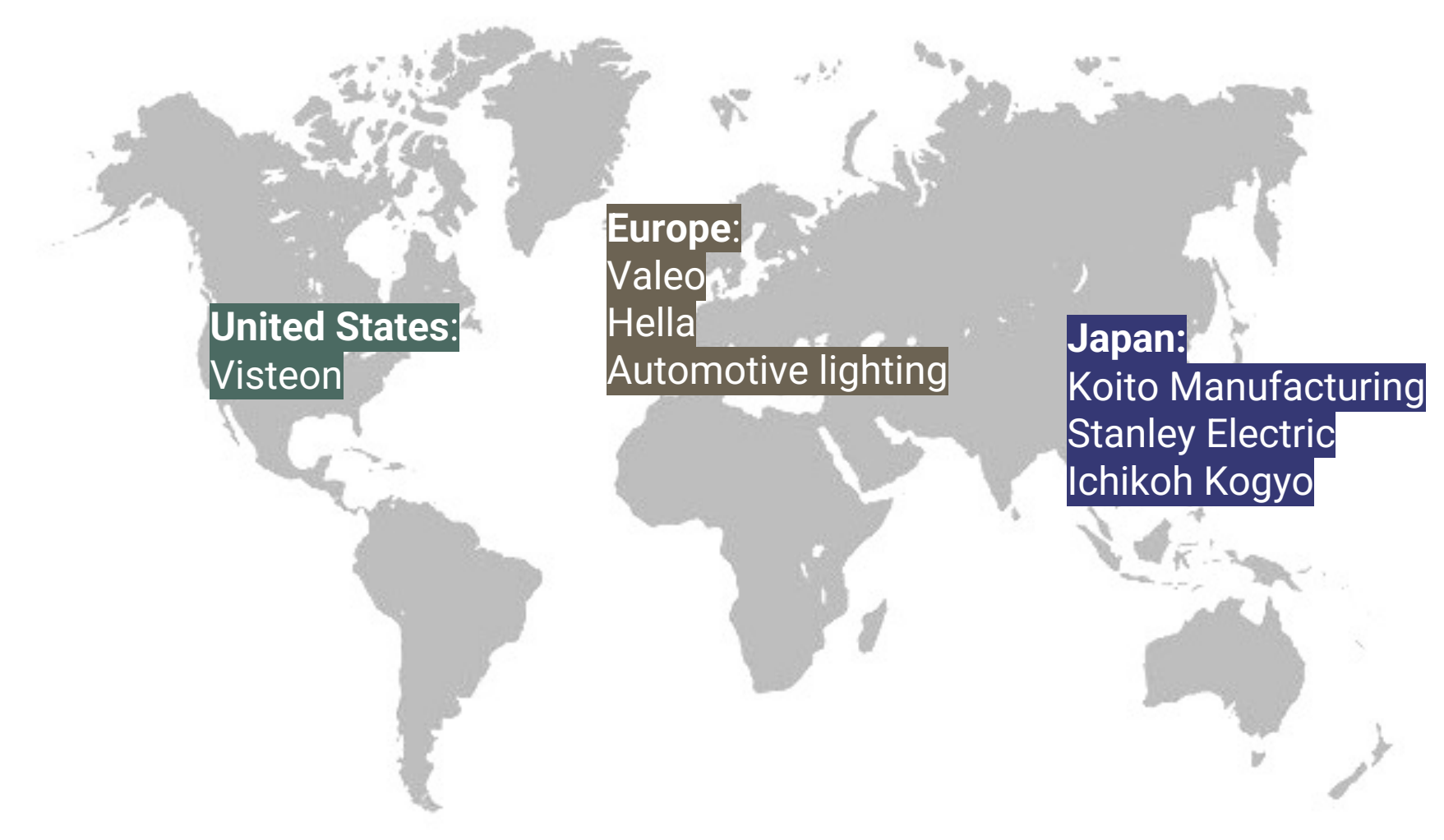
Koito's global reach may help it cement its market share

- When OEMs decide on headlamp suppliers, a key differentiating factor is the ability to supply for a single model globally. Therefore, the automotive lighting industry tends towards an oligopoly where each supplier has a global reach.
- Once a model has been launched, the switching costs are large, creating stability in earnings and perhaps bargaining power on the part of Koito.
- Koito has strong R&D capabilities. It was a frontrunner when it came to commercializing LED headlamps. It's also ahead in commercialising adaptive beam driving systems.
- You could also argue that Koito has an advantage of being a Japanese company. Japanese companies are renowned for their manufacturing excellence and focus on continuous improvement ("kaizen").
- While Koito apparently has internal LED chip supply, it's also known to have purchased from third parties (e.g. from Nichiya), which exposes it to vulnerability.



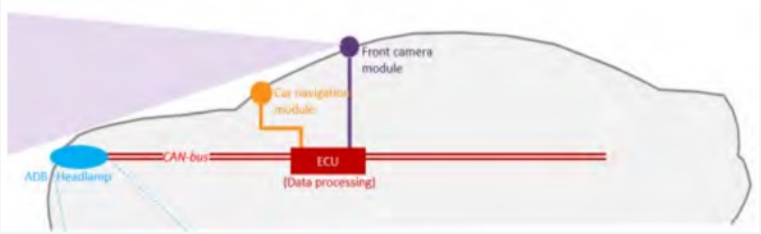
Source: CLSA

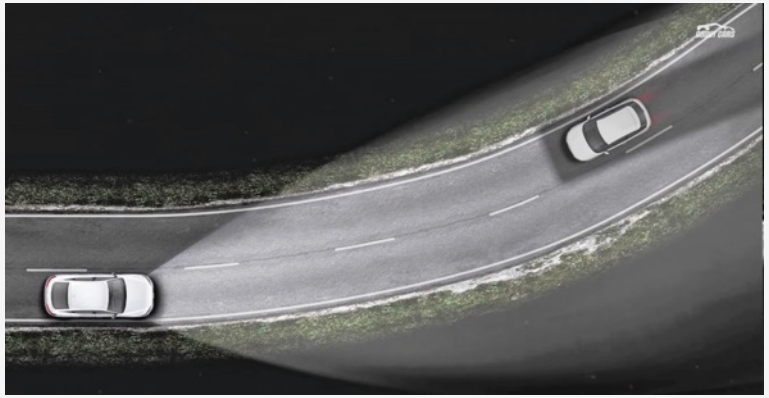
The competitive landscape for automotive lighting products. Each primarily serving OEMs in their respective regions… but not exclusively



Adaptive driving beams (ADB)

- Historically, vehicles have been equipped with low beam (light close to the road) and high beam (lighting all surroundings). Each lightbulb would have a single function and each headlamp would have to separate lightbulbs.
- In contrast, “adaptive driving beams” use sensors (cameras) to detect the positions of other vehicles, pedestrians and obstacles.
- Since adaptive driving beams use LED lights, they can shut out individual LEDs in the lamp in a millisecond. That enables the lamp to target specific parts of the road in a continuous fashion.
- The main purposes of adaptive driving beams are:
  - Avoiding blinding other drivers by turning off the light selectively
  - Highlighting pedestrians as they enter the road
  - Highlighting potential lane changes
  - Shifting lit areas to a longer, more far-away range as you speed up
  - Dim the light as you approach road signs to avoid excessive reflections
- Adaptive driving beams were illegal in the US up until 2021 as regulations caught up with innovation in the industry.

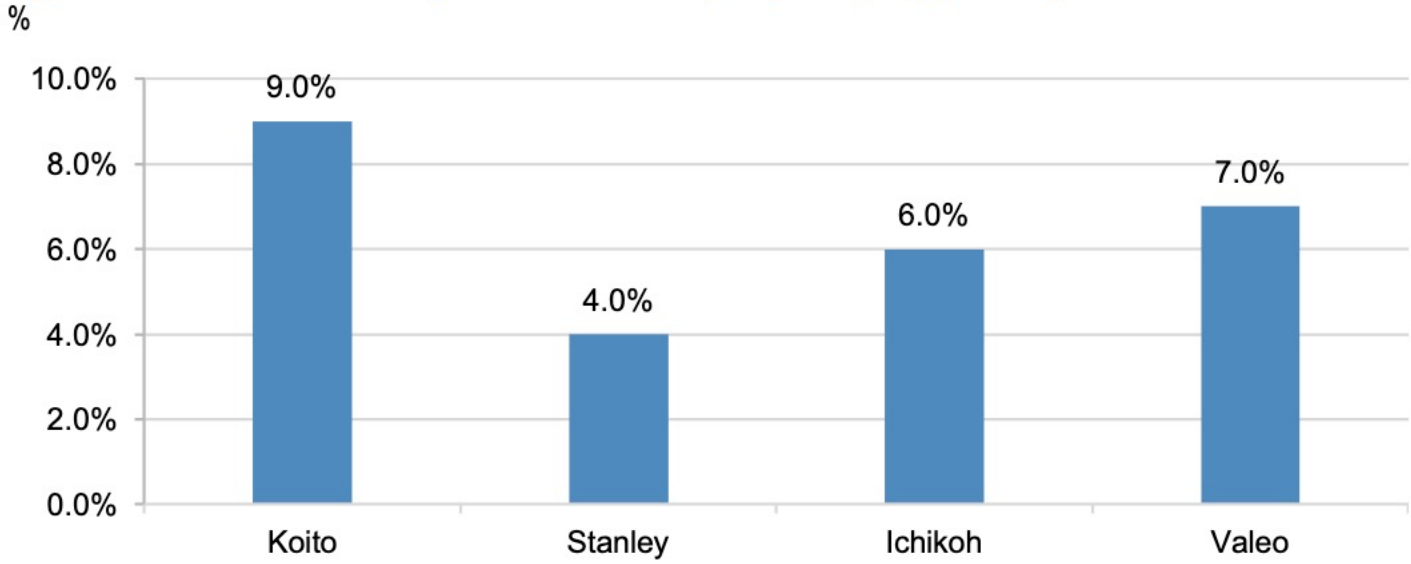




The difference between old tech headlamps vs adaptive driving beams

Koito is the global leader in adaptive driving beam sales

Figure 24: ADB as a Percentage of LED Headlamps by Company (FY2019)

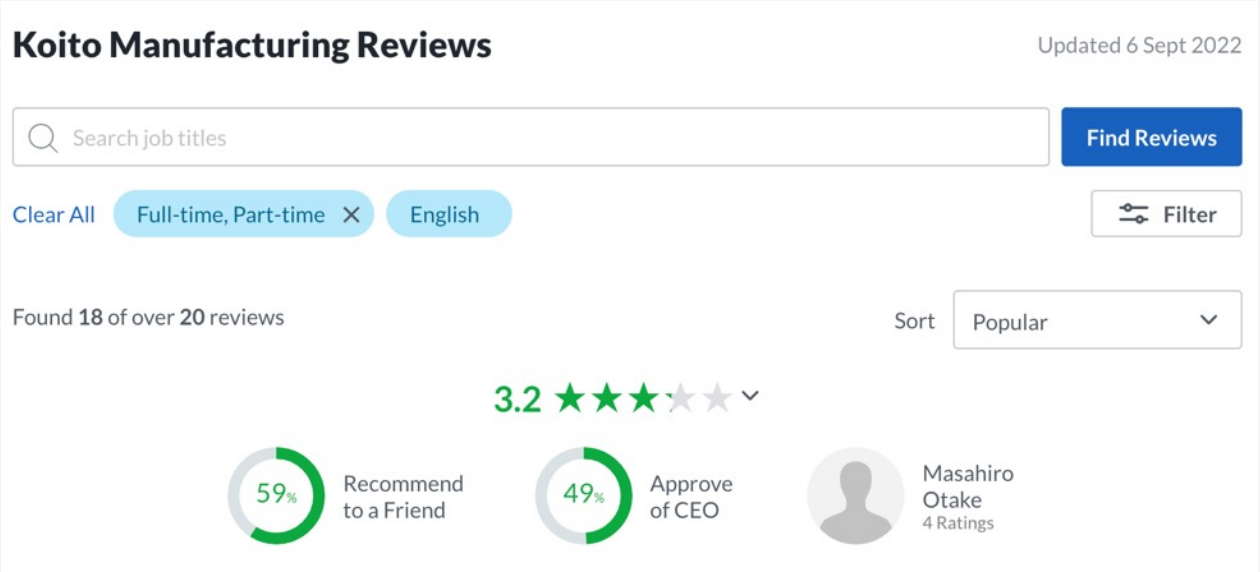


Source: Company data.
Note: ADB penetration rate as a percentage of all LED headlamps

Source: JP Morgan

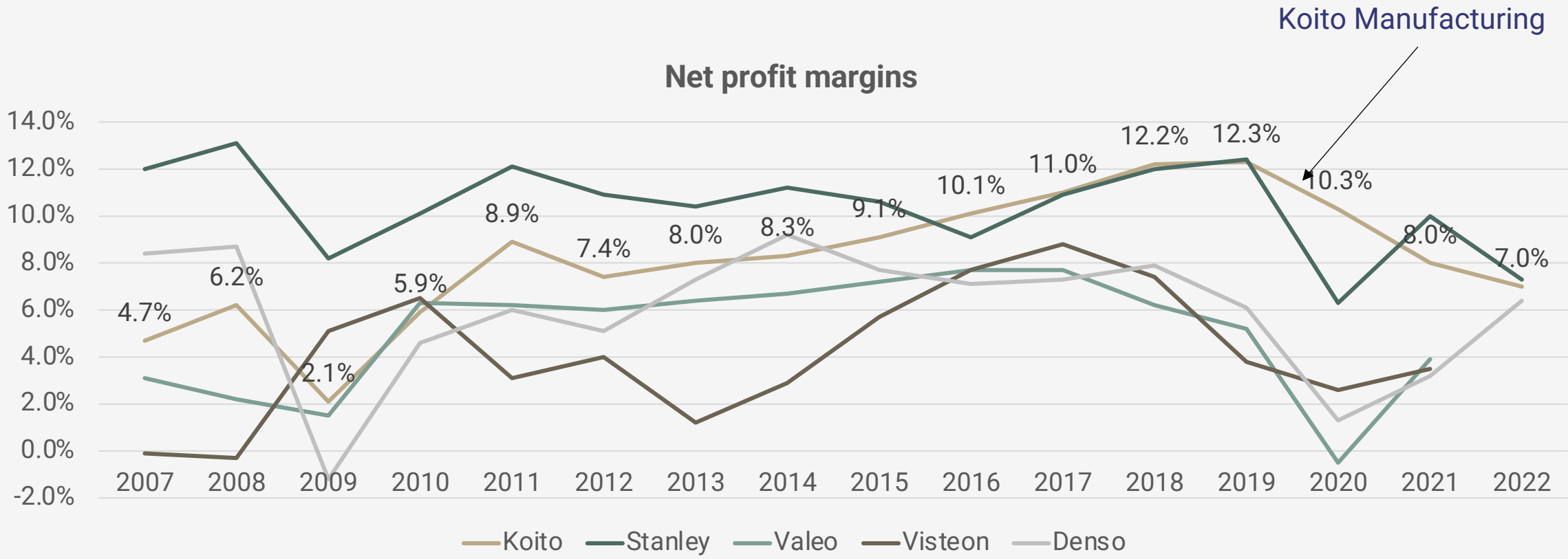
Glassdoor reviews for Koito are acceptable with an overall score of 3.2/5.0… typical Japanese top-down management with discipline

- *"The staff and management [treated] with respect"*
- *"I got chance to worked with lighting Experts .&leader in lighting"*
- *"Promotions are not based on competence but on personal relations."*
- *"May not be for anyone who dislikes Japanese-style work culture."*
- *"Most benefits bias towards Japanese only"*
- *"Huge benefits, the relation between junior and senior are great"*
- *"Kaizen training, great hourly pay, good bonuses and benefits"*
- *"Language gap, most of them usually use Japanese language, it might be challenging for foreigners who don't speak Japanese."*
- *"Huge benefits, the relation between junior and senior are great"*



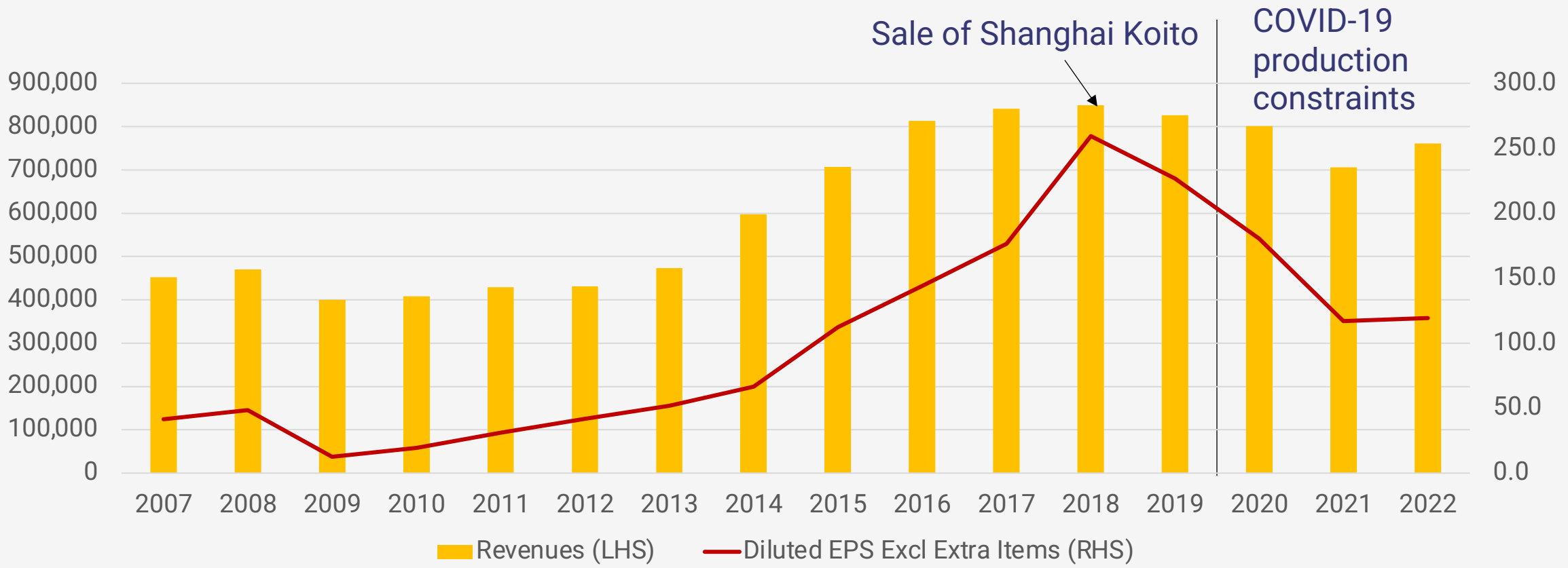
Source: Glassdoor

Lighting manufacturers enjoy high margins compared to the broader auto parts sector. Koito's 2015-2019 margins benefitted from a weak Yen.



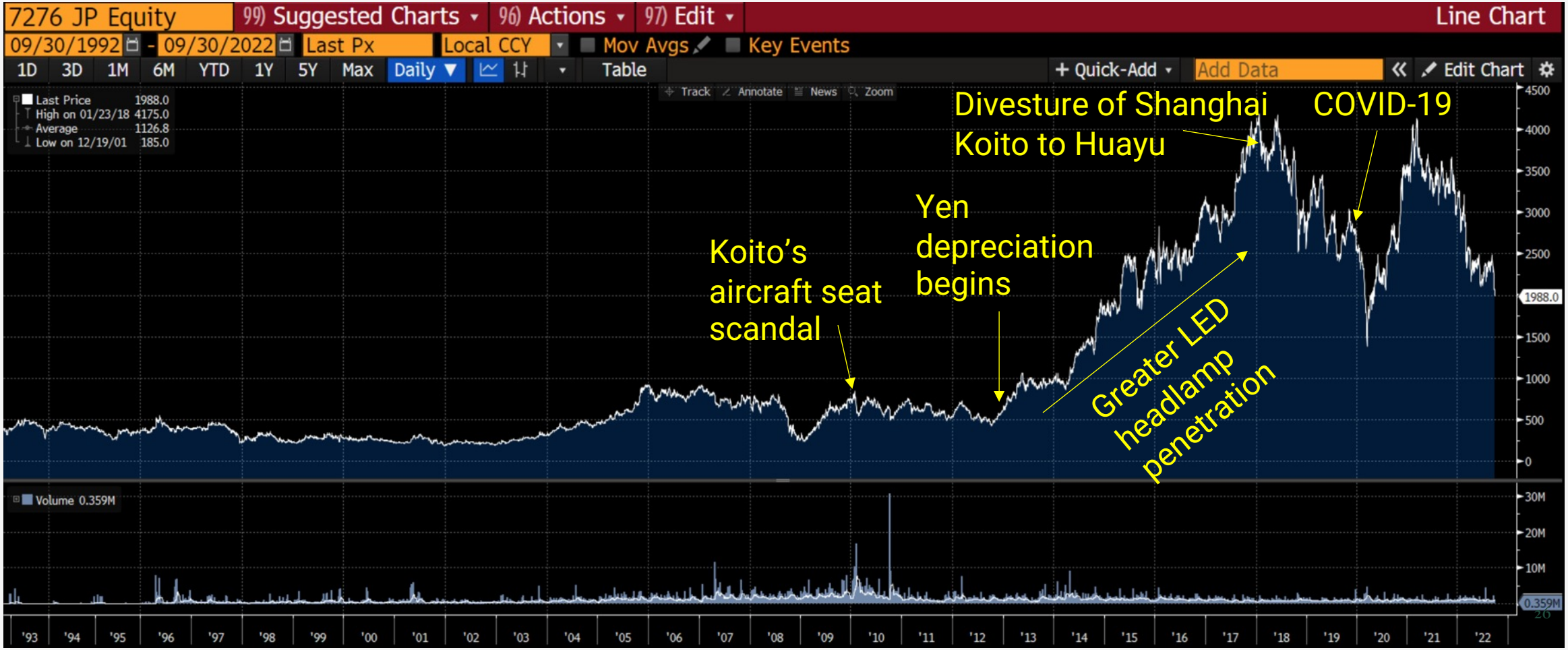
Source: TIKR

Koito's sales peaked in 2018 and has been weak during COVID-19



Source: TIKR

Koito's share price has come off since 2018, partly due to weakness in the Chinese market as well as the chip shortage during COVID-19



Source: Bloomberg

The stock is down because of chip shortages and rising raw materials costs… and despite the tailwind of a weakening yen

- Koito has been beset by analyst downgrades over the past year, with the following justifications:
  - *"Koito Mfgr revised down its original 1H guidance by JPY 11 billion for sales and JPY 9 billion for operating profit. The main factors reducing operating profit were the **decline in auto production volume**, losses accompanying the sharp drop in output, and **high commodity prices**"* – Mizuho, August 2022
  - *"Koito Manufacturing's profit recovery in fiscal 2023 ending March may continue to be affected by headwinds -- such as **auto-output cuts** and **higher input costs**, **lockdowns in China** and ramifications of the Russia-Ukraine war -- **more than offsetting the tailwind of a sliding yen**."* – Bloomberg July 2022
  - *"**We do not expect guidance to be attained without a recovery in auto output volume** and some **effects from price hikes**. The market consensus view may fall further for the time being, and we do not expect the share price to rally until domestic profitability is visibly on the mend as productivity improves and the effects of price hikes are confirmed."* – JP Morgan, July 2022
  - *"We expect Koito to miss in 1QFY3/23 as weaker volume and higher fixed costs amid production adjustments further erode profitability, on top of limited price pass-through in 1H. We believe Ford's recent sales and production to be positive for Koito but still expect **slow margin improvement as the overall market suffers under chip shortages**. We cut out 1Q operating by 15% to ¥13.0bn, 11% below consensus. We also lower our EPS forecasts for FY3/23 by 9% and FY3/24 by 3% as the **weaker business environment delays adaptive driving beam penetration** in USA."* - CLSA, July 2022

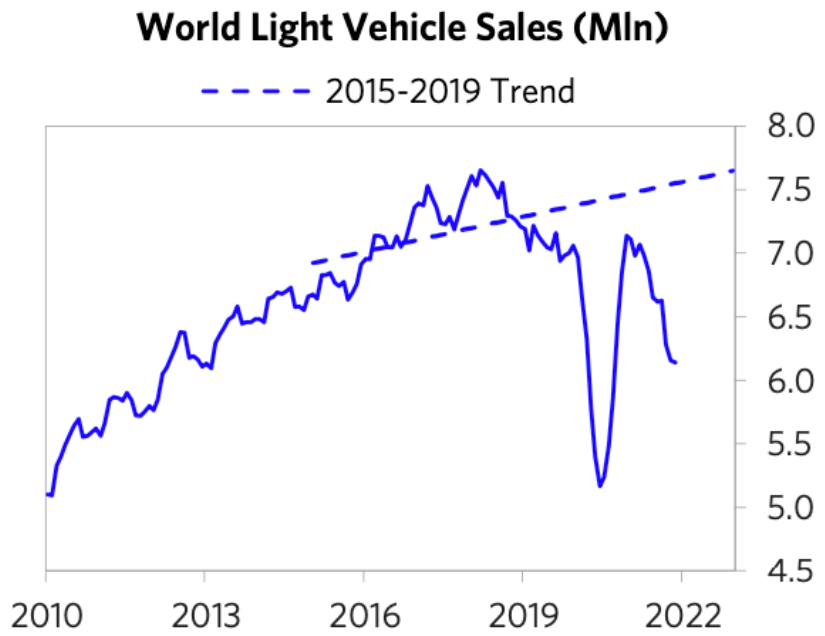
Source: Bloomberg

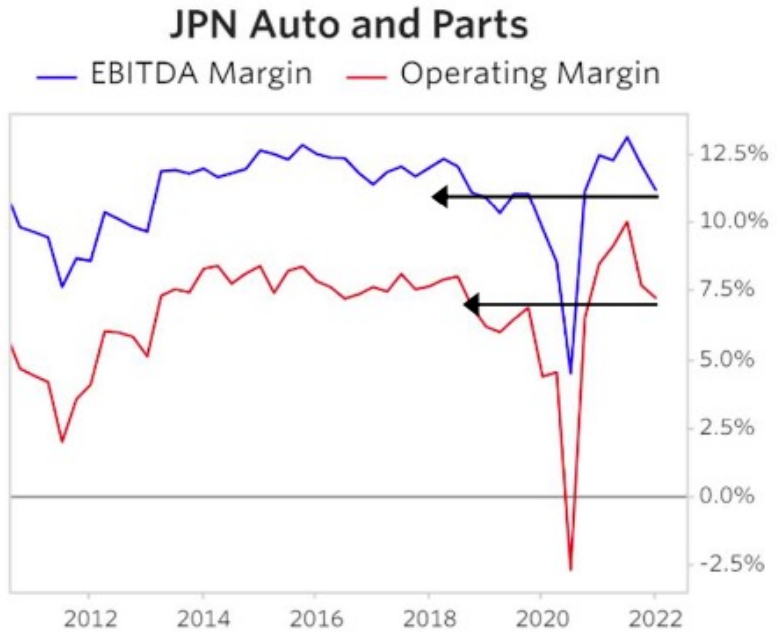
Long-term industry trends

1. Global auto sales volumes peaked right before the pandemic and has been weak since. The primary culprit are production constraints, specifically in terms of semiconductor chips for automotives.
2. Electric vehicles have become more popular, much thanks to government subsidies and other regulation. But any potential shift from ICEs to EVs will not affect the automotive lighting business materially.
3. LED headlamps are taking share from halogen. There are a few drivers of this shift:
   - The manufacturing of LED lamps is different and allows for more flexibility in design. Car manufacturers want their designs to be unique, and LED allows for greater distinctiveness in the design, both in terms of the form factor and the colour.
   - The shift to EVs puts a greater focus on power efficiency and LED headlamps are superior in this respect
   - The fact that individual LED lights can be turned off dynamically enables adaptive driving beam technology to be used.
4. Adaptive driving beams are likely to take share from conventional LED headlamps, due to improved safety and convenience. The global ADB penetration rate is only about 10% and ADB-enabled headlamps enjoy 30% higher prices, with Blade Scan ADBs having 50-100% higher ASPs.
5. Commodity prices have risen significantly since COVID-19, including for resin, putting pressure on input costs for automotive parts suppliers, whose contracts have been slow to adapt to the new environment. High gasoline prices have also arguably reduced the demand for autos.

World auto production has been suffering from a chip shortage. Auto OEMs saw their margins expand but parts makers more tied to volumes.

Auto production has been hampered by supply issues; pent-up demand has been building

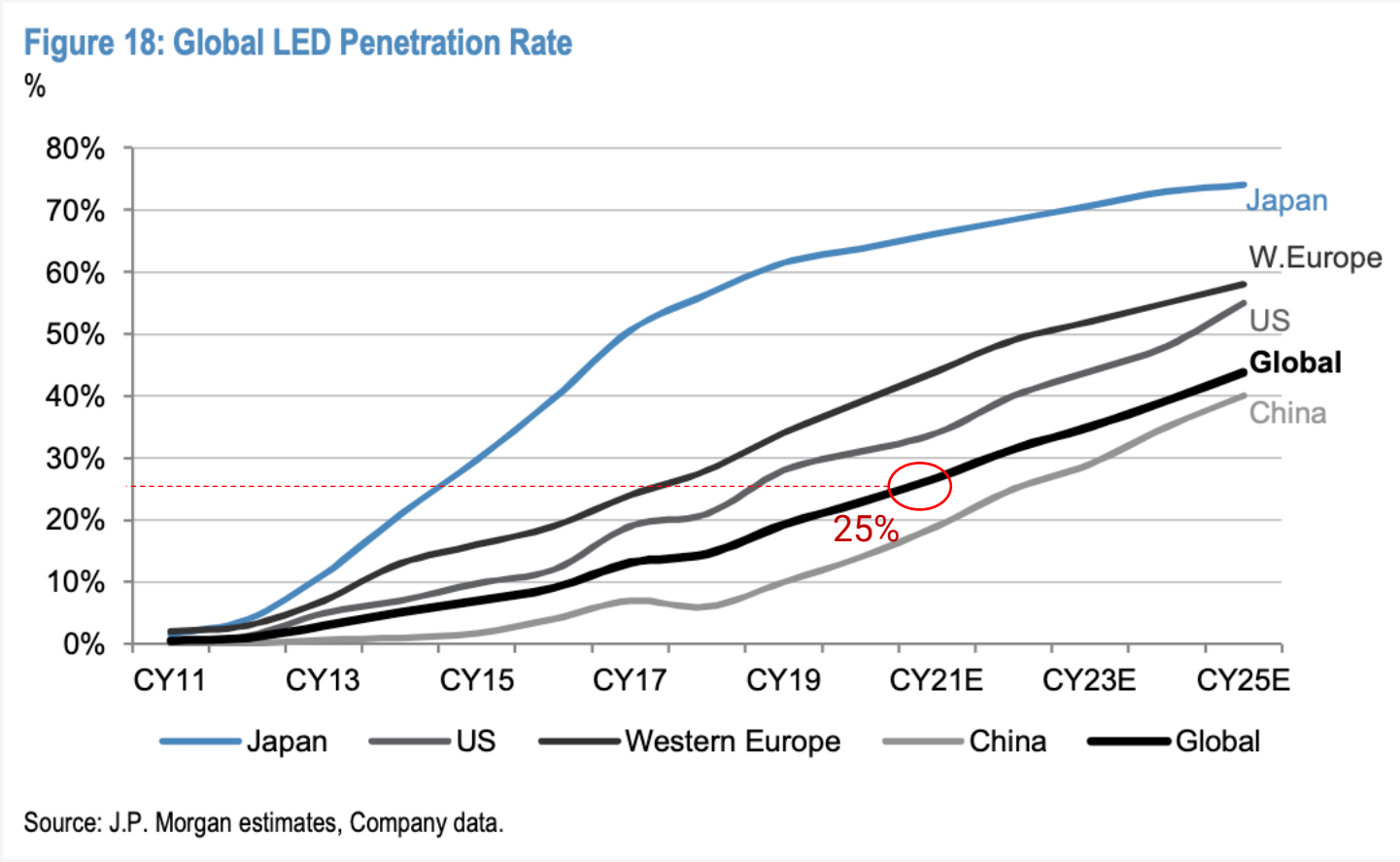




Despite the decline in units sold, price increases have been enough to support margins

Source: Bridgewater Associates

The global automotive LED headlamp penetration rate is still only 25%… though Koito is already at ~50% at this point



Source: JP Morgan

The Bloomberg Commodity Index (energy, grains, metals, agricultural commodities) is close to a 5-year high

Source: Bloomberg

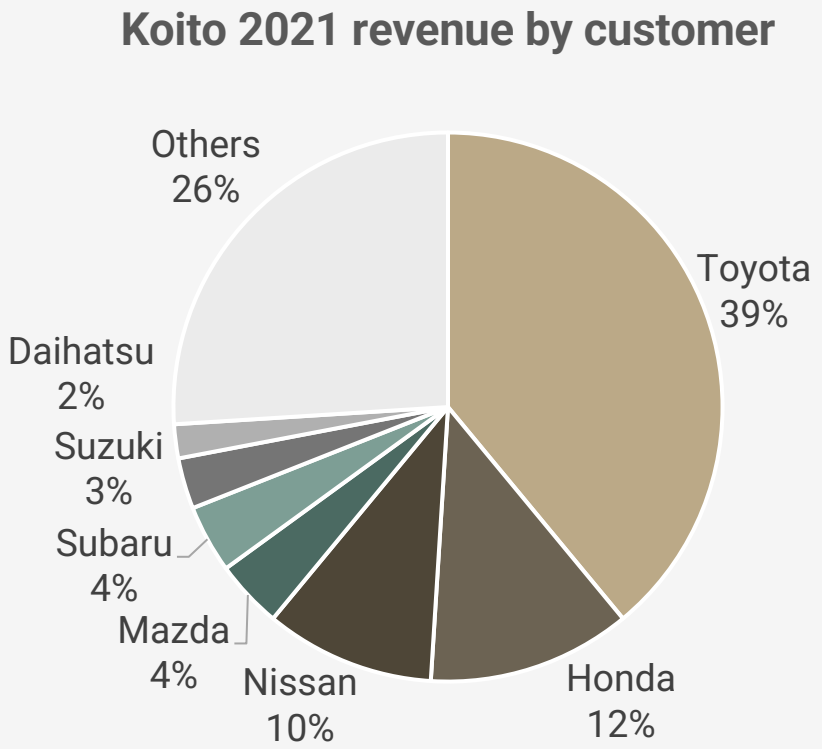
What will change for Koito in the future?

1. **Weak yen improving reported numbers**: The weak yen should in theory benefit Koito due to a translation effect since 60% of revenues are from overseas. Roughly half of Koito's manufacturing takes place in Japan, meaning that there might be a certain margin expansion from a weaker yen as well. Then then yen should also improve the competitiveness of Koito's Japanese customers, which represent roughly 2/3 of revenues. The very near-term picture is more fuzzy, since a weaker yen gives rise to higher raw material costs and some contracts are priced in Japanese yen. But longer-term, a weaker currency is unequivocally positive for Koito. In the past, Koito has estimated about a JPY 0.3 billion benefit from every JPY 1 depreciation in the JPY/USD exchange rate, which would imply an almost 10% improvement to pre-COVID pre-tax profit as the exchange rate has gone from 115 to 145.
2. **Semiconductor shortage easing**: There are now early signs that the semiconductor chip shortage is finally easing. The competing demand for semiconductors in consumer electronics is falling off a cliff. Lead times for semiconductor chip orders started to drop in July 2022. Malaysian chip exports have started to rise in 2022. US and European auto production ticked up a bit in 2Q2022.
3. **Adaptive driving beams**: In February 2022, the US Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finally allowed automakers to install adaptive driving beam headlights on new vehicles. Koito has been producing adaptive driving beams since 2012 but they remain a small share of the total at just 5%, partly because of regulatory problems. Koito's management team believes that 25% of headlights will feature the technology by 2025. These adaptive driving beam headlights carry higher ASPs than their LED counterparts and should be earnings accretive. As ADBs are 30% more expensive than LED headlamps, US sales grow in the double digits for a few years from this shift alone.
4. **LiDAR**: New products and technologies such as lidar, which is slated for introduction in 2023 under its collaboration with US- based Cepton Technologies. LIDAR sales to start up from 2023 onwards. Headlamps are one of the ideal positions to install LiDAR as a core sensing device in ADAS and autonomous driving, and we therefore think Koito's strategy of increasing its products' value- added by incorporating LiDAR into its headlights is easy to justify.
5. **Guidance**: Management is guiding for FY2023 operating profit of JPY 67 billion, but has been using a JPY/USD assumption of just 115.

The Japanese yen has weakened against the US Dollar

Source: Bloomberg

Almost 75% of Koito's customers are Japanese OEMs. The weak yen should make Koito's customers more competitive.



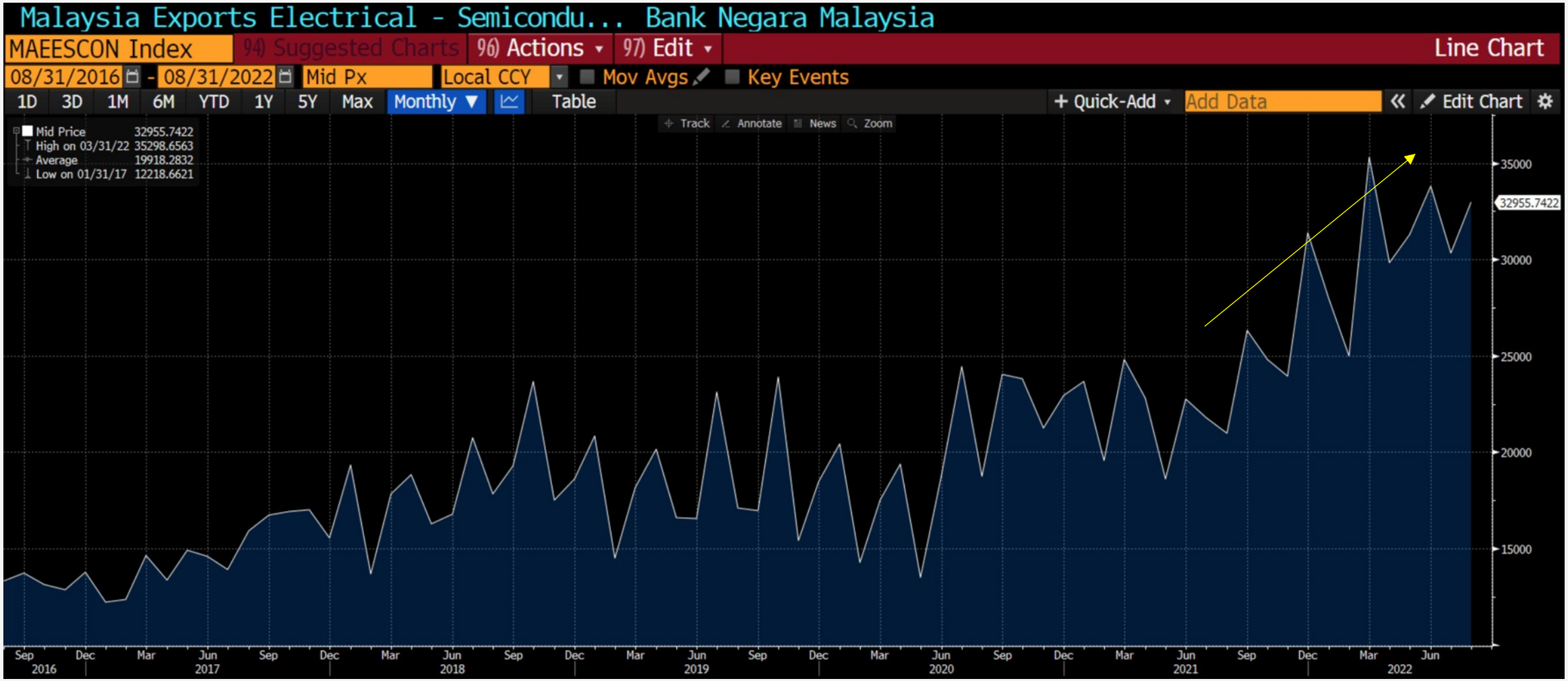
Source: Bloomberg

The chip shortage is clearly easing now that the demand for consumer electronics has

- *"… rapid build-up in inventory in the chip supply chain since early this year. Compared with February, when there were enough chips on hand to support about 1.2 months of production, global inventory levels jumped to 1.4 months in June and then 1.7 months in July"* - VLSI Research.
- *"New-vehicle inventories [in the US] have been increasing and are at their highest level since the computer chip shortage began in June 2021. Still, subcompacts, hybrids and EVs are in low supply largely due to elevated gas prices."* - Rebecca Rydzewski, Cox Automotive

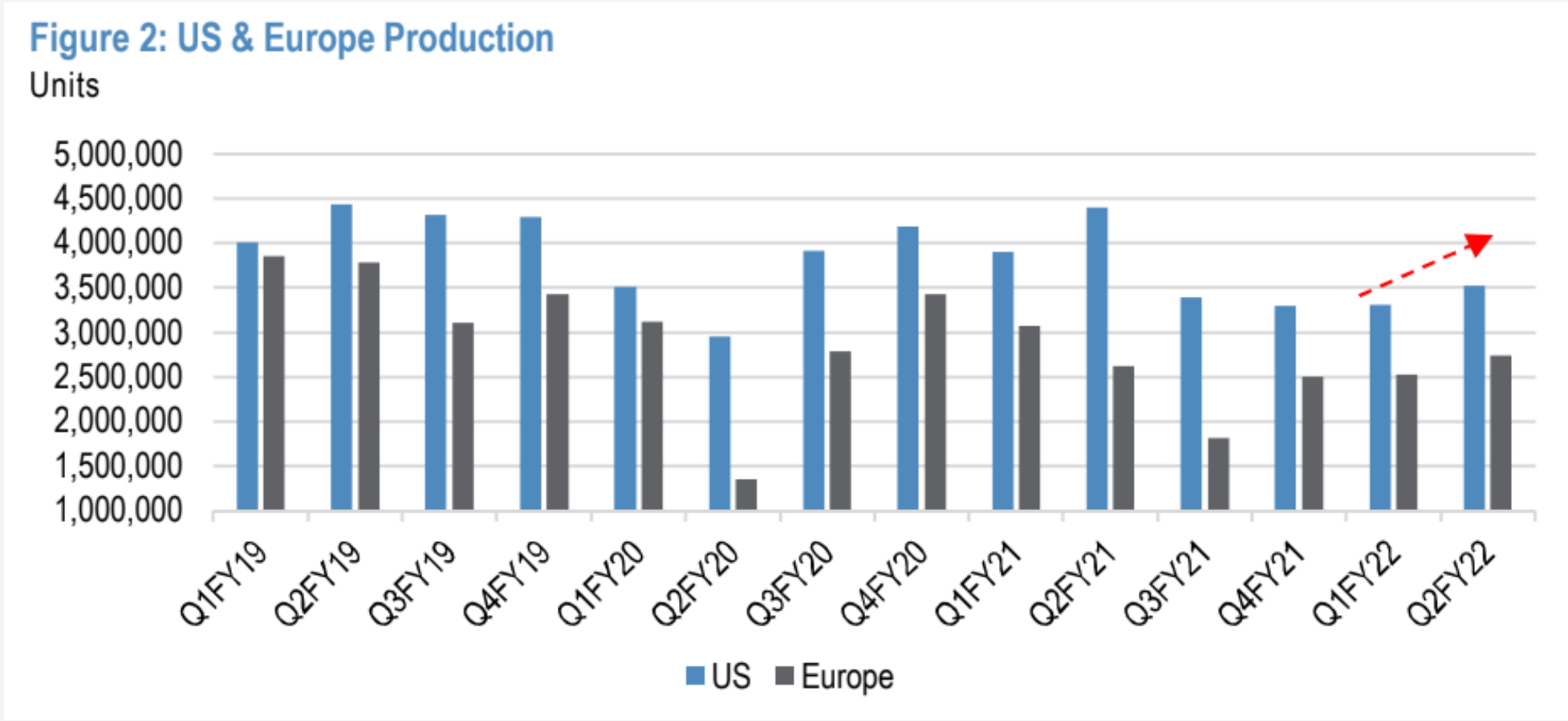
Source: Bloomberg

An increase in Malaysian chip exports suggest greater supply of trailing-edge semiconductor chips in 2022



Source: Bloomberg

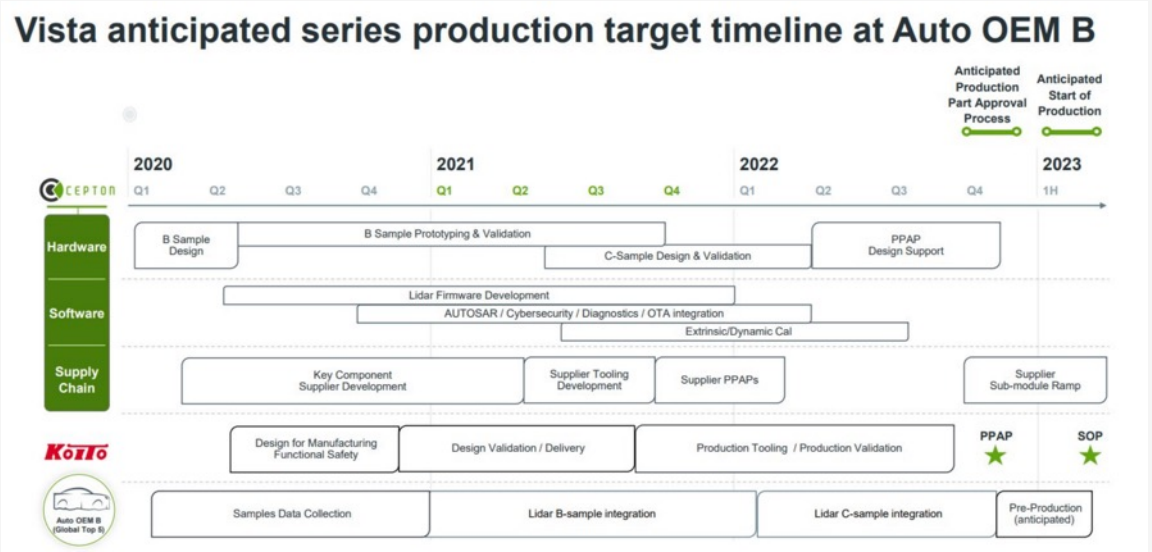
A slight uptick in US and European auto production in 2Q2022

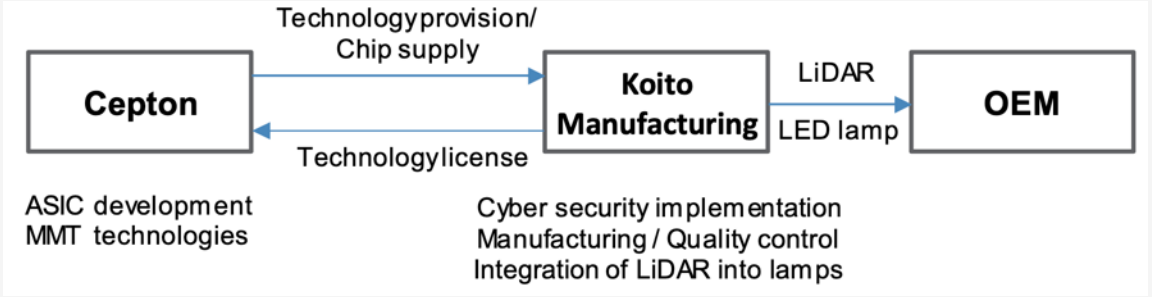


Source: JP Morgan

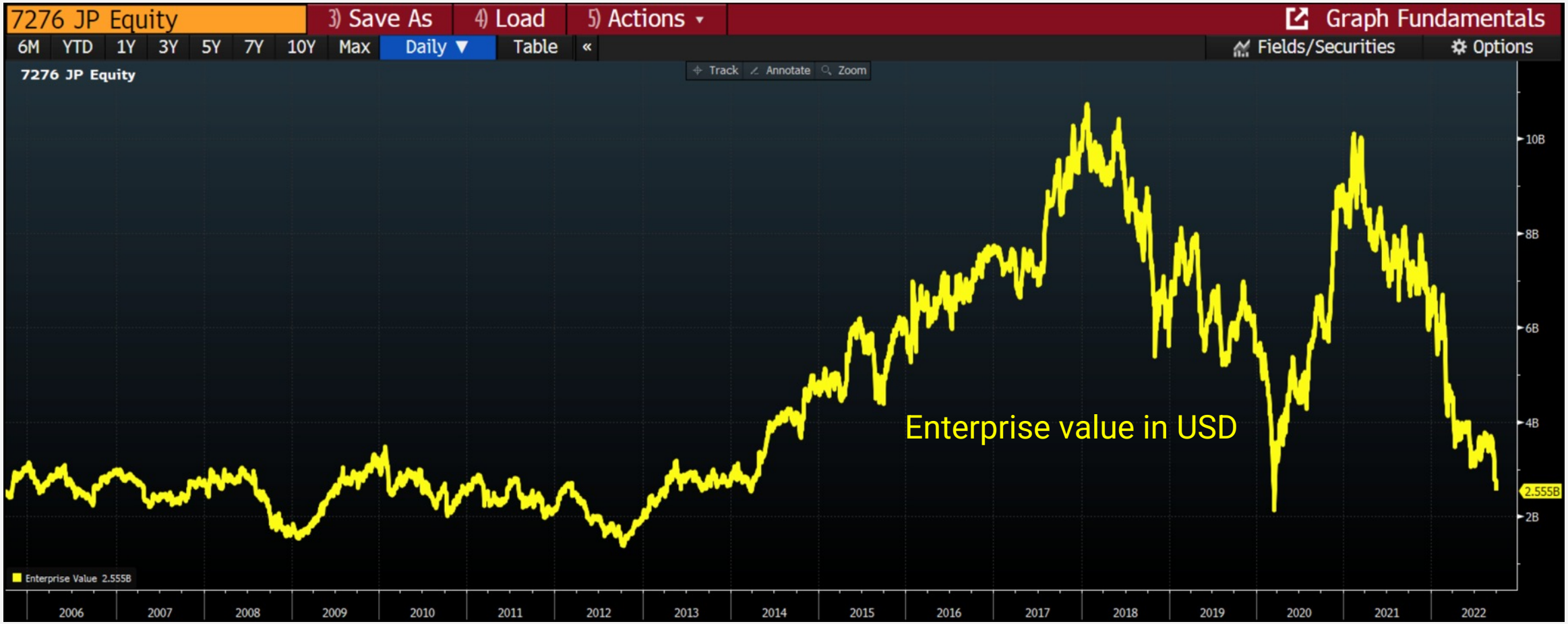
Koito is building lamps with built-in LiDAR sensors

- Koito has co-operation with a number of start-ups within the LiDAR industry, including Cepton, BrightWay Vision and Quanergy.
- LiDAR are used to map the environment to enable the vehicle to respond to obstacles dynamically. LiDAR emits laser wavelengths of 905nm, using time of flight detection to measure distances up to 200 metres.
- While the headlamp itself does not benefit from LiDAR sensors, they are typically placed within headlamps to protect them from dust, dirt and water.
- The most promising of these start-ups is Cepton, which is a specialist LiDAR technology company founded at Stanford in 2016. It focuses on level 2/3 ADAS rather than autonomous driving, which it sees as unrealistic in the foreseeable future. Instead, LiDAR sensors are used for to improve vehicle safety.
- Under the contract, Cepton provides ASICs to Koito, which will then produce the manufacturing of the physical sensor, the cybersecurity software, integration into the headlamp and sales to the OEM.
- Cepton and Koito won a contract from GM in July 2021 and production under that contract will start in 2023, starting with 80-100,000 units.



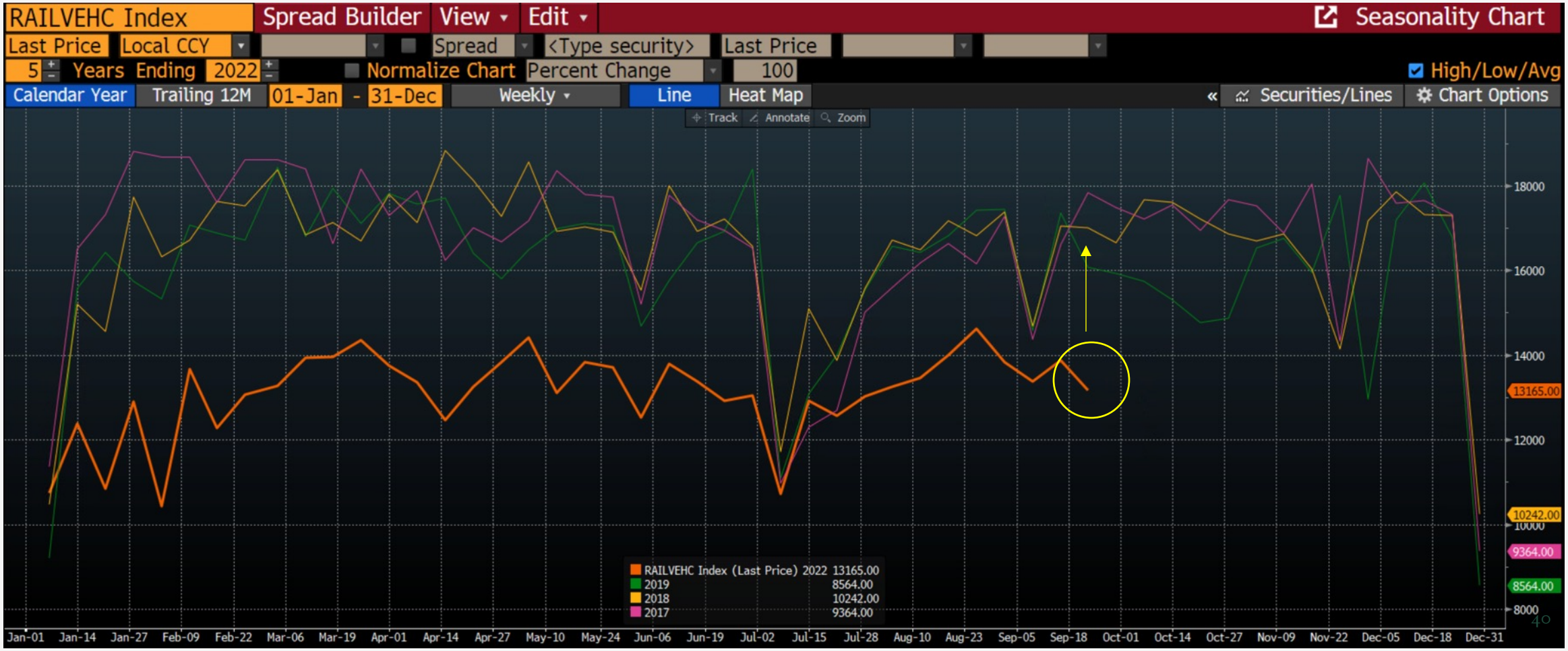


Koito's USD enterprise value is now back to its pre-2013 lows, despite a significantly larger business (2x revenues in USD terms since 2005)



Source: Bloomberg

The number of new cars transported on trains in the United States remains below the pre-pandemic level, but has improved somewhat



Source: Bloomberg

Peers trade at similar EV/Sales but at lower mid-cycle margins

Autoparts (2023e)	Ticker	Country	Mkt cap (US$m)	P/B	EV/Sales	P/E	Div yield
Koito Manufacturing	7276 JP	Japan	4,407	1.0x	0.42x	14.7x	1.7%
Denso	6902 JP	Japan	36,014	1.1x	0.88x	12.9x	2.7%
Aisin Corp	7259 JP	Japan	7,616	0.6x	0.42x	6.8x	4.9%
Stanley Electric	6923 JP	Japan	2,721	0.8x	0.70x	13.3x	2.3%
Press Kogyo	7246 JP	Japan	296	0.4x	n.a.	5.1x	5.8%
Ichikoh	7244 JP	Japan	256	0.6x	0.29x	6.2x	1.6%
Huayu Automotive	600741 CH	China	7,342	0.9x	0.25x	6.5x	6.3%
Minth Group	425 HK	China	2,552	1.0x	1.04x	9.0x	4.3%
Nexteer Automotive	1316 HK	China	1,352	0.7x	0.31x	7.3x	2.8%
Valeo	FR FP	France	3,627	0.9x	0.37x	6.8x	5.2%
Hyundai Mobis	012330 KS	South Korea	12,677	0.5x	0.21x	6.0x	2.6%
Mando	204320 KS	South Korea	1,452	0.9x	0.48x	8.9x	2.2%
Visteon	VC US	United States	3,069	4.6x	0.86x	13.8x	0.0%
Average ex-Koito			6,581	1.1x	0.53x	8.5x	3.4%
Median ex-Koito			2,895	0.8x	0.42x	7.0x	2.7%

Source: Bloomberg

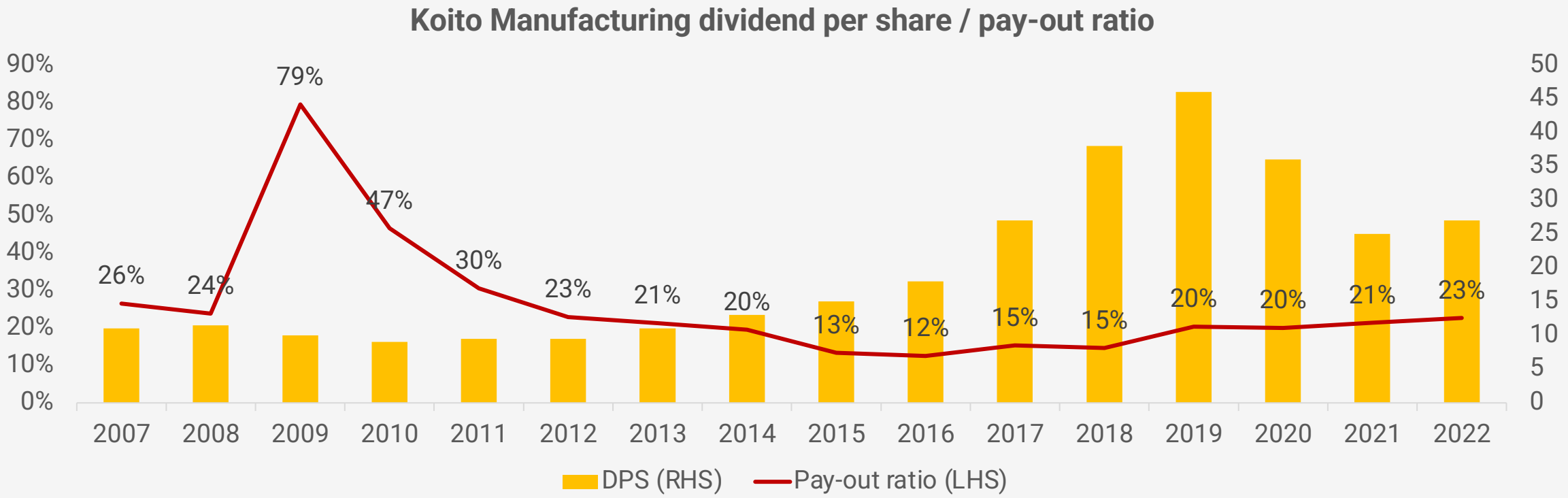
Koito has historically traded at 1.7x P/B and 17.5x P/E

Source: Bloomberg

In an environment of normalised global auto production, Koito's operating profit measured in Japanese yen should exceed the 2019 level

Koito Mfgr (7276 JP) (JPYbn)	2018	2019	2020	2021	2022	2023	2024	2025
Net sales	849	826	801	706	761	829	904	985
Cost of sales	-692	-679	-673	-609	-665	-713	-759	-808
Gross profit	157	148	128	97	96	116	145	177
SG&A	-53	-46	-46	-41	-43	-46	-51	-55
Operating profit	104	102	82	57	53	70	94	122
Non-operating income	7	5	3	6	9	6	6	6
Non-operating expenses	-1	-2	-2	-2	-2	-2	-2	-2
Pretax profit	109	104	84	61	61	74	98	126
Income tax	-31	-24	-22	-19	-19	-17	-23	-29
Net profit	78	81	62	42	41	57	76	97
Minorities	-1	-8	-4	-3	-4	-4	-5	-7
NPAT to controlling	76	73	58	39	38	53	70	91
EPS (JPY)	237	227	180	122	117	165	219	282
P/E	8.3x	8.7x	10.9x	16.1x	16.8x	12.0x	9.0x	7.0x
EV/EBIT	3.6x	3.7x	4.5x	6.6x	7.0x	5.4x	4.0x	3.1x
Div yield	1.9%	2.3%	1.8%	1.3%	1.4%	1.8%	2.3%	3.0%
GPM	18.4%	17.9%	16.0%	13.8%	12.6%	14.0%	16.0%	18.0%
OPM	12.2%	12.3%	10.3%	8.0%	7.0%	8.4%	10.4%	12.4%
NPM	9.1%	9.8%	7.8%	6.0%	5.4%	6.9%	8.4%	9.9%

Koito's pay-out ratio has been modest at just 21% of earnings



Source: TIKR

Potential downside risks

- **Share loss at Toyota**: Koito currently gets about 70% of Toyota's headlamp orders. But Toyota has a strategy of diversifying among its supplier base. That opens up the risk of Ichikoh taking share from Koito at its key customer Toyota.
- **Competition from Huayu**: In China, Koito is seeing increased competition from Huayu, which acquired one of its factories a few years back.
- **Price-fixing**: Koito and its peers have been investigated by the JFTC in the past for price-fixing around 2012. The former Chairman of Taiwanese aftermarket auto-light maker Depo Autoparts pled guilty to an international conspiracy to fix prices.

Catalysts

- Global chip shortages easing
- The weak yen feeding into earnings
- New US orders as adaptive driving beams become mainstream in that market
- Greater penetration of LED headlamps and adaptive driving beams globally
- Recovery from a widely feared 2023 recession
- Launch of Koito's LiDAR product in 2023/2024