

US Autos & Industrial Tech

4Q24 earnings preview

We expect a mixed to negative set of reports this earnings season. We believe results/guidance for the industrial tech part of our coverage will be mostly solid, while we expect weaker guidance from several companies in the auto supply chain. Names we are more positive on include GM, BDC, and FLEX, and we'd flag MGA as having the most exposure to the European auto market where we think regional trends are weaker.

We generally expect a solid set of earnings reports/outlooks for the companies in the industrial tech part of our coverage, given: 1) strong datacenter demand (with the bottom-up aggregation of GS capex estimates for the leading hyperscale companies pointing to ~25% yoy growth in 2025), although the near-term rate of growth could be limited by supply chain readiness to support Blackwell; 2) signs of improving US industrial activity (e.g. the ISM index which has been sub 50 for 25 out of the last 26 months, but has shown improvement the last two months) and potential demand drivers (e.g. onshoring and megaprojects). We believe these end market trends in datacenter and/or industrial are most positive for companies including VRT, FLEX, KEYS, and BDC this earnings season.

We expect mixed results from auto OEMs. US autos sales were solid in 4Q, and we believe the US auto market can grow modestly in 2025 albeit driven in part by lower prices. However, we believe international markets have been more challenging, and the GS European autos team expects European auto production to decline in 2025. **We expect 2025 guidance from most auto tier 1 suppliers to be in line or below consensus,** with Magna the most exposed to the European market among our tier 1 coverage. We are lowering estimates and/or price targets for most of the auto suppliers we cover, in part reflecting the more difficult European market outlook per the 2025 outlook report published by our European Autos team on 1/14/25, and also reflecting generally less exposure to the Chinese auto OEMs that are taking share.

We expect **GM** to report 4Q24 results and guide 2025 EBIT above the Street, consistent with its strong 4Q US sales report (with units and pricing both up qoq) and driven by solid price-cost (and GM said it expects its recent decision to end

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robotaxi development and focus on personal autonomy to add at least \$1 bn to annualized EBIT). We raise our GM estimates, which are above FactSet consensus. **For Ford**, we are lowering our estimates to better reflect what we believe will be weaker trends in international markets. However, we believe that relative strength in the US market and with its Pro business will result in more stable EBIT in 2025 than feared, and we expect improved EBIT in 2026 aided by improved costs plus growing software & services profits.

For Tesla post its 4Q deliveries results, we expect Street estimates to be revised lower. We model its automotive 4Q non-GAAP gross margin at 15.0% (down from 17.1% in 3Q, or 15.6% in 3Q excluding the FSD deferred revenue release), and our 4Q24 EPS estimate is slightly below the Street. We believe new vehicle model launches (including the refreshed Model Y) will allow for vehicle deliveries to grow in 2025, albeit by less than the company's 20-30% target (we model 12% unit growth vs. the Street/VisibleAlpha at 14%). Progress with its AI related efforts (especially FSD, robotaxis, and Optimus) will likely be key focus items with this report (and we have a companion note out on Tesla's FSD and robotaxi progress).

Importantly, in our 2025 outlook report from 12/10, we lowered our EV forecast for the US market to reflect likely lower purchase tax credits, as well as reduced emissions requirements. We expect EV mix as a percent of new vehicle sales to be 8.5% in 2025, 25% in 2030, 40% in 2035 and 60% in 2040, down from 9%/40%/60%/75% previously. Our European autos team lowered their EV forecast with their 2025 outlook report on 1/14/2025. Importantly, we do still expect double digit growth in EV industry unit volumes in 2025 driven by Europe and China, although the rate will depend in part on how much OEMs are able to meet more stringent Co2 requirements in Europe for 2025 with EV mix shift.

We see **mixed implications from tariffs**. There are scenarios where tariffs on imports from Mexico and/or Canada are broadly negative for our autos coverage and traditional North American auto OEMs. However, it is unclear how broadly tariffs may be applied, and we believe tariffs on imports of foreign vehicles would limit competition/supply (note the base case view of our macroeconomics team is for tariffs to be applied to vehicles coming from China and/or Europe, and from Chinese OEMs out of Mexico). In addition, tariffs on vehicles imported from Mexico/Canada could potentially reduce industry supply (and thus improved pricing may mitigate the effect of lower volumes). We would expect suppliers to seek to pass on higher costs, if any, but broad-based tariffs would be an incremental negative in our view (with suppliers likely to be affected by lower production volumes even if they were able to fully pass on tariff costs). Please see our 2025 outlook report for detailed exposures by region for both OEMs and suppliers.

The stocks in our coverage are up ~2% at the median vs. the S&P 500 also up ~2% since 3Q earnings (when examining how each stock has traded since the company reported results). Traditional auto OEMs and suppliers in our coverage are trading at or near historical trough P/E multiples. We believe modest negative estimate reductions are reflected in the stocks of tier 1 suppliers, but we think investors will be selective on wanting to buy cuts with industry production volumes about in line with historical

averages. Conversely, datacenter exposed stocks are generally trading at/near historical highs with respect to valuation multiples, and we think Street estimates will need to be revised up for those stocks to trade higher.

As we discussed in our recent report, "US Autos & Industrial Tech: Platforms & Power: driving more sustainable profitability," we believe that the key to success in the automotive industry will increasingly come from mastering both the platform and power aspects of vehicles, including for electric and hybrid vehicles. And this platform and power theme extends beyond autos to broadly incorporate industrial and technology infrastructure. **We see some of the most attractive investing opportunities over the next 12-24 months within our electronics components and EMS coverage (e.g. FLEX, TEL, and APH)** given the growth and profit potential in applications across the auto, industrial, and datacenter markets tied to platforms and power (including powering and connecting the AI datacenters that are used to develop ADAS and AV software, and enabling the high speed vehicle compute and electrical & electronic architectures in vehicles). **We'd also highlight Buy-rated BDC (on the US conviction list), as the company is making the transition to a solutions provider, and should benefit if there is a pick-up in the industrial market.**

We lower our estimates and price targets for select auto and EV exposed names in our coverage including F, APTV, BWA, GNTX, LEA, MGA, VC, ST, TEL, LAZR, and CHPT. We raise our GM and CRNC estimates and price targets.

Stock trading recap and valuation overview

The stocks in our coverage are up ~2% at the median vs. the S&P 500 also up ~2% since 3Q earnings (when examining how each stock has traded since the company reported results). Traditional auto OEMs and suppliers in our coverage are trading at or near historically low P/E multiples. We believe modest negative estimate reductions are reflected in the stocks of tier 1 suppliers, but we think investors will be selective on wanting to buy cuts with industry production volumes about in line with historical averages. Conversely, datacenter exposed stocks are generally trading at/near historical highs with respect to valuation multiples, and we think Street estimates will need to be revised up for those stocks to trade higher.

Exhibit 1: Stock performance of covered companies since 3Q24 EPS reports and YTD

	Stock Performance			
	Since 3Q24 reports		2025 YTD	
	Absolute	Relative to S&P 500	Absolute	Relative to S&P 500
Auto OEMs				
GM	5.7%	4.0%	-2.9%	-4.1%
F	-12.5%	-14.7%	0.5%	-0.7%
TSLA	100.4%	97.8%	6.0%	4.9%
RIVN	38.7%	39.1%	4.8%	3.7%
Tier 1 Suppliers				
BWA	-3.7%	-6.1%	1.6%	0.4%
LEA	-10.3%	-12.9%	-0.5%	-1.7%
GNTX	-7.6%	-10.0%	-4.6%	-5.7%
MGA	3.8%	-0.5%	-2.0%	-3.1%
APTV	-11.8%	-14.2%	0.7%	-0.5%
VC	-3.0%	-5.7%	-4.3%	-5.4%
Electronic Components				
APH	6.1%	4.4%	2.2%	1.0%
TEL	-6.0%	-8.0%	0.3%	-0.8%
ST	-16.3%	-20.4%	2.8%	1.6%
BDC	-0.3%	-2.6%	4.2%	3.0%
Lidar & Autonomy				
AUR	0.6%	-1.7%	6.0%	4.9%
LAZR	-51.2%	-50.3%	38.8%	37.7%
INVZ	195.1%	195.7%	1.2%	0.0%
MBLY	34.7%	32.4%	-16.0%	-17.2%
EMS				
FLEX	20.9%	18.9%	9.2%	8.0%
JBL	10.1%	8.8%	9.9%	8.8%
Test & Measurement				
KEYS	8.7%	8.1%	2.9%	1.8%
Power & Thermal Management				
VRT	17.4%	15.7%	16.2%	15.0%
Voice Technology				
CRNC	129.8%	129.7%	70.6%	69.5%
Charging Infrastructure				
CHPT	-9.0%	-6.8%	3.7%	2.6%
Warehouse Automation				
SYM	-12.4%	-13.4%	12.9%	11.7%
EV Battery				
QS	2.5%	-0.1%	2.3%	1.2%

Source: FactSet

CY25/CY26 consensus EPS estimates for established companies in our coverage have been revised -0.3%/-0.7% since the day before companies' respective 3Q24 reports and -15%/-16% at the median since the start of 2024. Estimates have been relatively unchanged YTD in 2025 so far.

Exhibit 2: 2025 and 2026 estimate revisions since the start of 2024, before 3Q24 EPS reports, and YTD

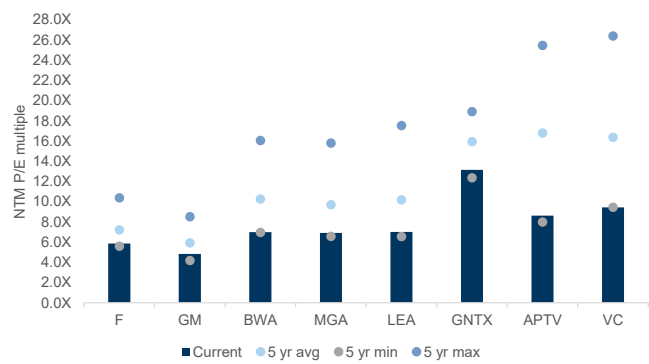
	Change in consensus EPS estimates					
	2025			2026		
	Since the start of 2024	Since T-1 3Q24 reports	2025 YTD	Since the start of 2024	Since T-1 3Q24 reports	2025 YTD
Auto OEMs						
GM	39.7%	8.6%	0.3%	33.0%	9.8%	-0.5%
F	0.2%	-9.0%	-0.3%	14.4%	-2.5%	-1.1%
TSLA	-37.7%	4.4%	-1.5%	-41.9%	-1.2%	-3.5%
Tier 1 Suppliers						
BWA	-5.1%	-0.6%	0.6%	-9.4%	-0.6%	0.0%
LEA	-30.8%	-8.3%	0.1%	-35.5%	-7.2%	0.0%
GNTX	-17.9%	-4.0%	0.0%	-27.5%	-1.9%	0.0%
MGA	-25.7%	0.2%	-0.1%	-29.1%	3.7%	0.0%
APTV	-5.0%	-8.3%	0.1%	1.3%	-9.6%	0.0%
VC	-21.0%	-0.8%	-0.5%	-16.0%	-0.7%	0.5%
Electronic Components						
APH	19.1%	5.3%	0.6%	9.0%	3.1%	0.1%
TEL	-3.2%	-1.6%	0.0%	-2.2%	-2.9%	0.0%
ST	-27.1%	-11.5%	-1.3%	-33.3%	-14.8%	-2.9%
BDC	5.7%	0.7%	0.0%	--	1.3%	0.0%
Lidar & Autonomy						
MBLY	-66.9%	-13.1%	-1.8%	-69.8%	-15.2%	-0.6%
EMS						
FLEX	13.2%	0.7%	0.4%	--	1.7%	1.5%
JBL	-16.2%	0.6%	-0.1%	--	1.4%	-0.1%
Test & Measurement						
KEYS	-13.4%	-0.7%	0.0%	--	--	0.0%
Power & Thermal Management						
VRT	31.2%	7.8%	-0.1%	39.3%	4.1%	-0.6%
Voice Technology						
CRNC	-87.4%	193.4%	0.0%	-70.2%	31.0%	0.0%
Warehouse Automation						
SYM	-51.9%	-31.4%	-2.9%	--	-37.8%	-9.2%

Source: FactSet

Ford, GM, and the auto tier 1 suppliers in our coverage are currently trading at or near historical trough multiples on consensus NTM EPS estimates.

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Exhibit 3: Ford, GM, and our tier 1 supplier coverage are currently trading at or near historical trough valuations



Source: FactSet

We show our coverage snapshot in [Exhibit 4](#).

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Exhibit 4: Coverage snapshot

		CY2025E								
	Rating	12-month Price Target	Price	Upside/ Downside	Mkt Cap (\$US mn)	ROE	P/E	EV/EBITDA	EV/Sales	EV/FCFF
Auto OEMs										
F	Buy	\$11	\$9.95	11%	\$39,979	11%	6.0x	3.6x	0.3x	7.1x
GM	Buy	\$72	\$51.70	39%	\$58,473	11%	4.3x	2.4x	0.3x	4.2x
TSLA	Neutral	\$345	\$428.22	-19%	\$1,497,485	20%	153.1x	68.8x	13.2x	260.2x
RIVN	Neutral	\$14	\$13.94	0%	\$14,135	--	--	--	2.7x	--
Median						18%	6.0x	3.6x	1.5x	7.1x
Tier 1 Suppliers										
BWA	Neutral	\$31	\$32.30	-4%	\$7,251	15%	7.3x	4.5x	0.7x	15.5x
MGA	Sell	\$40	\$40.96	-2%	\$11,768	11%	7.1x	4.1x	0.4x	12.3x
LEA	Buy	\$120	\$94.18	27%	\$5,312	14%	7.1x	4.3x	0.3x	7.9x
GNTX	Neutral	\$28	\$27.42	2%	\$6,340	18%	13.7x	9.7x	2.5x	19.1x
VC	Buy	\$107	\$84.94	26%	\$2,370	25%	9.5x	4.3x	0.5x	12.0x
APTIV	Buy	\$70	\$60.89	15%	\$14,966	17%	8.7x	7.0x	1.2x	12.1x
Median						16%	8.0x	4.4x	0.6x	12.2x
Components and Systems										
APH	Buy	\$79	\$70.95	11%	\$89,787	26%	33.1x	21.9x	5.5x	33.3x
TEL	Buy	\$190	\$143.47	32%	\$43,758	19%	17.8x	11.7x	2.8x	18.5x
** BDC	Buy	\$139	\$117.35	18%	\$4,860	25%	15.2x	11.7x	2.1x	19.5x
ST	Neutral	\$32	\$28.17	14%	\$4,246	19%	8.4x	8.1x	1.9x	14.3x
Median						22%	16.5x	11.7x	2.5x	19.0x
Lidar and Autonomy										
AUR	Sell	\$2.50	\$6.68	-63%	\$11,069	--	--	--	25.0x	--
INVZ	Neutral	\$2.00	\$1.70	18%	\$285	--	--	--	3.1x	--
LAZR	Sell	\$5.00	\$7.47	-33%	\$239	--	--	--	4.2x	--
MBLY	Buy	\$20	\$16.73	20%	\$13,560	--	--	81.2x	6.4x	28.6x
Median						--	--	--	5.3x	--
EMS										
FLEX	Buy	\$46	\$41.92	10%	\$16,768	21%	19.5x	10.4x	0.7x	19.2x
JBL	Buy	\$160	\$158.17	1%	\$18,031	36%	20.4x	9.3x	0.7x	14.1x
Median						29%	19.9x	9.8x	0.7x	16.6x
Test and Measurement										
KEYS	Buy	\$190	\$165.34	15%	\$28,604	27%	27.3x	21.3x	5.5x	26.6x
Power and Thermal Management										
VRT	Buy	\$140	\$132.00	6%	\$50,730	28%	37.2x	26.2x	5.8x	40.1x
Voice Technology										
CRNC	Neutral	\$14.00	\$13.40	5%	\$561	5%	--	-76.5x	3.0x	24.8x
EV Battery										
QS	Sell	\$4.00	\$5.31	-25%	\$2,703	--	--	--	25.4x	--
Charging Infrastructure										
CHPT	Sell	\$1.00	\$1.11	-10%	\$483	--	--	--	0.9x	--
Warehouse Automation										
SYM	Neutral	\$28	\$26.77	5%	\$15,686	--	--	--	393.8x	76.6x
Coverage Median						19%	11.6x	9.3x	2.6x	18.5x

*All price targets are for a 12-month time frame.

Forward Revenue & EBITDA take 2027 GSe for INVZ and LAZR

2026 for CHPT; 2028 GSe for QS and AUR; all discounted back to 2025

**BDC is on the GS Americas Buy CL

Pricing as of market close on 1/15/25

Source: Goldman Sachs Global Investment Research, FactSet

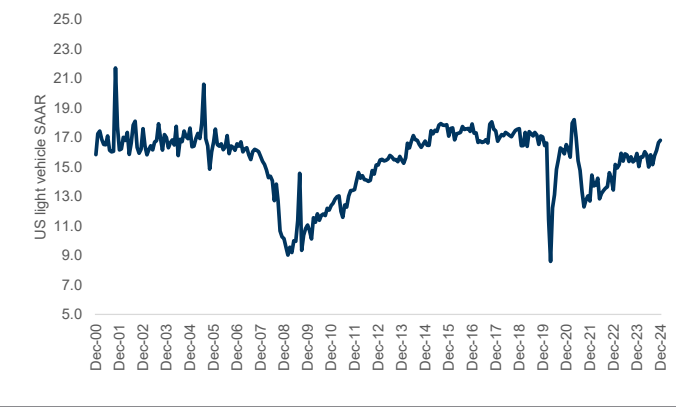
Automotive supply and demand trends by region

US auto market was solid in 4Q and likely to grow modestly in 2025

US SAAR averaged ~16.5 mn in 4Q24 and ~15.85-16.0 mn in 2024 (15.85 mn per Wards and 16.0 mn Motor Intelligence). 2024 units were up ~2-3% yoy and up ~8% in 4Q24. This was in line to modestly above our 15.85 mn forecast. We expect US light vehicle sales in 2025/2026 to be 16.00 mn/16.25 mn. Our forecast for 2025/2026 implies low single digit growth (and is in-line with the historical average of 16-16.5 mn). While the exit rate for the auto SAAR (in the mid 16 mn range for 4Q24) would imply upside bias to our 2025 forecast, the recent move higher in interest rates is a mitigating factor (as higher rates could weigh on consumer sentiment and housing, which are historically well correlated with auto sales).

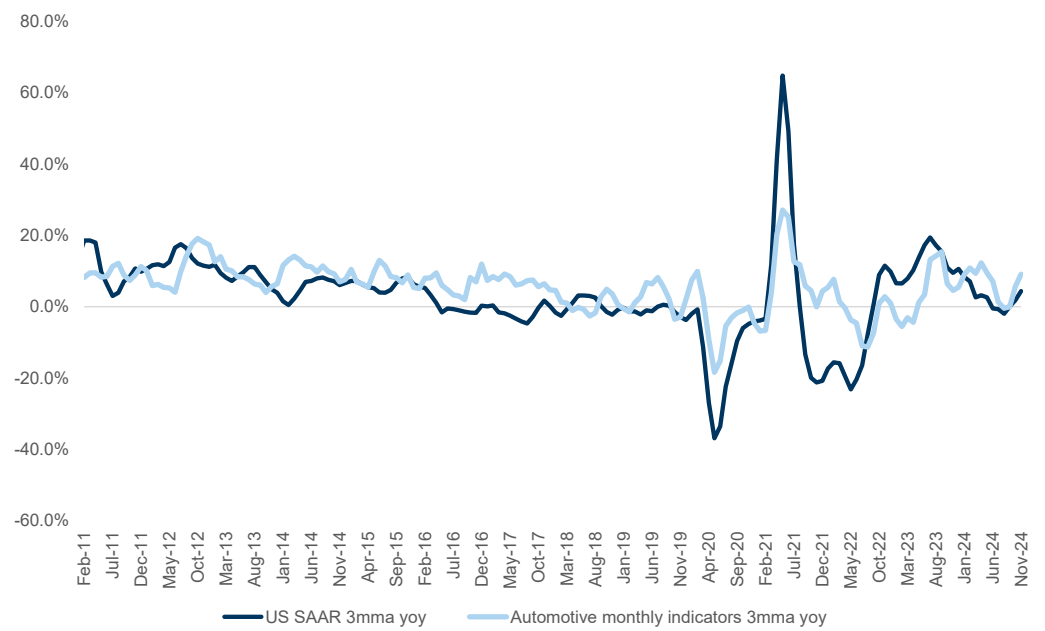
Our view for low single digit growth in US auto sales in 2025 is consistent with our auto leading indicators analysis (recall this tracks key inputs including Google search traffic, housing starts, and consumer sentiment, and has an R-squared of 0.6 on a 2-month lead vs US SAAR yoy), and also the 2025 outlook from our Economics team for low to mid single digit growth in housing starts. We also expect some ongoing net price normalization (driven by higher incentives) to support volume growth.

Exhibit 5: US light vehicle SAAR



Source: Wards

Exhibit 6: US SAAR vs. Auto Monthly Indicators

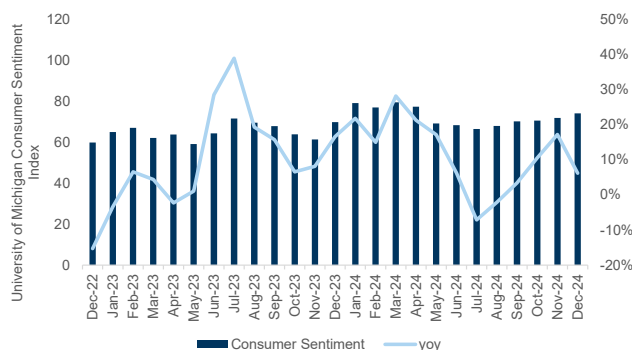


Source: Goldman Sachs Global Investment Research, University of Michigan, The Conference Board, St. Louis Federal Reserve

Additionally, for the monthly data for September through December, consumer sentiment has increased both on a sequential and yoy basis [Exhibit 7](#). Consumer confidence has trended higher recently but is still at lower levels vs. history in key regions [Exhibit 8](#).

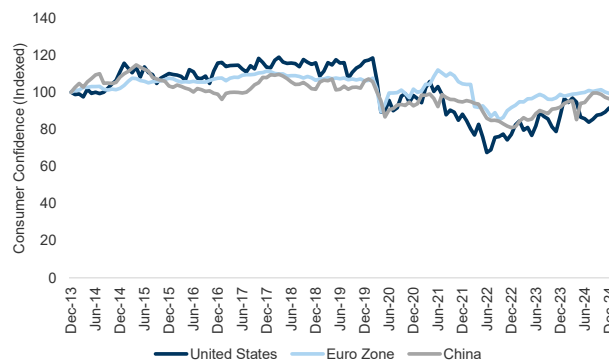
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Exhibit 7: Consumer sentiment has increased mom and yoy September through December
Consumer Sentiment



Source: University of Michigan

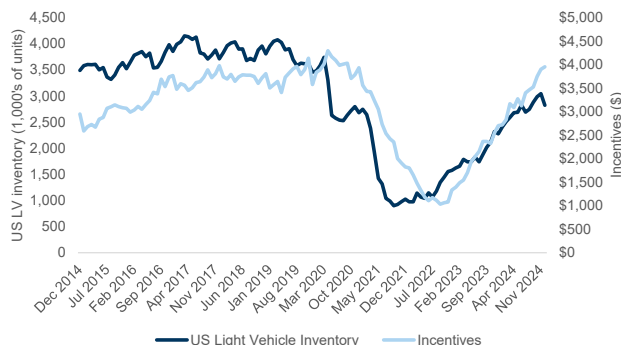
Exhibit 8: Consumer Confidence Indexed to 100



Source: FactSet

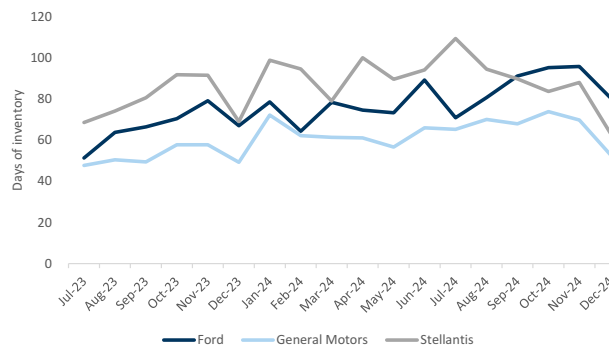
We believe auto inventory and the potential implications to incentives and pricing will continue to be a key focus for investors. Namely, finished vehicle inventory had reached the historic 3 mn+ normal level for the US market in November before declining 7% or about ~222K units in December to 2.82 mn units ([Exhibit 9](#)) and at about 46 days (vs. the historical average of about 60-70; [Exhibit 10](#)). Per Motor Intelligence, days of inventory in December was at 53 days for GM, 81 days for Ford, and 63 days for Stellantis (with about ~304K of US dealer inventory). Recall Ford commented on its 3Q24 earnings that it ended the quarter with 91 days of gross stock and 68 days of dealer stock which was slightly higher than the target range of 50-60 days, but the company is intentionally holding some extra inventory to protect sales during 1Q launch activities. Additionally, GM said with its 4Q24 US sales release that it is back within its 50-60 day target range (excluding EVs).

Exhibit 9: US light vehicle inventory and incentives continue to increase toward more normalized levels



Source: Autodata

Exhibit 10: Days of inventory for GM, Ford, and Stellantis



Source: MotorIntelligence

International auto sales mixed with Europe flattish but China growing

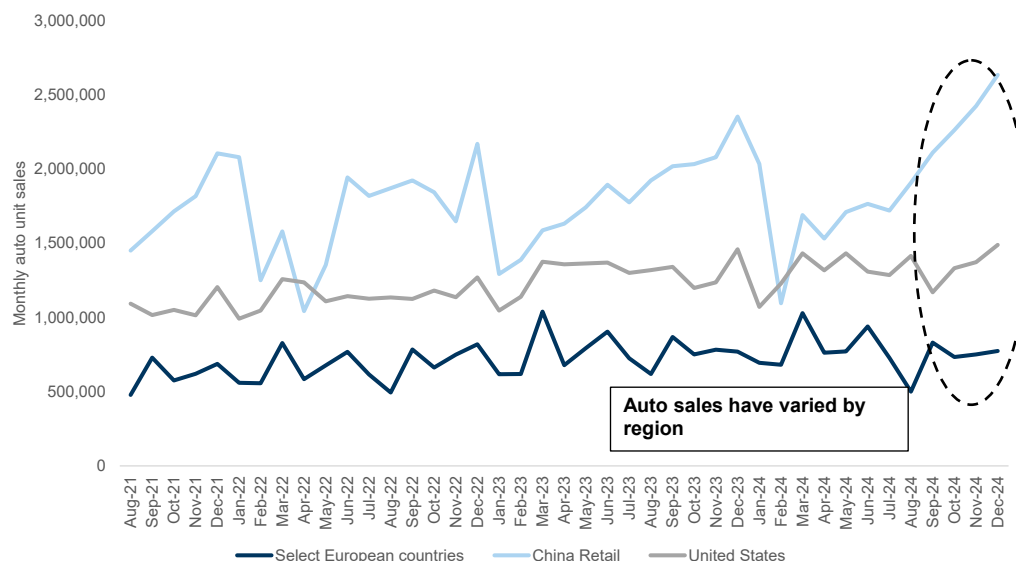
We show monthly auto sales by region in [Exhibit 11](#).

European auto sales in key geographies were down ~2% yoy in 4Q24 and about flat for 2024. Our European auto team expects auto sales to be about flat in 2025 and

production to be down 2.5%.

Sales in China were up 13% in 4Q and up 5% for 2024. Our China auto team expects auto sales to be up 3% in 2025 and production to be up 11% (in part driven by exports).

Exhibit 11: Monthly regional auto sales



Source: Autodata, CPCA, ACEA

EV and hybrid sales by region; updated EV outlook

EV sales were up 9% in 2024 in the US per data from Motor Intelligence, and up 13% in 4Q. Hybrid sales in the US were up 36% in 2024 and up 45% in 4Q. PHEV sales were up 11% in 2024 and up 7% in 4Q.

In Europe, PHEV volumes were about flat yoy in 4Q24 and for 2024, and BEVs were down 2% in 4Q24 and down 5% in 2024. In China, through November, PHEV sales were up 88% QTD and up 86% YTD with BEVs up 29% QTD and up 15% YTD.

EV sales as a percent of new vehicles are running at about 8-9% in the US currently per Motor Intelligence, compared to China at about 30% and Europe in the mid teens range.

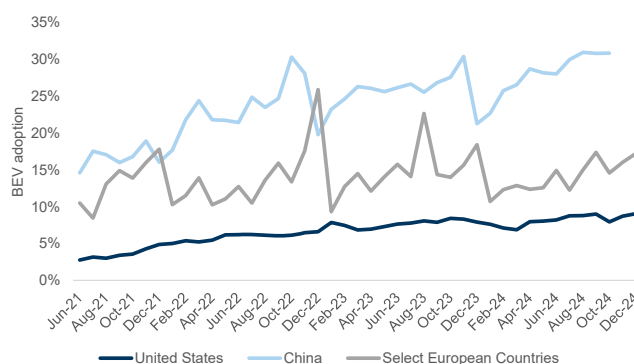
While we still expect the EV market to grow overall and note that OEMs still need to comply with likely increasing emissions standards globally and in the US, we lowered our EV forecast in our [12/10 report](#) to reflect an assumption that the up to \$7.5K EV purchase tax credit under the IRA is removed in the first half of 2025 as well as the potential for reduced emission requirements. We expect US EV mix as a percent of new vehicle sales to be 8.5% in 2025, 25% in 2030, 40% in 2035 and 60% in 2040.

Importantly, on a state level, the California Air Resources Board (CARB) has set its own set of requirements for zero-emissions vehicles (ZEV) through model year 2035. On [12/18](#), the EPA granted waivers for California's Advanced Clean Cars II (ACC II) regulations. Recall that in 2019, the Trump administration revoked the state's EPA waiver,

and California (as well as several other states that follow California's regulations) sued the administration. The case remained in litigation until President Biden took office and reversed the Trump administration policy. Based on comments from our [recent expert call](#), efforts by the incoming administration to block California's emission standards could potentially prompt litigation that could take years to resolve. On [12/13](#) the US Supreme Court agreed to hear a case on whether the oil and gas industry has the standing to sue California over its tailpipe emission standards. The Supreme Court said it would review only whether fuel producers have standing to sue, and the justices declined to review whether the EPA's waiver for California is unlawful.

Our European team expects 20% and our China team expects 34% for EV penetration in 2025.

Exhibit 12: BEV adoption as a percent of new vehicle sales volumes by region

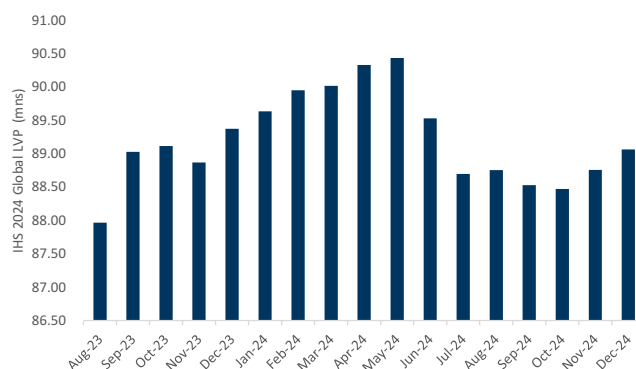


Source: Autodata, Wards, CPCA, ACEA

Auto production forecast revised lower by IHS compared to the beginning of the year

The auto end market has been choppy and mixed by region (and with share shifts by OEM). IHS/S&P Global Mobility now expects 2024 global light vehicle production of 89.1 mn (down 1.6% yoy), compared to 89.6 mn (down 0.9% yoy) at the start of 2024 ([Exhibit 13](#)). This has been driven in particular by a weaker outlook in Europe, with IHS now projecting European production declines by 5% in 2024. The December IHS outlook now projects flattish production in 2025 and +2.6% production growth in 2026 on a global basis.

Exhibit 13: 2024 IHS production forecast has been revised down since the beginning of the year
2024 Global LV production



Source: IHS

We expect auto tier 1 suppliers to take a somewhat more conservative view relative to IHS for 2025 auto production when they introduce their 2025 outlooks at 4Q reports. For context, BorgWarner commented at our December conference that the industry is coming off a difficult 3Q and 4Q 2024, and that extrapolating off of the 2H24 run-rate would imply a modest decline in industry production for 2025 (if the market does not improve). Additionally, at an investor conference in December, Aptiv said that while it has not officially given 2025 guidance yet, based on what it was seeing through early December, the company would expect global LVP to be down about 1-2% in 2025. We would also expect the auto tier 1 suppliers to be relatively conservative to start the year given macroeconomic and policy uncertainty. Given that our European autos team lowered its sales and production forecasts for 2025/26 with its [2025 outlook report](#), we are cutting estimates on our tier 1 suppliers and most auto exposed companies we cover, especially companies with larger European exposure.

Importantly, we think that the extent that auto tier 1 suppliers can outgrow the market (GoM) will be a key focus item this earnings season. One challenge for suppliers with respect to outgrowth has been that new models, including EVs, have been delayed. Another challenge has been customer exposure (e.g. more sales to western OEMs on average that on net are losing share to the Chinese OEMs) that has limited outgrowth vs. the auto market overall.

We detail recent commentary on GoM for our tier 1 suppliers below:

Aptiv: Recall that Aptiv's guidance as of its 3Q24 EPS call implied GoM of ~2% for 2024 (with its expectation for Aptiv weighted global LVP to be down ~4%). The company had previously spoken about GoM in the mid-single-digit range for 2025, although new model launch delays have been a headwind to its outgrowth.

BorgWarner: As of 3Q24, BorgWarner was expecting about 200-300 bp of GoM for 2024 (with its expectation for BorgWarner weighted market down 3% to down 3.5%). BorgWarner said that it believes its portfolio is well-positioned to outgrow the underlying market in a variety of powertrain mix scenarios.

Visteon: The company commented on its 3Q EPS call that it expects growth over market of about 6% for 2024. Recall that Visteon had previously spoken to a framework for low double digit GoM for the medium term, but recently GoM has been less than this. The company noted with its 2Q EPS call that it plans to update its mid-term plan at some point this year.

Magna: YTD through 3Q24, Magna's weighted GoM has been about flat to 1% below vehicle production (applying Magna's geographic sales weighting). At its 2023 investor day, Magna said that it was expecting its growth over market to average at least 3% over the 2022A-2027E timeframe. The company has since lowered its outlook for 2024 and 2026 respectively.

Lear: As of its 3Q report, the company expects production to be down nearly 4.5% on a Lear sales weighted basis in 2024, and for its revenue to be down 2% to down 1% yoy, implying roughly 2.5% to 3.5% of GoM. Recall that Lear had previously expected about 6 points of GoM in E-Systems and roughly 2 points of GoM for Seating for the full year as of its 2Q24 EPS call, but it lowered its outlook with its 3Q report. Lear commented at its 3Q EPS call that while it has not guided GoM for 2025 yet, it expects a lower level in 2025. Longer-term, the company is still targeting 4 points of GoM in Seating and 6 points in E-Systems.

As it relates to the Platform & Power theme, the Buy-rated auto tier 1s in our coverage (APTV, VC, LEA) all have solid content per vehicle growth (which we think is key in a muted production backdrop), category leadership in select areas (e.g. in high voltage and seating), and limited obsolescence risk (e.g. no material ICE specific products). For tier 1s that have business lines with somewhat limited market share, we believe a greater use of partnerships and/or strategic actions could help improve longer-term profitability, as we think there will be a reduced opportunity set for tier 1s with less differentiated products in a world with greater use of platforms, and at times, OEM vertical integration.

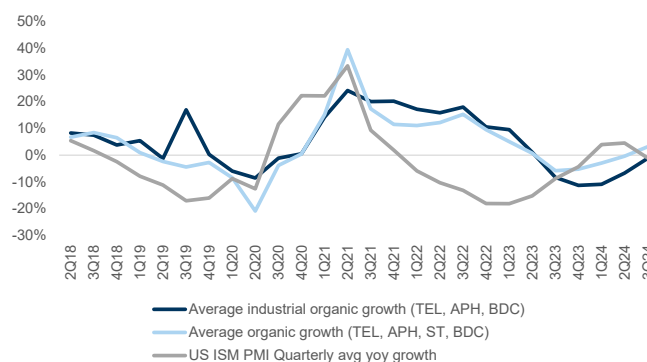
Industrial end-market trends - the US ISM PMI was up sequentially and yoy in both November and December

While the industrial end market remains generally soft (especially in Europe), we think that there is the potential for improvement in 2025. We note that some suppliers have already been under-shipping sell-through for the last several quarters and will be lapping easier yoy compares in 2025. The current weakness in the industrial market for several companies is now approaching 4-6 quarters, and matching the length of historical downturns. We're expecting the companies in our coverage with industrial exposure to speak to relative stability in the industrial market on their 4Q earnings calls, although we note that companies may be reluctant to call a bottom, especially with ongoing uncertainty particularly in Europe.

As of 3QCY24 EPS reports: 1) TE Connectivity had seen organic revenue decline in its industrial equipment business for 6 consecutive quarters. Importantly, the rate of

organic revenue decline decelerated in 3QCY24. 2) For Amphenol, its industrial business stabilized in 3Q24 and was about flat yoy after 5 quarters of organic revenue declines; 3) Belden's automation solutions segment (formerly industrial automation) has experienced 5 consecutive quarters of organic revenue declines, but the rate of the decline decelerated to a low to mid single digit rate in 3Q24 (from a low to high teens decline in each quarter from 4Q23-2Q24).

Exhibit 14: Organic growth for industrial-exposed companies in our coverage vs. the US ISM PMI quarterly avg yoy growth



Source: Company data, Goldman Sachs Global Investment Research, FactSet

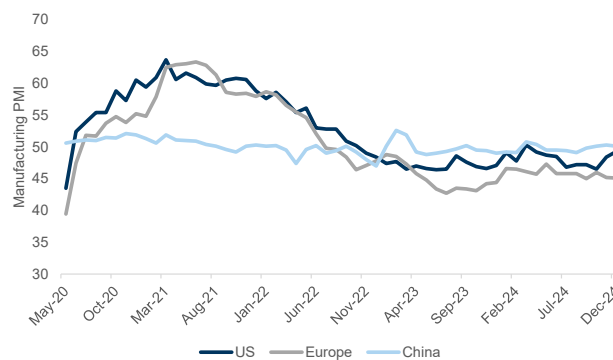
The US ISM PMI was up 5% yoy and up 2% sequentially in December to 49.3 and up about 4% both mom and yoy in November to 48.4 from 46.5 in October. Importantly, we note that the index has been below 50 for 25 out of the last 26 months, which is the longest duration of ISM contraction over the last 30 years (although not the steepest contraction).

Exhibit 15: US ISM PMI



Source: FactSet

Exhibit 16: Manufacturing PMI in US, China, and Europe



Source: FactSet

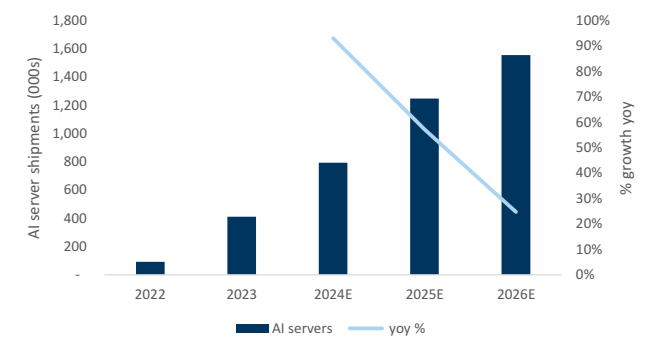
We continue to expect growth in the datacenter market, although supply chain constraints could weigh on rate of growth in the near-term

While we generally expect the companies in our coverage with datacenter exposure to have solid reports, we note the near-term growth rate could be limited by supply chain

readiness for the Blackwell ramp (per [recent media reports](#)).

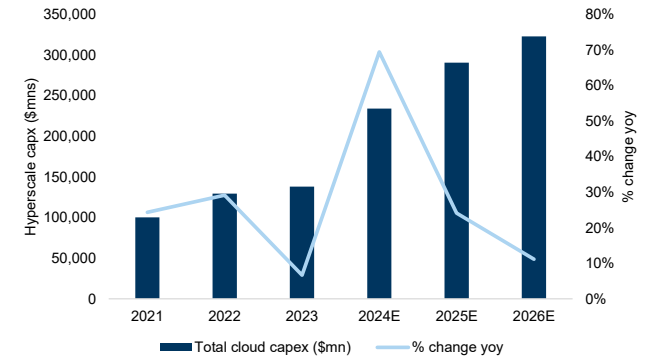
We note that our [GS TMT colleagues](#) expect AI server yoy shipment growth of 93%/57%/25% in 2024/25/26 respectively. The current GS cloud capex forecast is for a 69% yoy increase this year and 24% in 2025 ([Exhibit 17](#) and [Exhibit 18](#)).

Exhibit 17: GS AI server shipments forecast is for 93% yoy growth in 2024 and 57% in 2025



Source: Goldman Sachs Global Investment Research, Company data

Exhibit 18: Our GS colleagues expect 69% and 24% yoy growth in hyperscale capex in 2024 and 2025 respectively



Source: Company data, Goldman Sachs Global Investment Research

We continue to field questions from investors that relate to the sustainability of datacenter demand. Of note, in [a blog-post](#) from Microsoft, the company highlighted that it is on track to invest \$80bn to build out AI-enabled datacenter in FY2025. On Blackwell delays, Nvidia at CES 2025 stressed that Blackwell-powered systems were in full production and every Cloud-Service Provider (CSP) had Blackwell powered systems up and running [per our GS colleagues](#).

Separately, post Broadcom’s 4Q earnings where the company forecast that its FY2027 AI semiconductor SAM will be \$60-90bn (which is based on specific projects at its three lead AI Custom Compute customers [per our GS colleagues](#)), we believe investors will look to better understand implications if there is a degree of mix shift from GPU to ASIC based systems.

GS vs. Street

We show our estimates vs. the street for companies in our coverage below.

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Exhibit 19: GS vs. Street table

	4QCY24E					1QCY25E					CY2025E			CY2026E		
	YoY Revenues		EPS			YoY Revenues		EPS			EPS			EPS		
Auto OEMs	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
F	(5%)	3%	\$0.34	\$0.35	(3%)	2%	6%	\$0.46	\$0.49	(6%)	\$1.65	\$1.69	(2%)	\$1.90	\$1.80	6%
GM	7%	1%	\$2.19	\$1.72	27%	3%	2%	\$2.52	\$2.61	(3%)	\$11.90	\$10.69	11%	\$12.30	\$10.93	13%
TSLA	7%	8%	\$0.72	\$0.76	(5%)	12%	21%	\$0.61	\$0.72	(16%)	\$3.20	\$3.30	(3%)	\$4.35	\$4.11	6%
RIVN	14%	3%	(\$0.61)	(\$0.69)	--	(20%)	(8%)	(\$0.71)	(\$0.73)	--	(\$2.45)	(\$2.83)	--	(\$2.30)	(\$2.45)	--
Average	6%	4%			6%	(1%)	5%			(8%)			2%			8%
Tier 1 Suppliers	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
BWA	(2%)	(3%)	\$0.94	\$0.95	(1%)	(4%)	1%	\$0.92	\$1.07	(14%)	\$4.40	\$4.60	(4%)	\$4.90	\$5.16	(5%)
GNTX	2%	3%	\$0.48	\$0.48	0%	3%	2%	\$0.47	\$0.47	0%	\$2.00	\$2.08	(4%)	\$2.20	\$2.28	(4%)
LEA	(7%)	(6%)	\$2.34	\$2.49	(6%)	(7%)	(1%)	\$2.81	\$3.10	(9%)	\$13.30	\$13.35	(0%)	\$16.00	\$15.89	1%
MGA	0%	(1%)	\$1.53	\$1.52	1%	(3%)	(2%)	\$1.29	\$1.25	3%	\$5.75	\$5.90	(3%)	\$6.40	\$6.72	(5%)
VC	(6%)	(4%)	\$1.89	\$1.92	(2%)	(1%)	2%	\$1.65	\$1.83	(10%)	\$8.90	\$8.94	(0%)	\$10.25	\$10.35	(1%)
APT	(0%)	(1%)	\$1.63	\$1.64	(1%)	(0%)	(0%)	\$1.51	\$1.52	(1%)	\$7.00	\$7.01	(0%)	\$8.00	\$8.21	(3%)
Average	(2%)	(2%)			(1%)	(2%)	0%			(5%)			(2%)			(3%)
Components & Systems	QoQ Revenue		EPS			QoQ Revenue		EPS			EPS			EPS		
Ticker	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
APH	0%	0%	\$0.50	\$0.50	0%	(2%)	(4%)	\$0.48	\$0.47	2%	\$2.15	\$2.17	(1%)	\$2.35	\$2.43	(3%)
BDC	(0%)	(0%)	\$1.67	\$1.69	(1%)	(2%)	(3%)	\$1.56	\$1.63	(4%)	\$7.75	\$7.65	1%	\$8.40	\$8.27	2%
ST	(10%)	(10%)	\$0.74	\$0.75	(1%)	2%	1%	\$0.78	\$0.76	3%	\$3.35	\$3.35	0%	\$3.75	\$3.76	(0%)
TEL	(4%)	(4%)	\$1.88	\$1.89	(1%)	4%	5%	\$1.95	\$1.99	(2%)	\$8.26	\$8.33	(1%)	\$9.16	\$9.22	(1%)
Average	(3%)	(3%)			(1%)	1%	(0%)			(0%)			(0%)			(1%)
Lidar and Autonomy	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
AUR	--	--	(\$0.11)	(\$0.11)	--	--	--	(\$0.11)	(\$0.11)	--	(\$0.48)	(\$0.45)	--	(\$0.45)	(\$0.42)	--
LAZR	10%	12%	(\$1.91)	(\$2.21)	--	12%	19%	(\$1.68)	(\$1.90)	--	(\$6.40)	(\$7.09)	--	(\$6.90)	(\$4.44)	--
INVZ	33%	30%	(\$0.12)	(\$0.14)	--	33%	74%	(\$0.12)	(\$0.14)	--	(\$0.50)	(\$0.51)	--	(\$0.60)	(\$0.39)	--
MBLY	(2%)	(2%)	\$0.10	\$0.11	(9%)	(12%)	(7%)	\$0.07	\$0.07	0%	\$0.45	\$0.40	13%	\$0.55	\$0.58	(5%)
EMS	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
FLEX	(5%)	(5%)	\$0.64	\$0.63	2%	(1%)	(1%)	\$0.65	\$0.66	(2%)	\$2.75	\$2.71	1%	\$3.09	\$3.07	1%
JBL	(8%)	(8%)	\$1.83	\$1.82	1%	7%	5%	\$2.28	\$2.24	2%	\$9.27	\$9.18	1%	\$10.52	\$10.35	2%
Average	(7%)	(7%)			1%	3%	2%			0%			1%			1%
Test & Measurement	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
KEYS	(1%)	(1%)	\$1.71	\$1.69	1%	0%	(0%)	\$1.59	\$1.59	0%	\$7.08	\$7.12	(1%)	\$8.27	\$8.19	1%
Power & Thermal Management	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
VRT	4%	4%	\$0.83	\$0.82	1%	(11%)	(11%)	\$0.59	\$0.64	(8%)	\$3.55	\$3.57	(1%)	\$4.45	\$4.45	0%
EV Battery	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
QS	--	--	(\$0.24)	(\$0.24)	--	--	--	(\$0.24)	(\$0.23)	--	(\$1.00)	(\$0.92)	--	(\$1.10)	(\$0.87)	--
Charging	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
CHPT	2%	1%	(\$0.08)	(\$0.08)	--	(2%)	1%	(\$0.08)	(\$0.07)	--	(\$0.27)	(\$0.23)	--	(\$0.15)	(\$0.09)	--
Warehouse Automation	GS	Street	GS	Street	% Diff	GS	Street	GS	Street	% Diff	GS	Street	% Diff	GS	Street	% Diff
SYM	(13%)	(13%)	\$0.03	\$0.03	0%	9%	10%	\$0.06	\$0.06	0%	\$0.33	\$0.33	0%	\$0.62	\$0.52	19%

* Estimates adjusted to exclude stock based compensation to compare to the Street (TSLA, RIVN, KEYS, FLEX, JBL, LAZR, INVZ, MBLY, CHPT)

Source: Goldman Sachs Global Investment Research, FactSet

Adjusting price targets and estimates for most auto and EV exposed companies in our coverage

We are lowering estimates and price targets for most of our auto exposed companies reflecting the lower European industry outlook. However, we raise our GM estimates to reflect stronger US sales data and price/cost trends (including restructuring), and our CRNC EPS estimates on lower net interest expense assumptions. Lastly, we restate historical data for SYM reflecting the updated financial filings for FY24 that the company released in early December.

Exhibit 20: Old vs new GS estimates

	Revenues (mns)					
	2024 Old	2024 New	2025 Old	2025 New	2026 Old	2026 New
Auto OEMs						
F	\$180,670	\$180,670	\$179,580	\$178,100	\$183,564	\$180,645
GM	\$183,115	\$185,811	\$180,541	\$180,998	\$181,881	\$182,721
Tier 1 Suppliers						
BWA	\$14,096	\$14,096	\$14,380	\$14,316	\$14,889	\$14,767
MGA	\$42,697	\$42,697	\$42,610	\$42,482	\$43,638	\$43,470
LEA	\$23,047	\$23,047	\$23,439	\$23,139	\$24,411	\$23,944
GNTX	\$2,375	\$2,375	\$2,500	\$2,469	\$2,655	\$2,617
VC	\$3,860	\$3,860	\$4,050	\$4,013	\$4,338	\$4,258
APTV	\$19,719	\$19,719	\$20,132	\$20,023	\$21,230	\$21,030
Components and Systems						
TEL	\$16,530	\$16,461	\$17,586	\$17,509	\$18,388	\$18,373
ST	\$3,910	\$3,910	\$3,723	\$3,700	\$3,909	\$3,844
Lidar & Autonomy						
LAZR	\$70	\$70	\$100	\$100	\$135	\$125
Voice technology						
CRNC	\$332	\$332	\$241	\$239	\$247	\$244
Charging Infrastructure						
CHPT	\$417	\$417	\$541	\$501	\$705	\$641
	EPS					
	2024 Old	2024 New	2025 Old	2025 New	2026 Old	2026 New
Auto OEMs						
F	\$1.80	\$1.80	\$1.75	\$1.65	\$2.00	\$1.90
GM	\$10.50	\$10.85	\$11.15	\$11.90	\$11.25	\$12.30
Tier 1 Suppliers						
BWA	\$4.25	\$4.25	\$4.40	\$4.40	\$4.95	\$4.90
MGA	\$5.25	\$5.25	\$5.80	\$5.75	\$6.45	\$6.40
LEA	\$12.05	\$12.05	\$13.55	\$13.30	\$16.25	\$16.00
GNTX	\$1.85	\$1.85	\$2.05	\$2.00	\$2.25	\$2.20
VC	\$8.30	\$8.30	\$9.00	\$8.90	\$10.50	\$10.25
APTV	\$6.15	\$6.15	\$7.05	\$7.00	\$8.15	\$8.00
Components and Systems						
TEL	\$8.10	\$8.05	\$9.05	\$9.00	\$9.75	\$9.75
ST	\$3.43	\$3.43	\$3.40	\$3.35	\$3.90	\$3.75
Lidar & Autonomy						
LAZR	(\$14.57)	(\$14.57)	(\$10.50)	(\$10.50)	(\$11.20)	(\$11.20)
Voice technology						
CRNC	\$0.76	\$0.76	(\$0.65)	(\$0.65)	(\$0.75)	(\$0.75)
Charging Infrastructure						
CHPT	(\$0.57)	(\$0.57)	(\$0.40)	(\$0.45)	(\$0.30)	(\$0.35)

Source: Goldman Sachs Global Investment Research

Exhibit 21: Price target changes for select auto-exposed companies in our coverage

		Autos & Industrial Technology Price Target Changes				
		NEW		OLD		
Auto OEMs						
GM	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
	6X	\$12.00	\$72	6X	\$11.20	\$67
F	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
	6X	\$1.90	\$11	6X	\$2.00	\$12
Auto Tier 1 Suppliers						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
APTIV	10X	\$7.00	\$70	10X	\$7.05	\$71
BWA	7X	\$4.40	\$31	8X	\$4.40	\$35
LEA	9X	\$13.30	\$120	9X	\$13.55	\$122
MGA	7X	\$5.75	\$40	7X	\$5.80	\$41
GNTX	14X	\$2.00	\$28	14X	\$2.15	\$30
VC	12X	\$8.90	\$107	12X	\$9.00	\$108
Components & Connectors						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
ST	9X	\$3.60	\$32	10X	\$3.60	\$36
Voice Technology						
	Target Multiple	Q5-Q8 revenue	Price Target	Target Multiple	Q5-Q8 revenue	Price Target
CRNC	3X	\$244	\$14	2X	\$247	\$8

Source: Goldman Sachs Global Investment Research

Exhibit 22: CHPT and LAZR price target changes

	New					Old				
	Price Target	Target Multiples			Revenue (\$mn)	Price Target	Target Multiples			Revenue (\$mn)
	Blended	Bear	Base	Bull		Blended	Bear	Base	Bull	
ChargePoint	\$1.00	0.75X	1.00X	1.25X	\$641	\$1.25	0.75X	1.00X	1.25X	\$705
Luminar	\$5.00	4X	4X	6X	\$200	\$7.00	4X	4X	6X	\$225

CY2026 (FY2027) revenue for CHPT; CY2027 revenue for LAZR

Source: Goldman Sachs Global Investment Research

We show key risks for companies with price target and/or estimate changes in [Exhibit 23](#).

Exhibit 23: Price targets and key risks

Company	Ticker	GS Rating	Current Price	Price Target	PT Methodology	Key upside/downside risks
Auto OEMs						
Tesla	TSLA	Neutral	\$428.22	\$345	Q5-Q8 EPS	EV adoption, margins, market share, the auto cycle, operational execution, key person risk
General Motors	GM	Buy	\$51.70	\$72	Norm. EPS	The auto cycle, market share, margins, FCF, and the ability to pivot to growth areas such as EVs and AVs
Ford	F	Buy	\$9.95	\$11	Norm. EPS	The auto cycle, market share, margins, and the ability to pivot to growth areas such as EVs and AVs
Tier 1 Suppliers						
BorgWarner	BWA	Neutral	\$32.30	\$31	Norm. EPS	Revenue growth including ability to outgrow market due to EV portfolio, diesel exposure, the auto cycle, margins, and market share
Gentex	GNTX	Neutral	\$27.42	\$28	Norm. EPS	Revenue growth, margins, and multiple expansion
Lear	LEA	Buy	\$94.18	\$120	Norm. EPS	The auto cycle, ability to benefit from increasing EV industry mix, margins, market share
Magna	MGA	Sell	\$40.96	\$40	Norm. EPS	The auto cycle, market share, ability to outgrow production and capitalize on secular growth themes, capital allocation, and FCF
Visteon	VC	Buy	\$84.94	\$107	Norm. EPS	Ability to capitalize on EVs and AVs, margins, revenue, market share, general macroeconomic risk, multiple expansion/contraction
Aptiv	APTIV	Buy	\$60.89	\$70	Norm. EPS	Ability to grow CPV, the auto cycle, market share, margins, debt
Electronic Components						
TE Connectivity	TEL	Buy	\$143.47	\$190	Norm. EPS	Revenue growth and auto demand, margins, and M&A
Sensata	ST	Neutral	\$28.17	\$32	Norm. EPS	Auto production, margins, leverage, tax rate, FX, and ability to increase CPV in EVs and hybrids
Autonomy						
Luminar	LAZR	Sell	\$7.47	\$5.00	2027 Sales (Discounted)	Lidar adoption and ASPs, margins, market share, M&A, balance sheet
Voice Technology						
Cerence	CRNC	Neutral	\$13.40	\$14.00	Q5-Q8 Sales	Industry and macro environment, competition, margins, natural ASP degradation
Charging Infrastructure						
ChargePoint	CHPT	Sell	\$1.11	\$1.00	2026 Sales (Discounted)	EV adoption/driver charging habits, margins, market share, European expansion, ASPs

*Our 12-month PT for MG.TO listed in Canada is 57 CAD

Pricing as of market close on 1/15/25

Source: FactSet, Goldman Sachs Global Investment Research

Risk/reward screen

For illustrative purposes, we show an upside/downside scenario analysis for select companies in our coverage below (with downside/upside multiples using the low/higher-end of historical ranges and/or peer levels).

Exhibit 24: Upside/downside scenarios for select companies in our coverage

Upside/Downside Scenario									
	Current Price (1/15/2025)	Downside Multiple (NTM P/E)	NTM EPS (GSe)	Downside Valuation (Downside Multiple on NTM EPS)	Downside %	Upside Multiple (NTM P/E)	FY2026 EPS (GSe)	Upside Valuation (Upside Multiple on FY26 EPS)	Upside %
Tier-1 Suppliers									
BWA	\$32	6X	\$4.15	\$25	(23%)	11X	\$4.90	\$54	67%
GNTX	\$27	12X	\$1.95	\$23	(15%)	17X	\$2.20	\$37	37%
LEA	\$94	6X	\$11.95	\$72	(24%)	10X	\$16.00	\$160	70%
MGA	\$41	6X	\$5.70	\$34	(17%)	10X	\$6.40	\$64	56%
VC	\$85	8X	\$8.05	\$64	(24%)	14X	\$10.25	\$144	69%
APTV	\$61	7X	\$6.70	\$47	(23%)	14X	\$8.00	\$112	84%
Component Suppliers									
APH	\$71	19X	\$2.10	\$40	(44%)	40X	\$2.35	\$94	32%
BDC	\$117	9X	\$7.35	\$66	(44%)	20X	\$8.40	\$168	43%
ST	\$28	7X	\$3.20	\$22	(20%)	13X	\$3.75	\$49	73%
TEL	\$143	14X	\$8.05	\$113	(21%)	25X	\$9.00	\$225	57%
EMS									
* FLEX	\$42	9X	\$2.65	\$24	(43%)	20X	\$2.85	\$57	36%
* JBL	\$158	9X	\$9.25	\$83	(47%)	20X	\$10.15	\$203	28%
Test & Measurement									
* KEYS	\$165	15X	\$6.90	\$104	(37%)	25X	\$8.15	\$204	23%
Power & Thermal Management									
VRT	\$132	17X	\$3.25	\$55	(58%)	35X	\$4.45	\$156	18%
* EPS estimates exclude SBC									

Upside/Downside Scenario									
	Current Price (1/15/2025)	Downside Multiple	NTM GSe	Downside Valuation	Downside %	Upside Multiple	2026 GSe	Upside Valuation	Upside %
Auto OEMs									
		Downside NTM P/E	NTM EPS	Downside Multiple on NTM EPS		Upside P/E View	2026 EPS	Upside Multiple on 2026 EPS	
F	\$10	4X	\$1.65	\$7	(34%)	8X	\$1.90	\$15	52%
GM	\$52	4X	\$10.90	\$44	(16%)	7X	\$12.30	\$86	67%
TSLA	\$428	30X	~\$2.55-\$3.00	~\$75-\$90	~(85%)-(75%)	~110X-120X	~\$3.95-\$4.35	~\$435-\$525	~0-25%

TSLA shows range for EPS including and excluding SBC

Source: FactSet, Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Mark Delaney, CFA, Will Bryant, Morgan Leung and Aman Gupta, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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