



Seraph.

SEPTEMBER 2024

**NORTH AMERICA & EUROPE
AUTO INDUSTRY REPORT**

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We write the quarterly reports for our clients and other automotive OEM and supplier leaders. If you would like to participate in the survey that we conduct each quarter, learn more about our methodology, or have a suggested topic for a future report, please email research@seraph.com.

Executive Summary

Four big themes we are seeing...

Immediate China Impact



- **Tech Risk:** Governments are concerned about technologies like connectivity, software and LiDAR allowing adversaries to compromise security and are moving to restrict imports.
- **Tariff Dynamics:** Rising tariffs will erode cost competitiveness for export-driven China suppliers.
- **Geopolitical Tensions:** Cascading reactions to escalating conflicts could disrupt automotive supply chains.

Strained OEM and Suppliers Relations



- **Profit Margins:** Sustained disparities in profitability have strained commercial relationships.
- **Debt Impact:** Increased debt financing costs within the supply chain are limiting flexibility and investment.
- **Cash Flow Risks:** Inadequate cash flow from low volumes is creating significant operational continuity risks.

Navigating Painful Platform Shifts



- **Market Dynamics:** Lower purchase rate and aging vehicle fleet may indicate pent-up demand, or establishment of new normal
- **Excess Capacity:** Global EV capacity has doubled, leading to surplus production capabilities.
- **BEV Infrastructure Challenges:** Despite massive plant investments, inadequate charging options limit BEV adoption.
- **Hybrids & PHEV Appeal:** Surging cost-efficient alternatives.
- **Reenergized ICE:** After years of dwindling ICE investments, automakers now bear the ramp-up costs, turning ICE operations into short-term profit sources for suppliers.

Aligning Strategy for Future Competition



- **Localization:** Implementing 'local for local' manufacturing strategies to reduce costs and enhance supply chain responsiveness.
- **Cost Optimization:** Adjusting capacity to meet future market demands effectively.
- **Operational Efficiency:** Leveraging Overall Equipment Effectiveness (OEE) as guiding metric to cut costs and prepare for competitive market pressures.



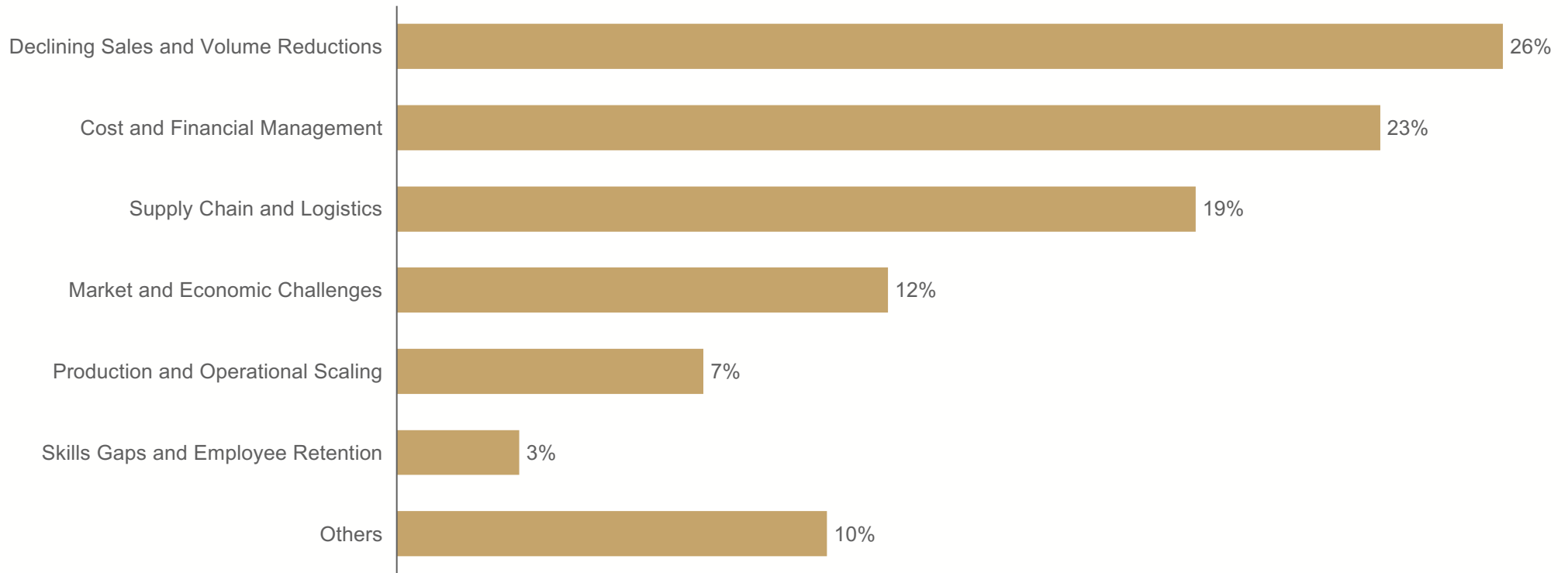
Did you miss the webinar?
Replay at seraph.com/sept24webinar

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Leaders across all tiers indicate that after the EV shift, declining sales and volume reductions were their primary challenges in Q2

What was your biggest challenge of Q2?



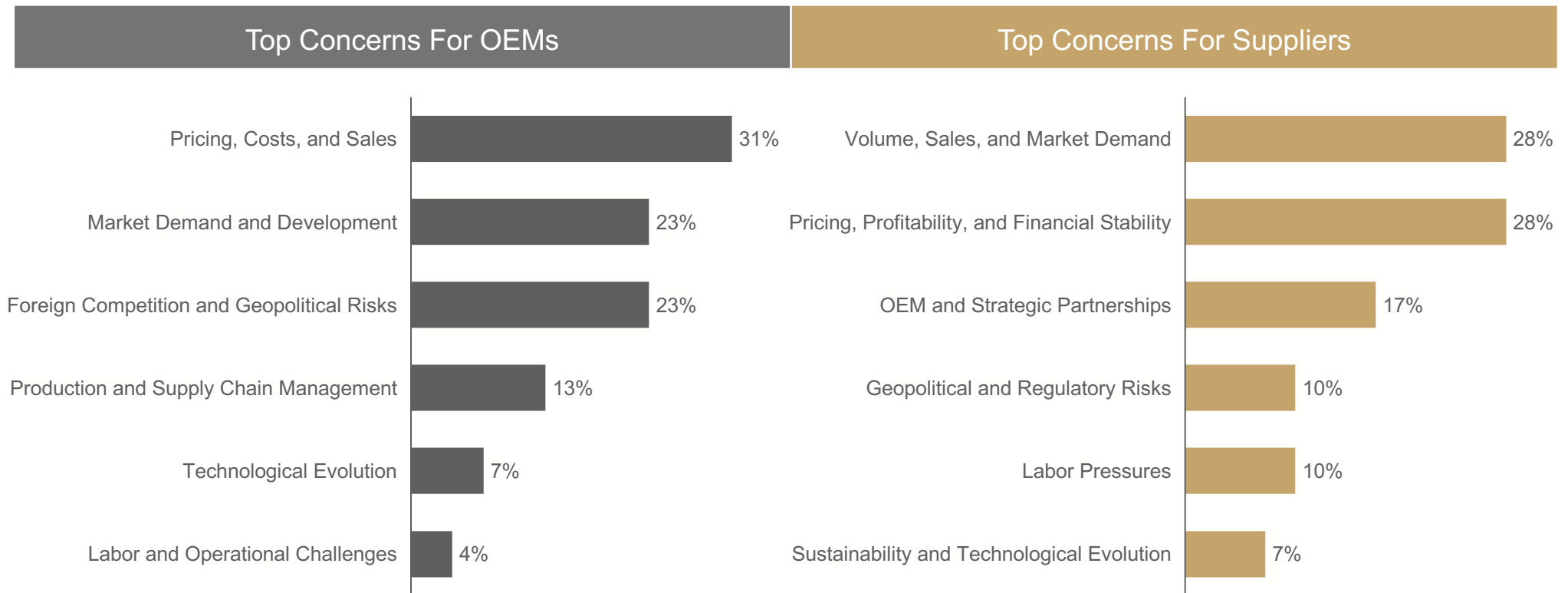
Others

- Strategy Development and Business Growth
- Acquisitions And Footprint Expansion
- BEV Market Unpredictability
- Unionization Threats
- Liquidity Issues

1) Respondents were able to select more than one option
Source: Seraph Leader Survey

Fluctuating market demand is prompting both OEMs and suppliers to rapidly shift strategy and tactics

Percent of respondents that indicated each of the following issues will be a "top challenge" over the next 6 months¹



Honorable Mentions

OEMs:

- EV Market Demand
- Hybrid and Alternative Propulsion
- Volume Challenges

- Customer/Supplier Relations
- Regulatory Risks
- Launch Efficiency

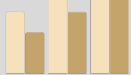
Suppliers:

- Operational Efficiency
- Cost Optimization
- Debt Burden and Refinancing

- Supply Chain Flexibility and Resilience
- EV and Hybrid Transition Challenges

1) Respondents were able to select more than one option
Source: Seraph Leader Survey

Views from industry leaders ...



"Weak EV demand and supply chain challenges make realizing cost-saving difficult. The impacts from trade wars, tariffs, and fluctuating regulations tied to U.S. elections adds complexity."

- OEM, Supply Chain, North America



"The EV transition is taking longer than plan, establishing healthy supplier partnerships is crucial as we manage decreased volumes and try to navigate risks without paying chargebacks."

- OEM, Purchasing, Europe



"Unplanned shutdowns, high inventory costs, and reduced production volumes for EVs are increasing costs. We're seeking alternatives to fill idle capacity and offset volume losses."

- Supplier, Operations, North America



"Managing production costs is tough with rising inflation, labor shortages, and tougher sustainability demands like using recycled materials and green energy in production."

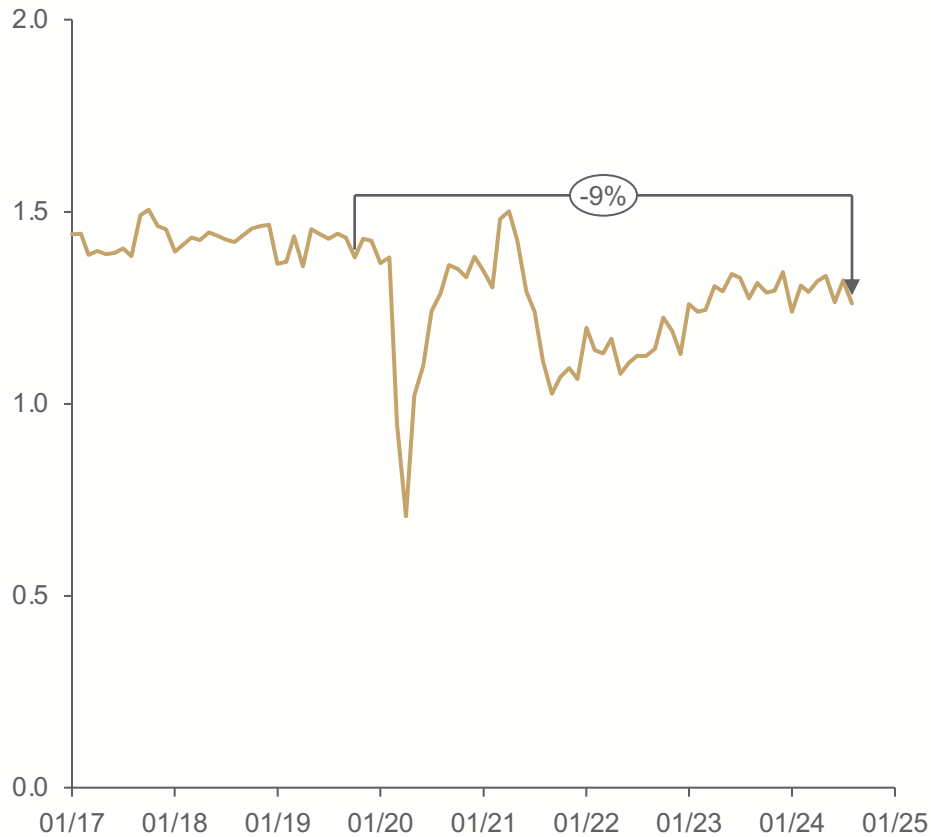
- Supplier, Operations, Eastern Europe



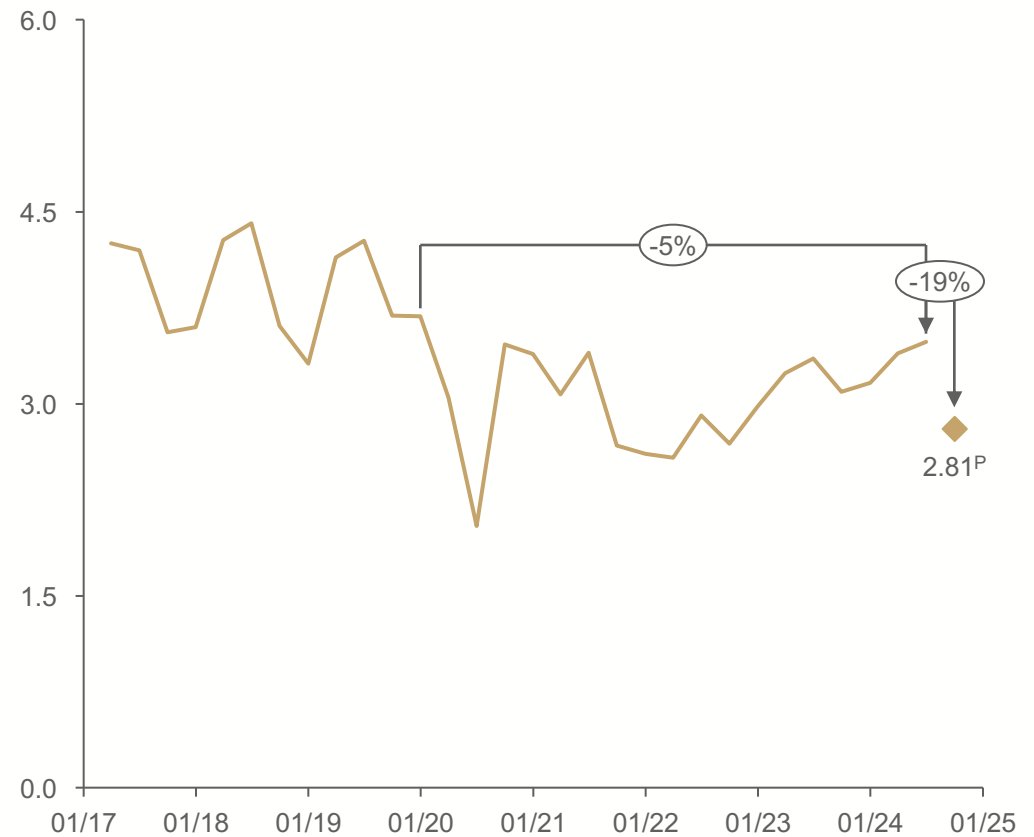
Sales, Volumes, and Profitability

Sales have continued to be sluggish across the US and Europe, with Europe seeing a 18.4% y/y drop in August registrations

US light vehicle sales, millions, monthly, seasonally adjusted¹



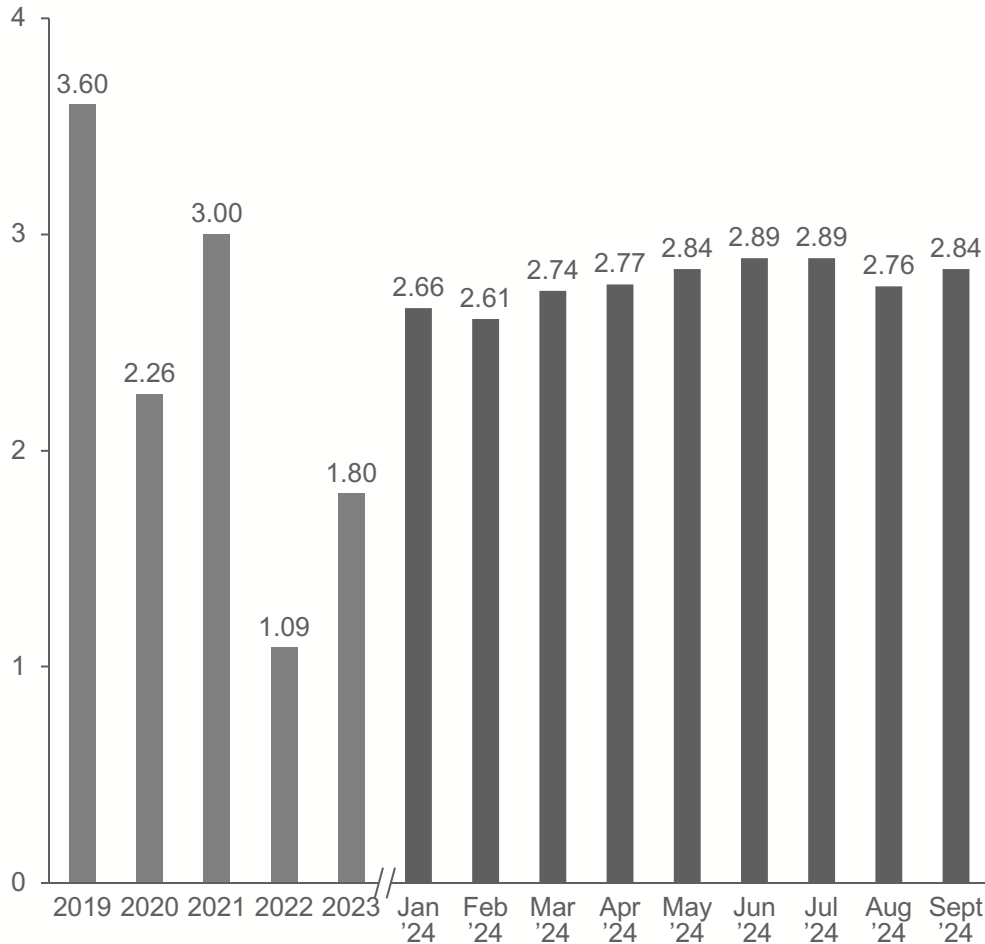
Europe light vehicle registrations, millions, quarterly²



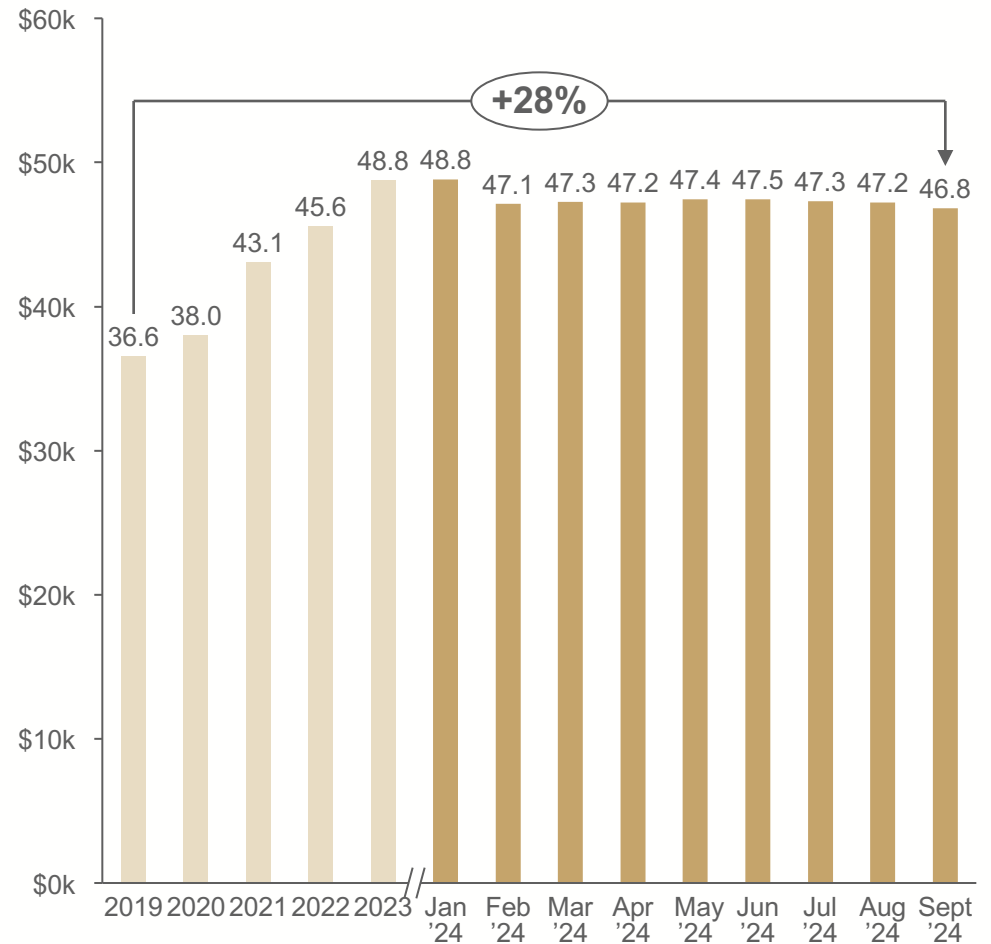
1) Seasonally Adjusted Annual Rate divided by 12 2) ACEA data for EU + EFTA + UK P) Quarterly projection generated by taking (July * 2) + August data
Source: US Bureau of Economic Analysis, ACEA

In the US, total inventories have mostly stabilized (but vary wildly by brand), with prices gently declining from 2023 peaks

Total new vehicle inventory, US, millions

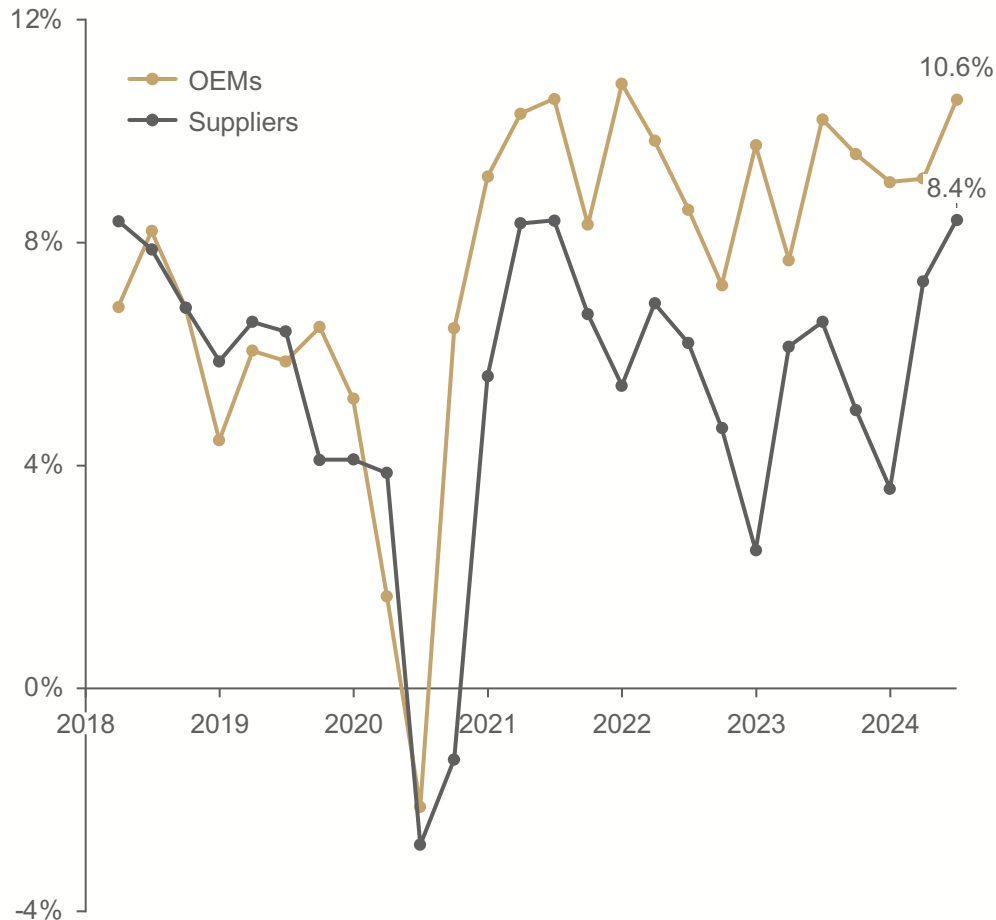


Average new vehicle transaction price, US, USD



OEMs maintain healthier margins than suppliers, both at sustainable levels, but laggards in both sectors are at risk

EBIT margins, global¹



Supplier commentary

“**Magna**
“Can we **commoditize**, be more efficient, bring efficiency to it, reduce capital...come up with a **core solution that we can sell across**...we specify it.”
– Patrick McCann, CFO

“**American Axle**
“The progress we've been making in terms of operationally, in terms of the labor availability, **the plant reloading, the optimization**, you're seeing traction.”
– Christopher May, CFO

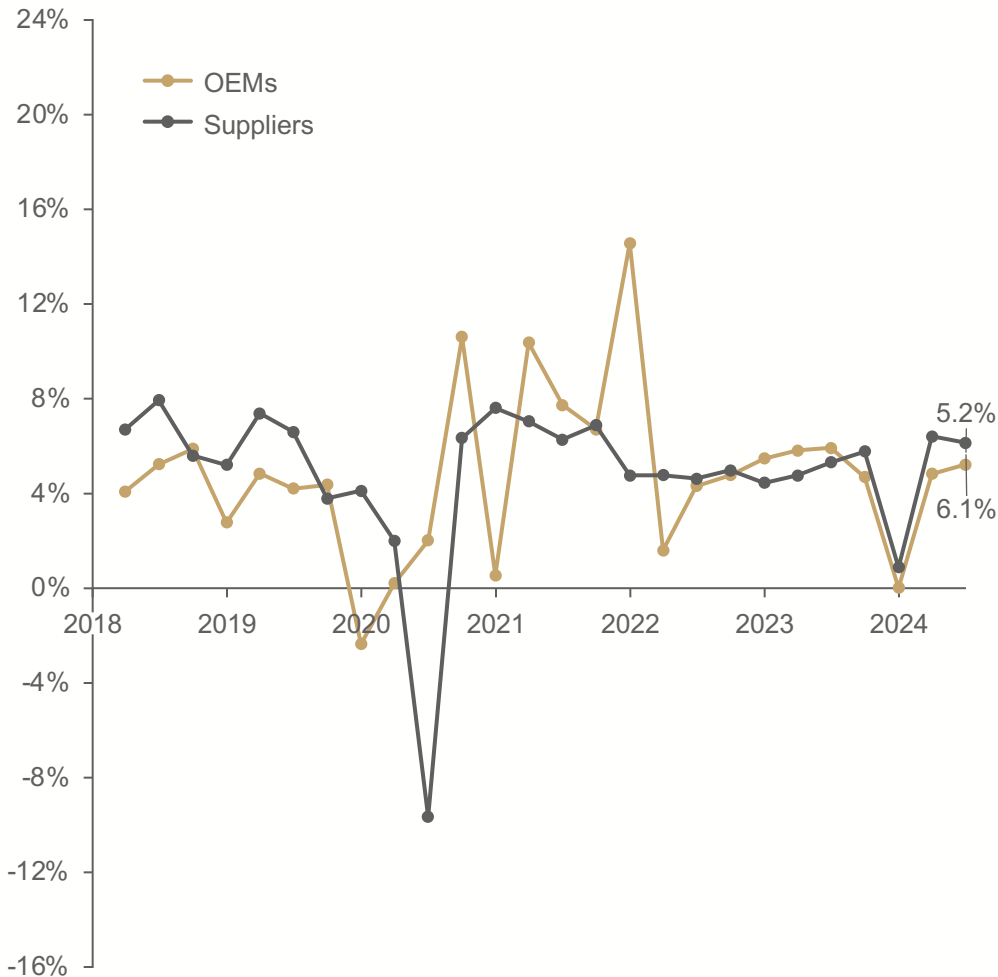
“**Lear**
“We continue to improve the **customer diversification** there as well, and we've had 8 consecutive quarters of improved operating margins.”
– Jason Cardew, CFO

“**Adient**
“The first is **operational excellence**...using **automation modularity** as a continuous lever to drive overall improvement in margins.”
– Jerome Dorlack, CEO

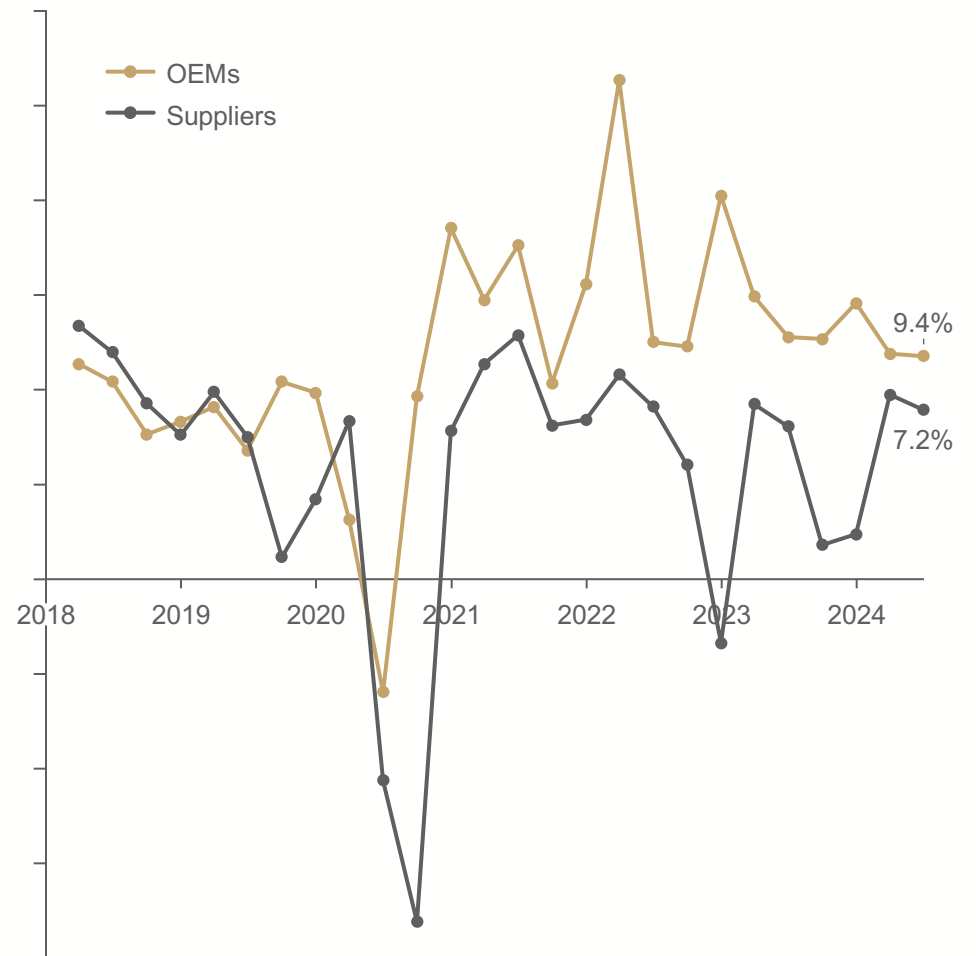
1) Weighted average by company revenue
Source: Company financial statements (OEMs n=38, suppliers n=56)

Concerningly, the profitability of North American OEMs and Suppliers continue to lag their European counterparts

EBIT margins¹, public companies, NA²



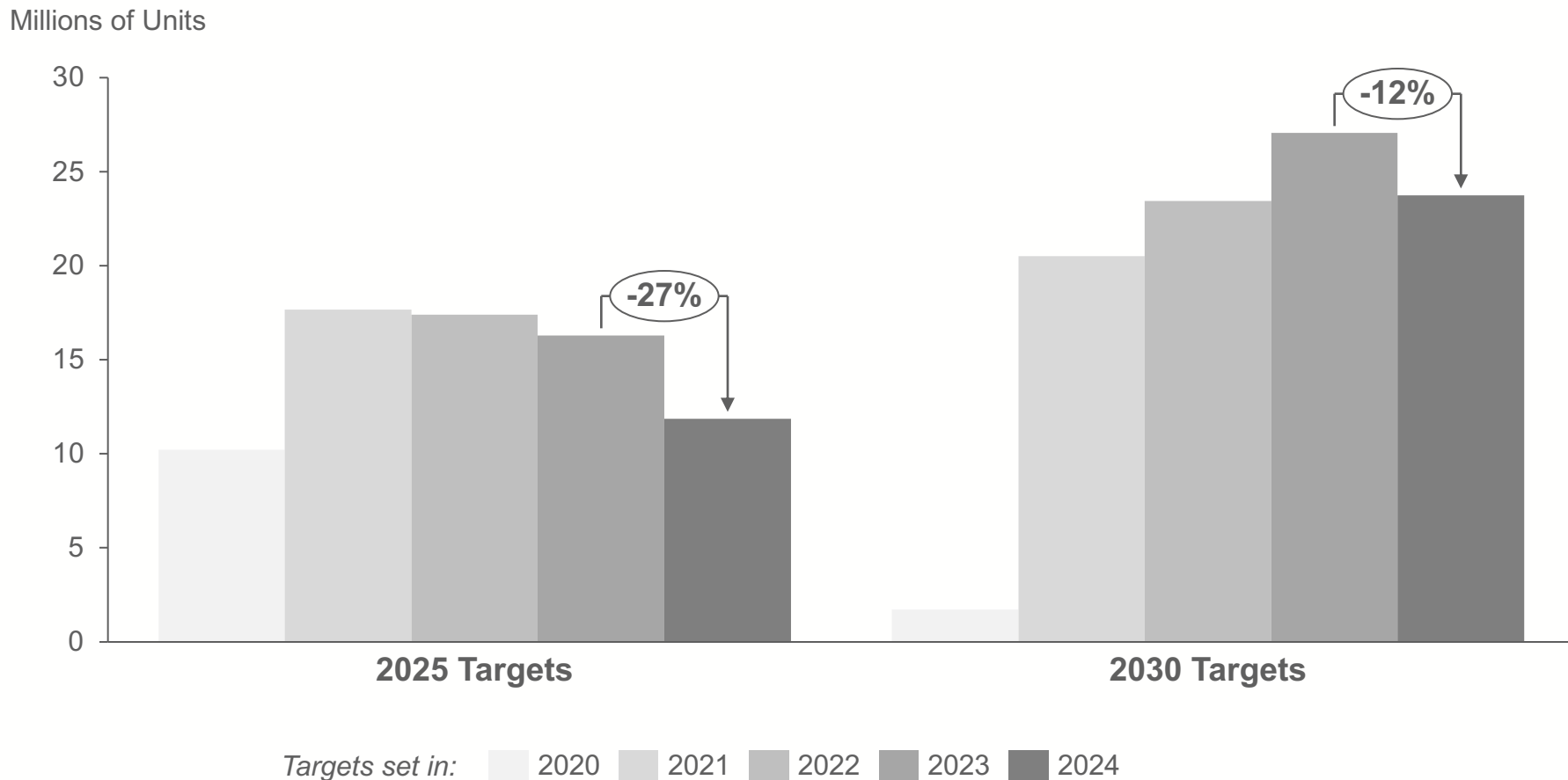
EBIT margins¹, public companies, Europe²



1) Weighted average by company revenue 2) Based on location of company headquarters
 Source: Company financial statements (NA OEMs n=8, Europe OEMs n=9, NA suppliers n=23, Europe suppliers n=16)








Legacy OEMs are reacting to slower EV market adoption, and lowering targets as reality is fast approaching

Global Annual Combined Legacy Automaker EV Sales Targets



Note: Excludes targets by EV-only automakers, like Tesla. 2024 consists of EV sales targets announced through September 5
Source: BloombergNEF Analysis of company announcements

OEMs are pulling EV investment back, realigning to a gradual transition

Plant	Location	Status	Reason for Delay
 Stellantis Belvidere	Illinois	Delayed conversion to EV production until 2027.	Market volatility; multiple project delays.
 Ford BlueOval SK	Kentucky	Second plant construction delayed; core and shell completed.	Aligning production with EV market demand.
 Volvo Monterrey	Mexico	Construction start delayed by 12-24 months.	Synchronizing start with battery-electric demand.
 GM Samsung JV	Indiana	Operational start pushed to 2027 from 2026.	Slowdown in U.S. EV sales.
 Rivian Stanton Springs North	Georgia	Georgia plant construction delayed; instead building in Illinois.	Cost savings; utilizing existing facilities.
 BMW San Luis Potosí	Mexico	Groundbreaking for battery center delayed.	Adjusting EV investment timelines.
 Volkswagen Salzgitter	Germany	Operating at half capacity; second line on hold.	Reduced EV demand; cost-cutting measures.

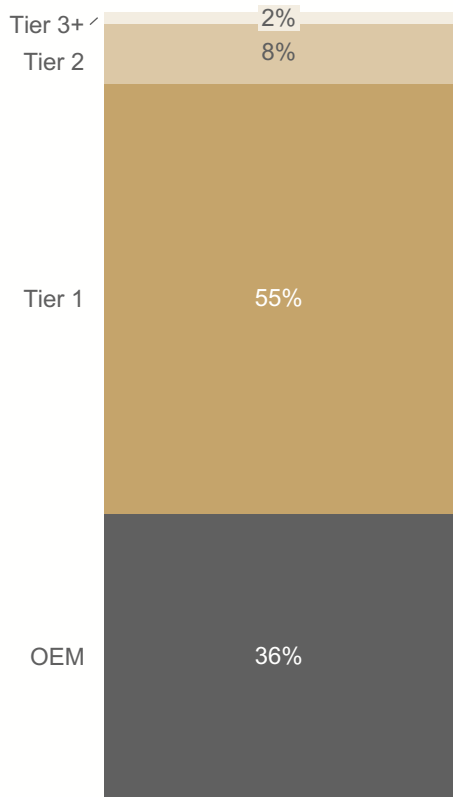
Select Seraph Auto Leader Survey Highlights

Select Seraph Auto Leader Survey Highlights: *Survey Participant Breakdown*

Seraph continues to gather valuable insights from the industry, with American Tier 1 suppliers leading participation in this quarter's research

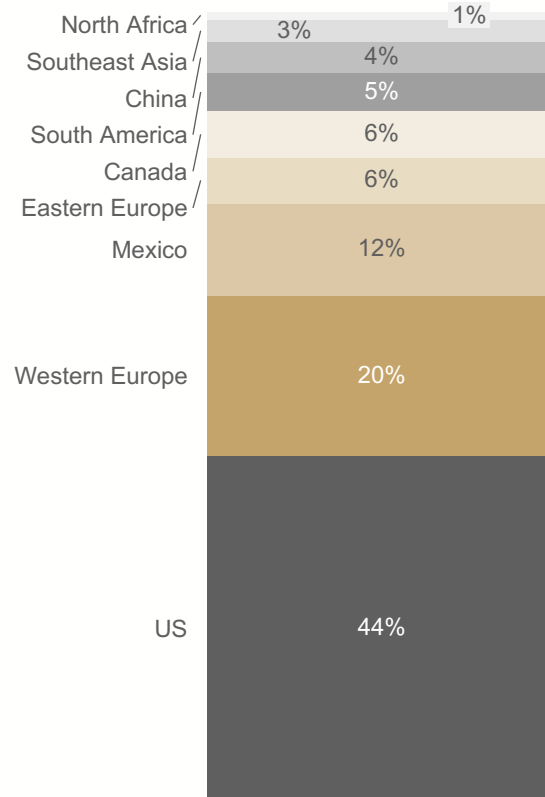
Survey respondents, by company type

Where is your company in the auto supply chain?



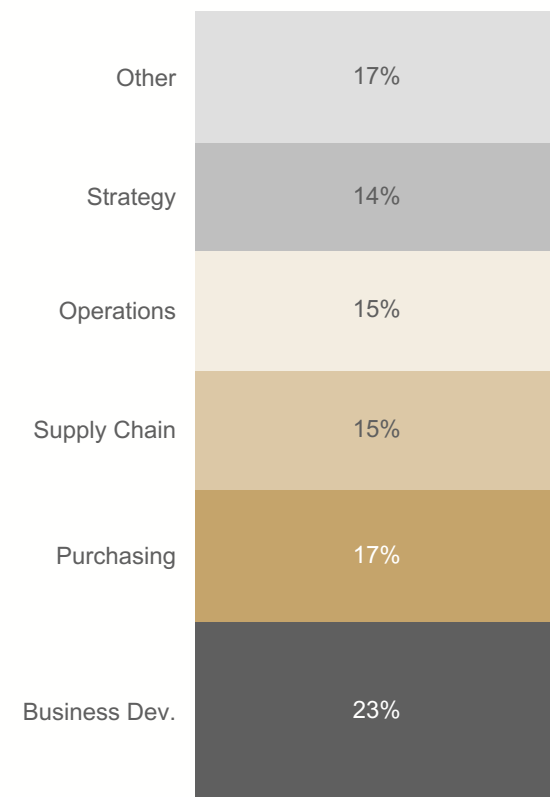
Survey respondents, by country/region

Which region are you based in?



Survey respondents, by company role

What is your role?

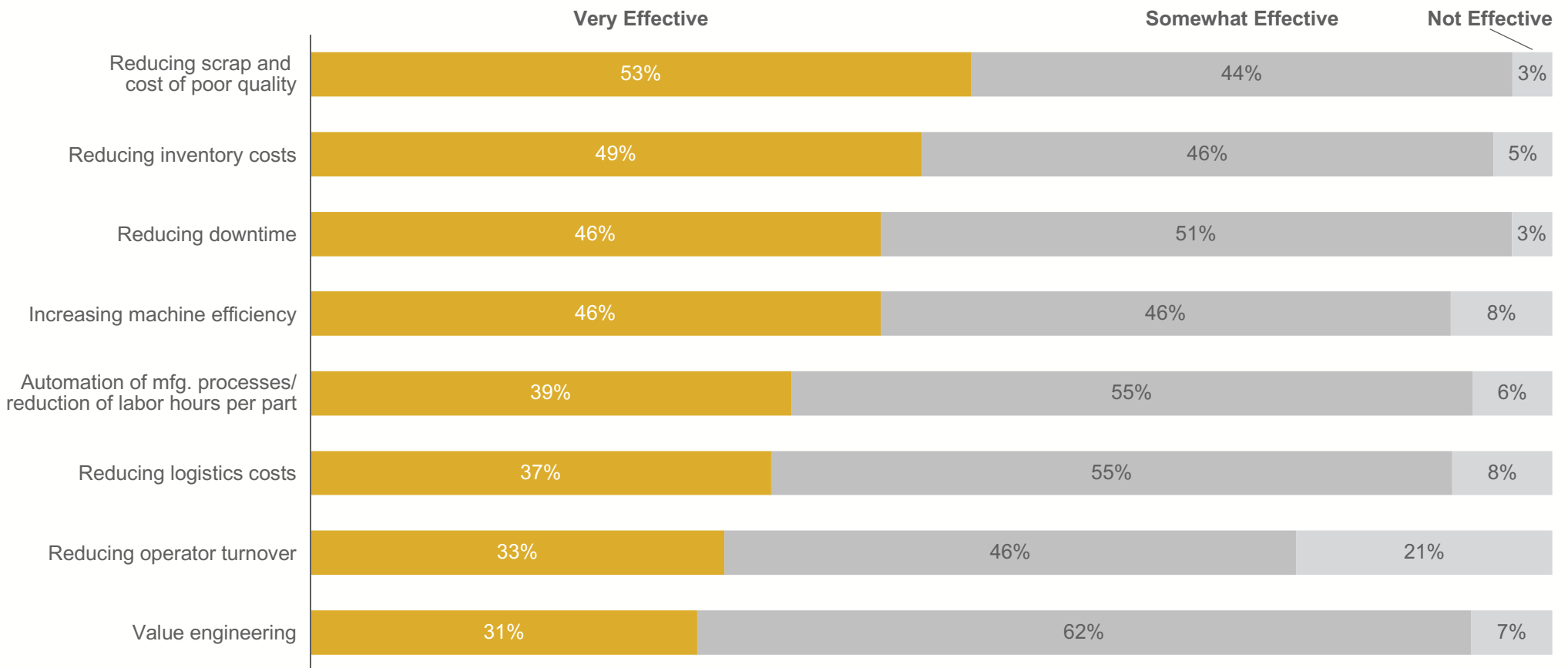


1) Other includes R&D, HR, and various management roles

Source: Seraph Auto Leaders Survey

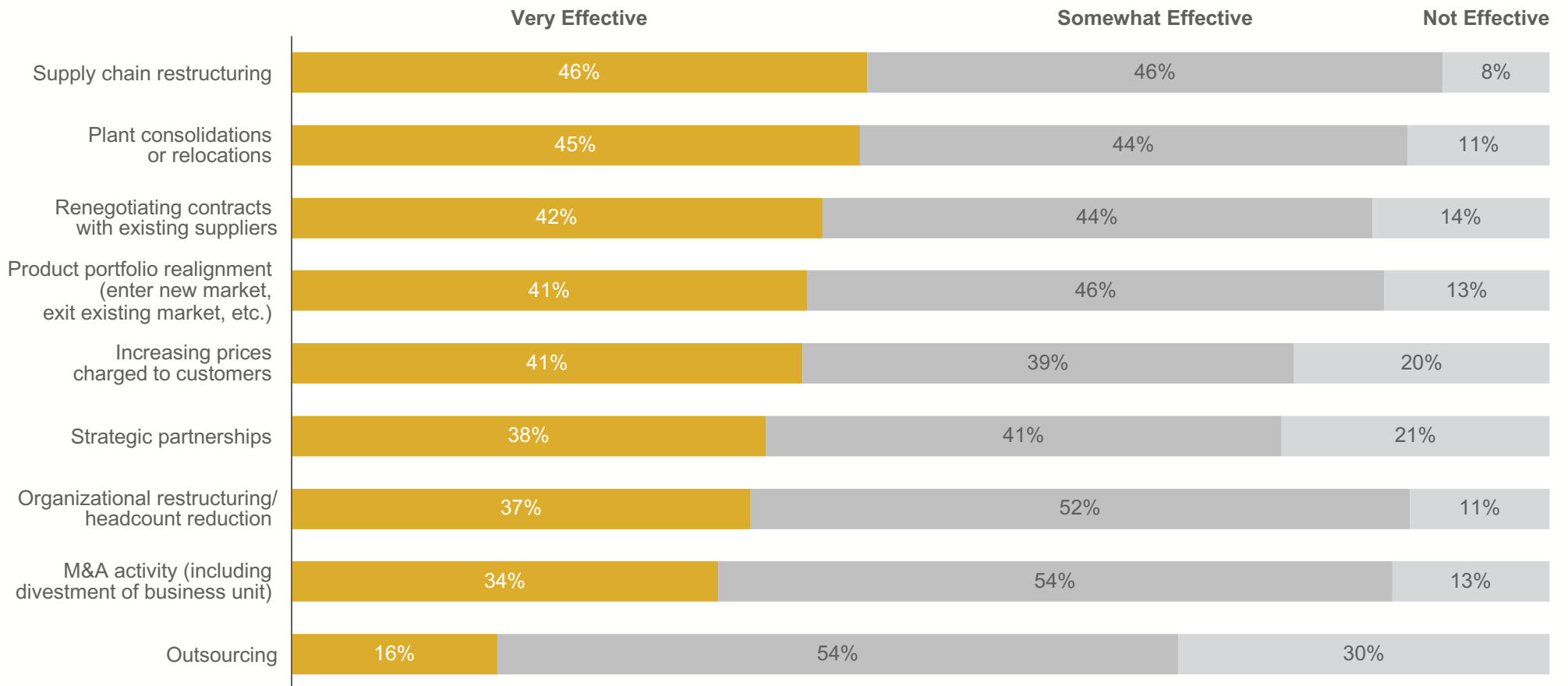
Operationally, leaders are looking to drive OEE improvements to contribute to profitability

How effective do you expect the following **operational activities** to be in **improving profitability** in 2024?



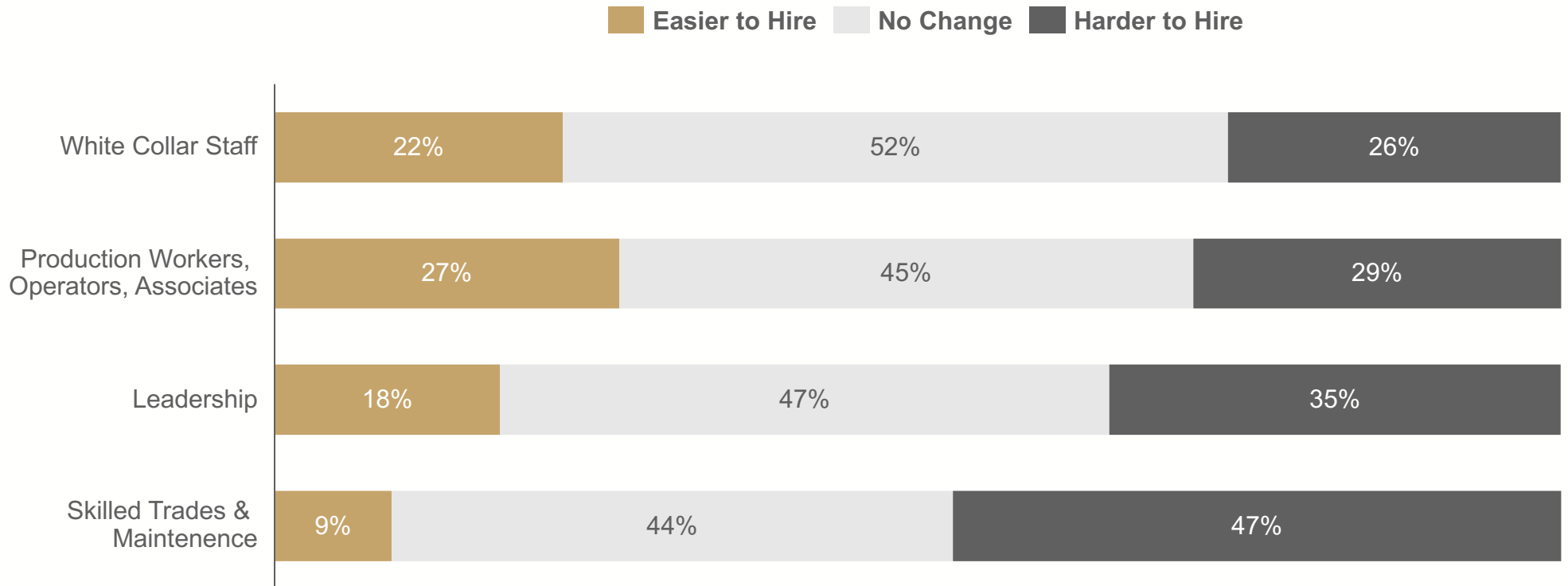
Commercially, automotive leaders are eyeing plant consolidations and supply chain changes

How effective do you expect the following **commercial activities** to be in **improving profitability** in 2024?



Attracting and retaining the right talent continues to be a challenge, especially in the skilled trades

Compared to 3 months ago, how has hiring changed?



45% of leaders incorporate insourcing and vertical integration, but only on a limited scale, but trend is growing

Has vertical integration been a part of your strategy in 2024?



45%

Yes, it is a small piece of our strategy



36%

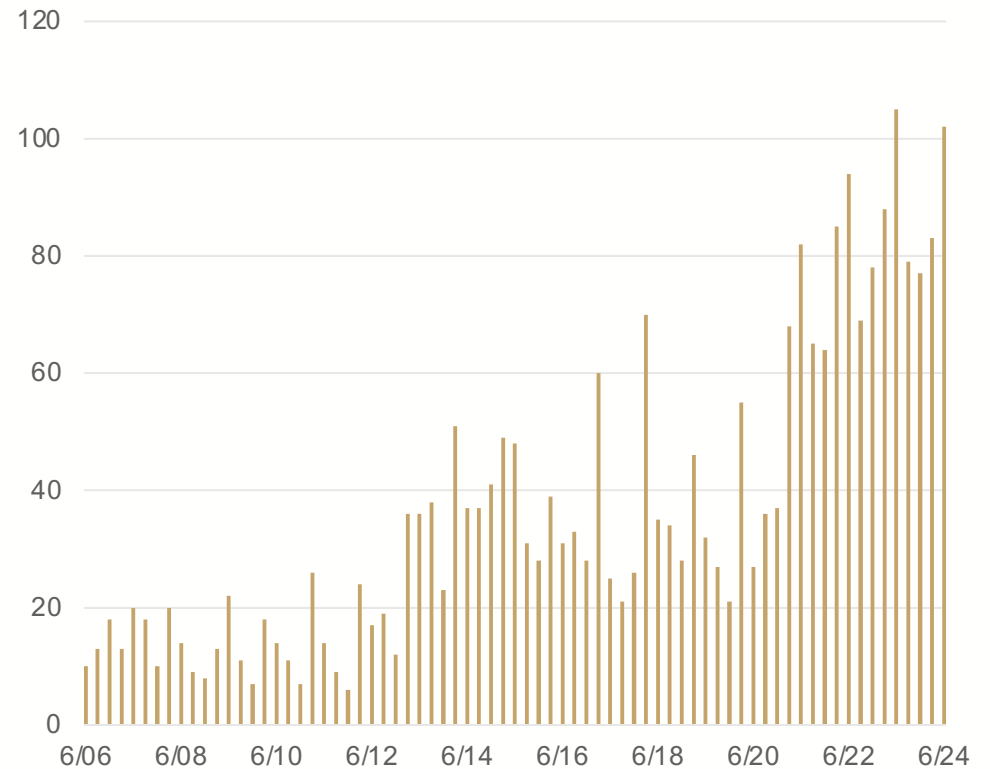
Yes, it is a major focus



18%

No, it's not a focus

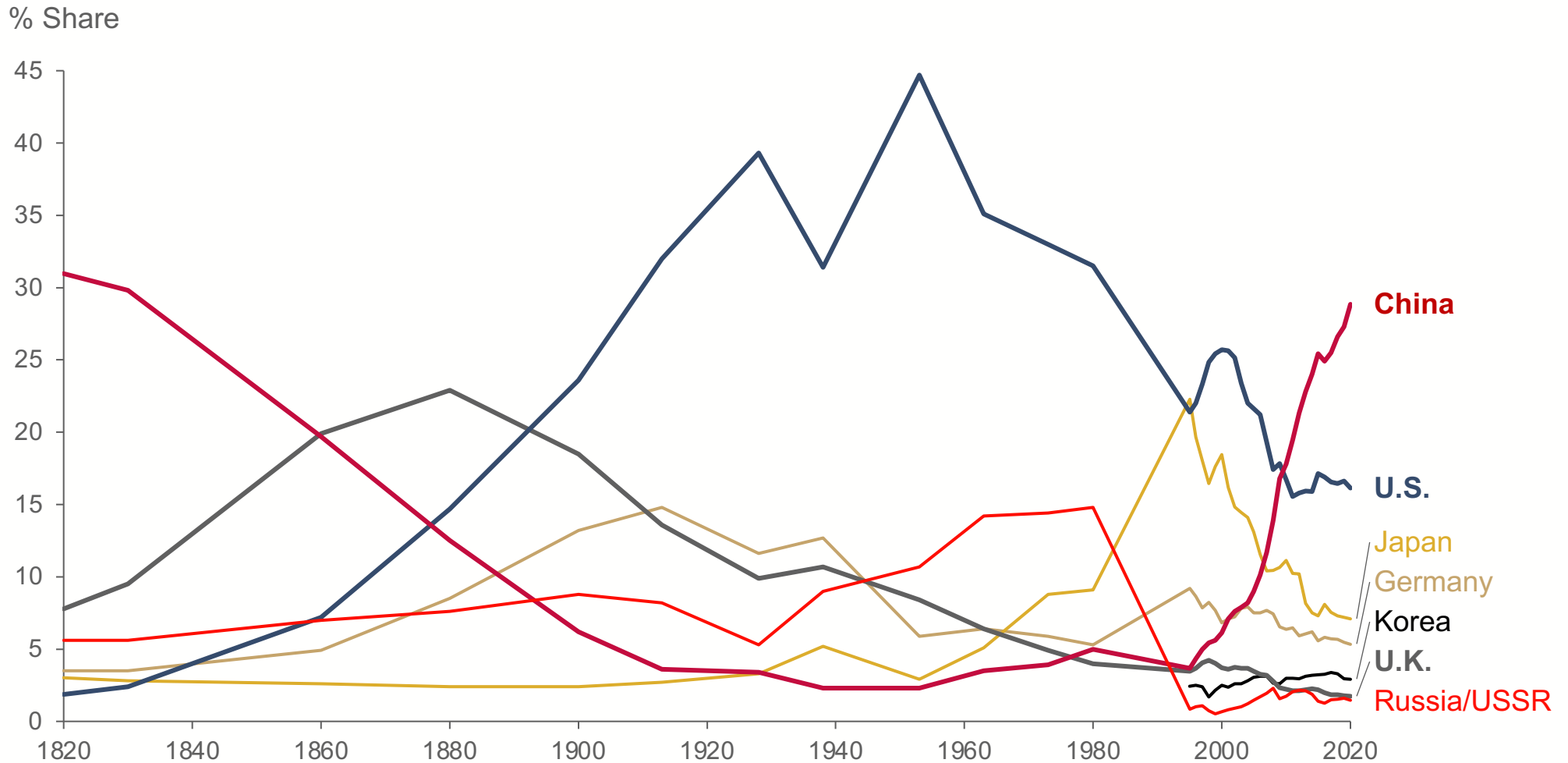
Vertical Integration Mentions in Company Filings¹



1) Automotive Company Filings via AlphaSense for Automotive OEMs & Suppliers n=230
Source: Seraph Leader Survey, Company Filings

Manufacturing Industry Shifts

Shifting Supremacy: a global historical view of industrial revolutions

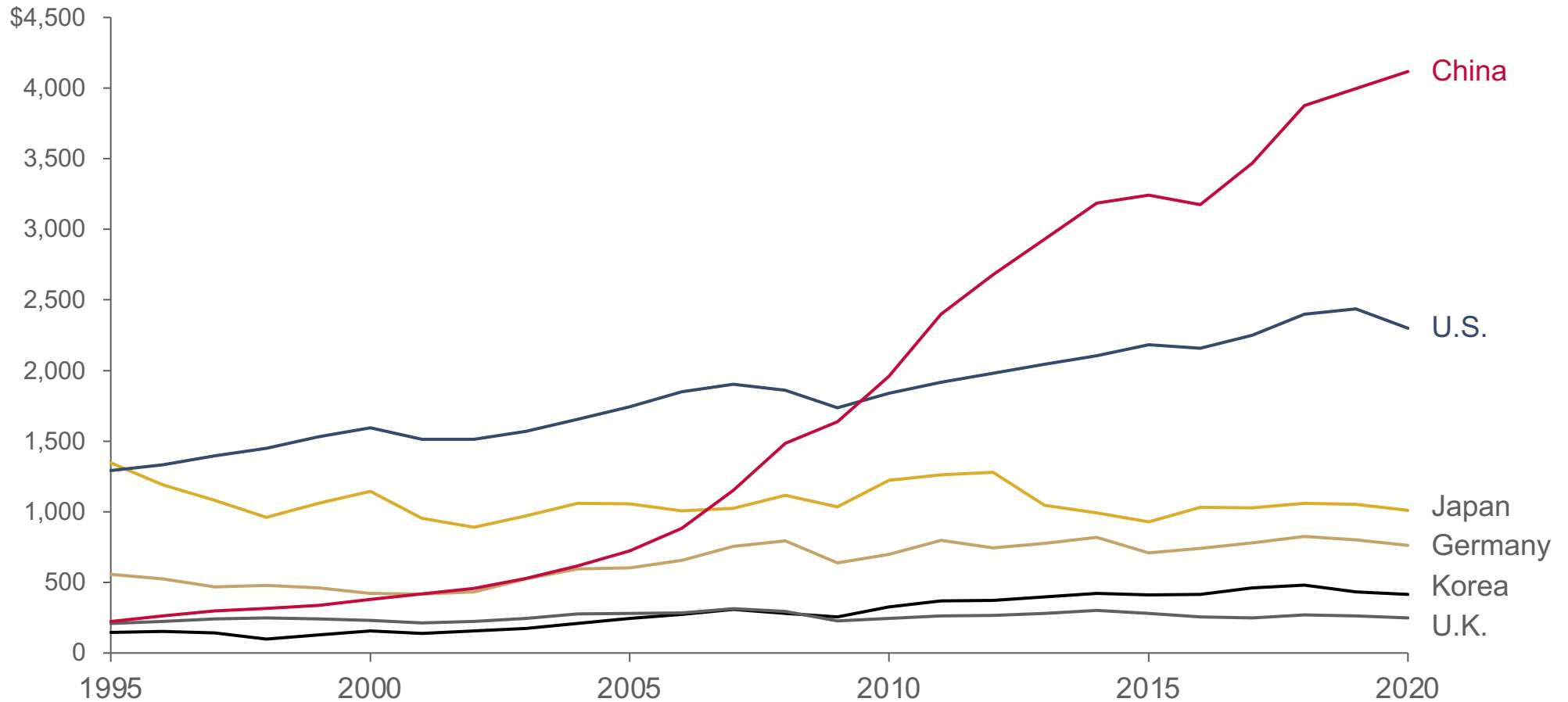


Note: Russia & USSR combined for ease of comparison

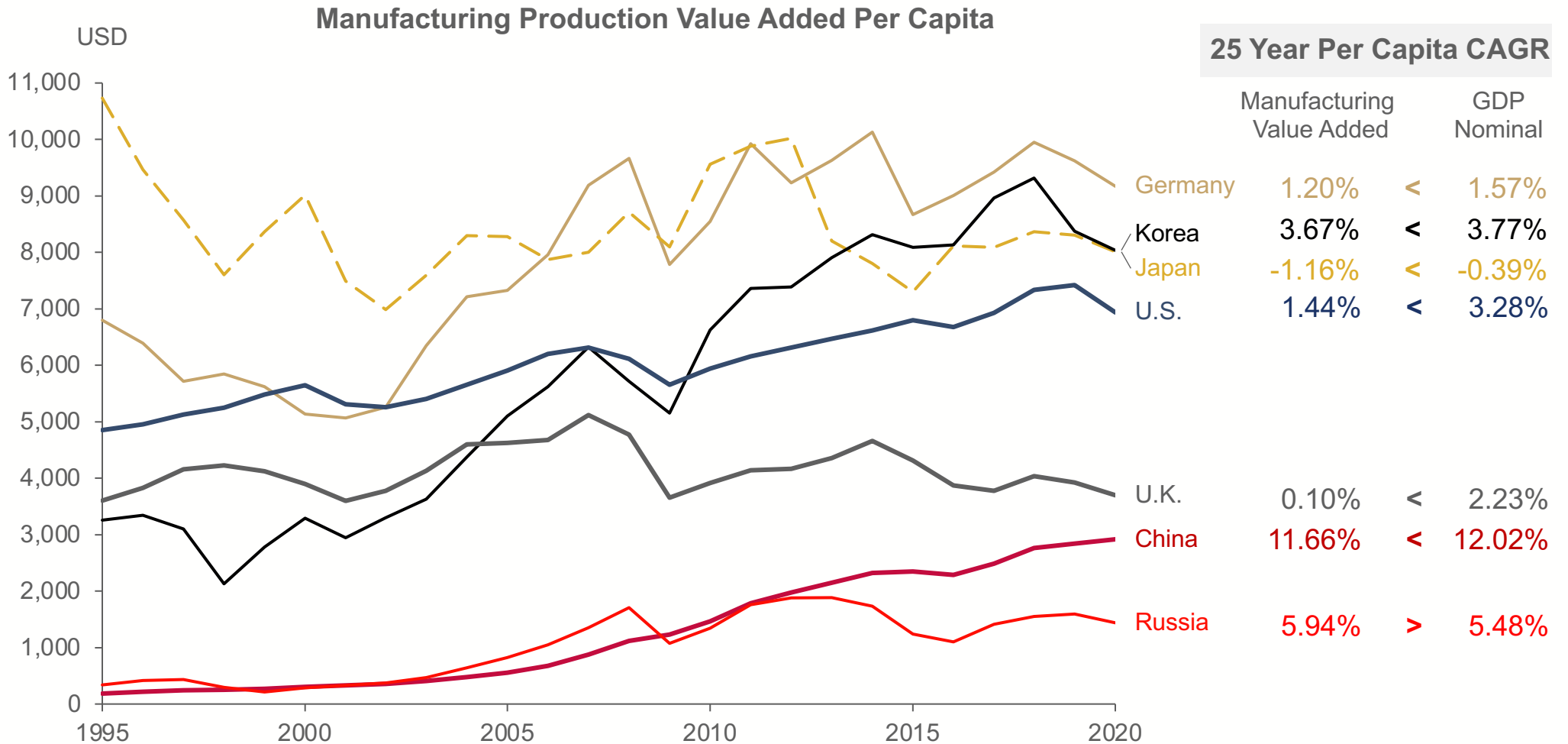
Sources: 1830-1980) Bairoch, Paul. International Industrialization Levels from 1750 to 1980. University of Geneva. 1995-2020) OECD Trade in Value Added (TiVA) 2023 Edition: Principal Indicators. Measure: Value Added, Economic Activity: Manufacturing.

U.S. manufacturing has continued to grow, but from 1995-2020 it's 2.3% CAGR was dwarfed by China's 12.4% rapid expansion

Manufacturing Value Added (USD Billions)



Manufacturing value added lags GDP growth, with exception of Russia. Japan, U.K. and U.S. have the greatest disparity vs. GDP



Notes: Nominal Terms

Sources: World Bank Population Data, OECD Trade in Value Added (TiVA) 2023 Edition: Principal Indicators. Measure: Value Added, Economic Activity: Manufacturing

Tariffs, Trade, and Relocations

Industrial and trade policy are at top of mind for both the US and Europe, setting the stage for increased global trade tensions



United States

- Biden administration invests ~\$70B in clean energy manufacturing through the signing of the IRA
- Biden administration invests ~\$53B in semiconductor manufacturing through the signing of the CHIPS Act
- Biden administration announces an increase in tariffs on various Chinese goods, many auto related
- Former President Trump announces plan for 10% tariff on all imports and 60% tariff on Chinese imports
- China expresses opposition to increased US protectionism and signals willingness to retaliate



Europe

- European Commission announces a tariff hike on Chinese EVs in an effort to push back on state subsidies
- EU set to vote on long-term Chinese EV tariffs by Oct 30th, with Germany and Spain already signaling their opposition
- Mario Draghi, former PM of Italy, calls for increased industrial investment from gov'ts across Europe as well as tactical tariffs to protect Europe's auto industry from China
- China pushes back on Draghi's tariff proposal, cautioning against actions that could escalate trade tensions

Impact of government policies on OEMs & suppliers



Uncertainty surrounding EV policy has left both OEMs and suppliers unable to accurately predict demand



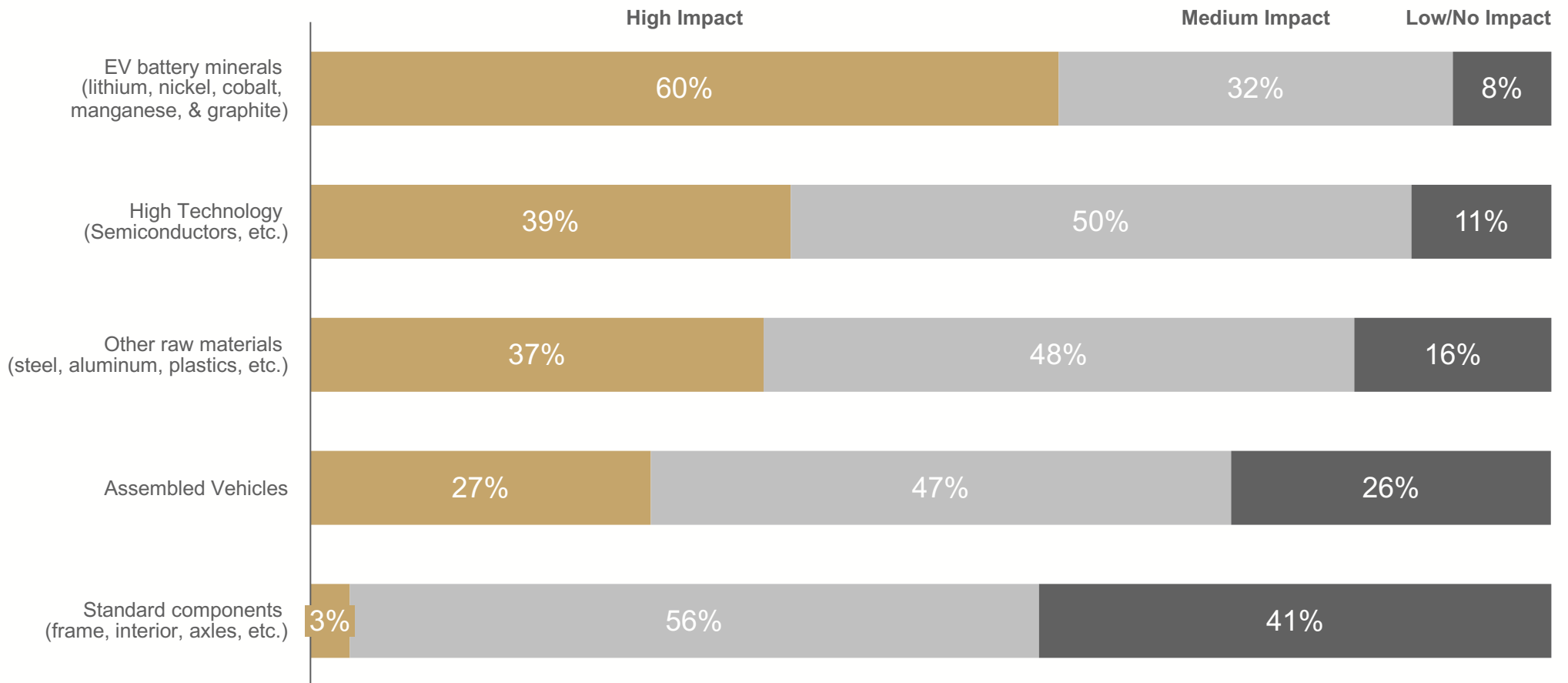
Global trade tensions have made it difficult to assess which regions will be cost effective in the future



Detailed scenario planning is necessary to navigate the uncertain landscape ahead

Given current geopolitical messaging, leaders forecast that battery minerals will be the most impacted by trade restrictions

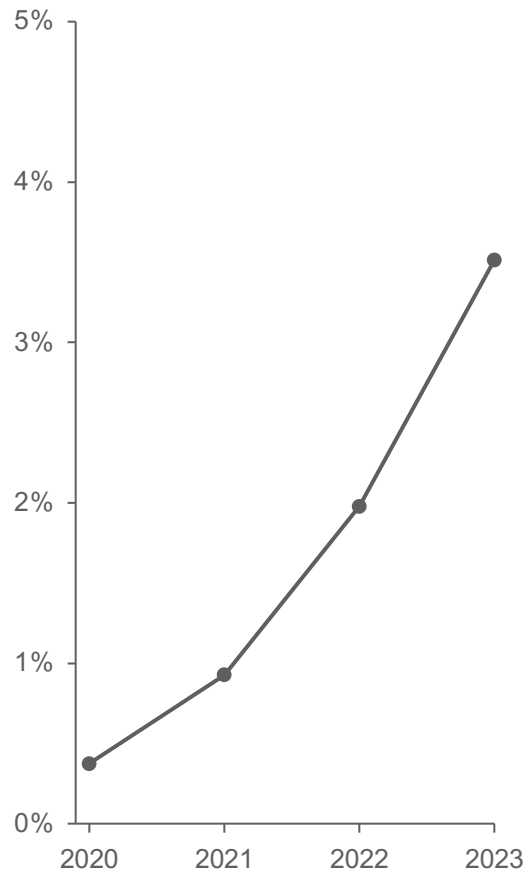
How do you expect tariffs & other trade restrictions to impact the following vehicle component segments?



Chinese vehicles are taking share in Europe, we expect that to accelerate

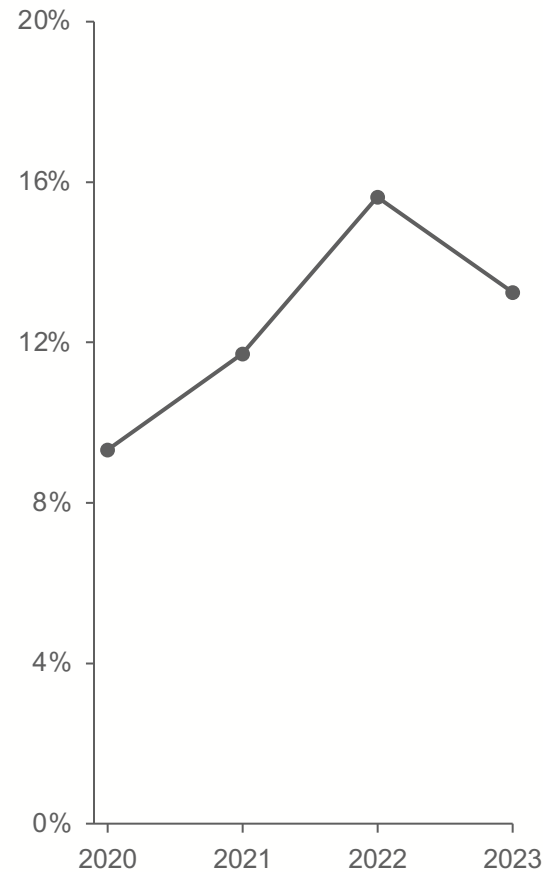
Passenger Vehicles

Share of EU imports from China



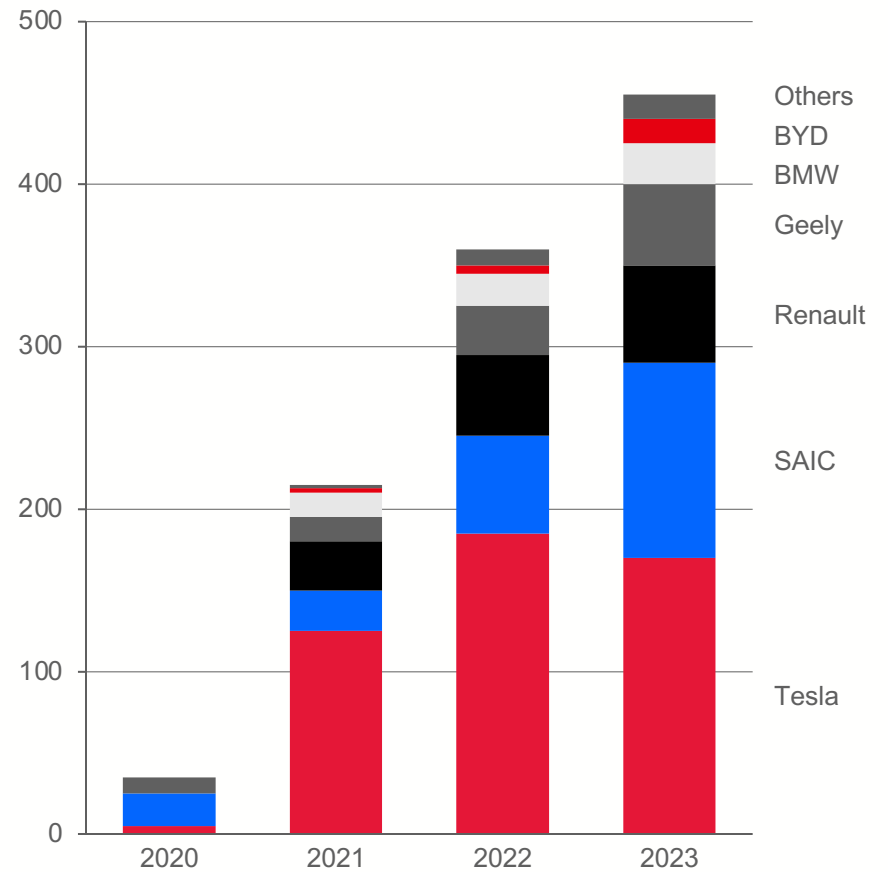
Auto Components

Share of EU imports from China



European EV Imports

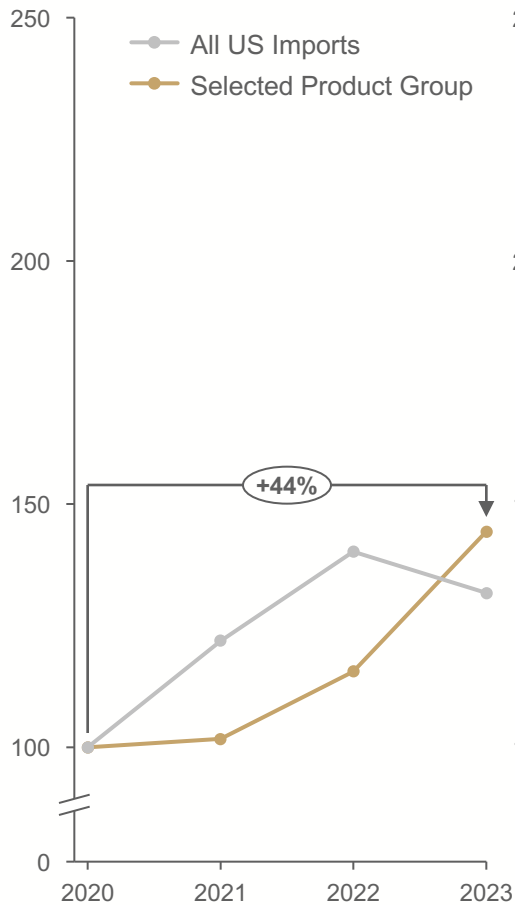
Units imported from China by Brand (000s)



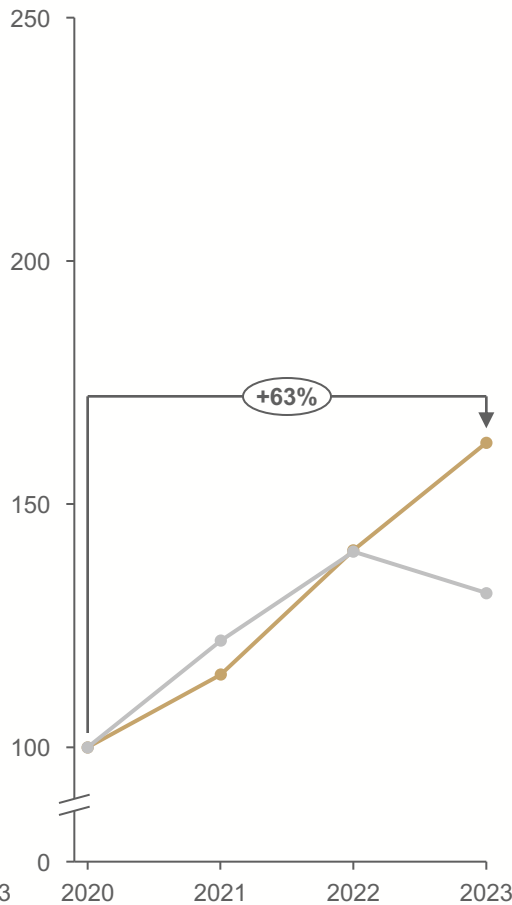
In the US, imports of passenger vehicles and their input goods have outpaced total imports over the last 4 years

US imports of vehicles, components, & raw materials; indexed (2020=100)¹

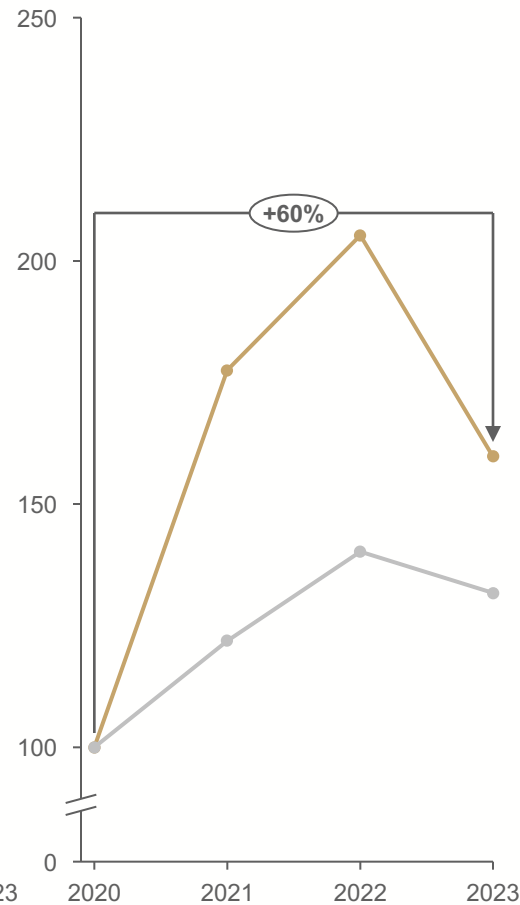
Passenger Vehicles



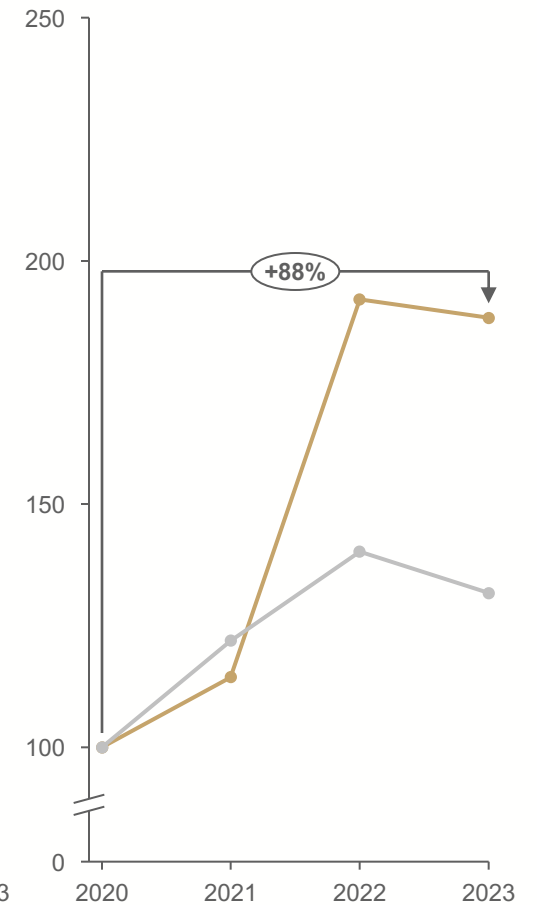
Auto Components



Standard Raw Materials²



Critical EV Minerals³



1) Based on value of goods 2) Includes raw materials used across powertrains, such as plastic, rubber, aluminum, and steel 3) Lithium, cobalt, copper, manganese, and graphite
Source: UN Comtrade, Seraph Analysis

This rise in imports is not driven by nearshoring, with the US' share of auto-related imports from Mexico & Canada declining

Everyone is talking about nearshoring...

Market commentary

“

“We’re transitioning to a new era now, where we can say **the nearshoring boom** has officially arrived...The beauty of this is that more is on the way, we still expect this trend to play out more fully over the next five years”

– Mike Burkhart, VP of NA at C.H Robinson

“

“I see a spike in companies trying to find new sources, companies are actively trying to find different suppliers... We are seeing an uptick in other regions and other areas ...This is the **nearshoring and friendshoring** and all of these types of efforts”

– Georg Roesch, VP of Direct Procurement Strategy at Jaggaer

“

“**Nearshoring continues to grow**... we estimate that between last year and this year, there are already 453 new companies that are in the process of relocating to Mexico...there’s a lot of investment from companies that already have a footprint in Mexico.”

– Ben Enriquez, Head of Mexico Logistics & Customs at Uber Freight

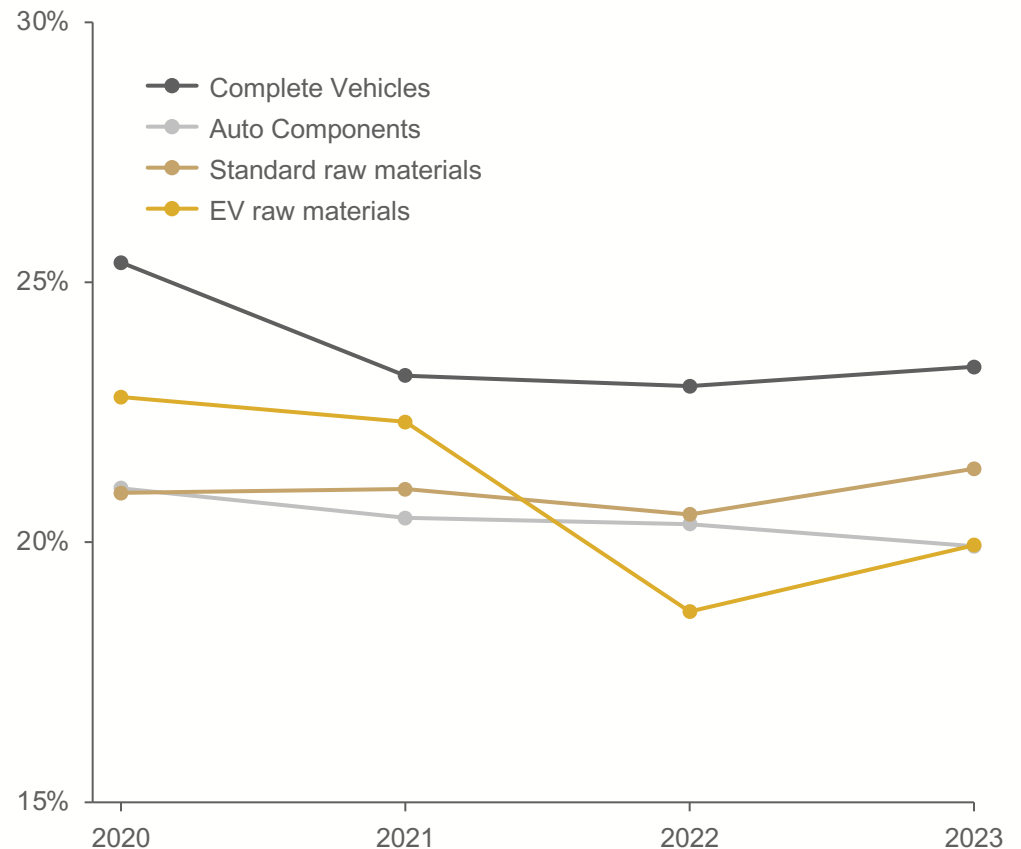
“

“Mexico possesses unparalleled conditions that make it highly attractive: proximity, trade agreement, demographic bonus; it is a true magnet for investments...If we train talent at the necessary speed, demonstrate legal certainty and ensure safety, **growth is limitless.**”

– Mónica Flores Barragán, President of ManpowerGroup for Latin America

...But it hasn’t come to fruition in automotive

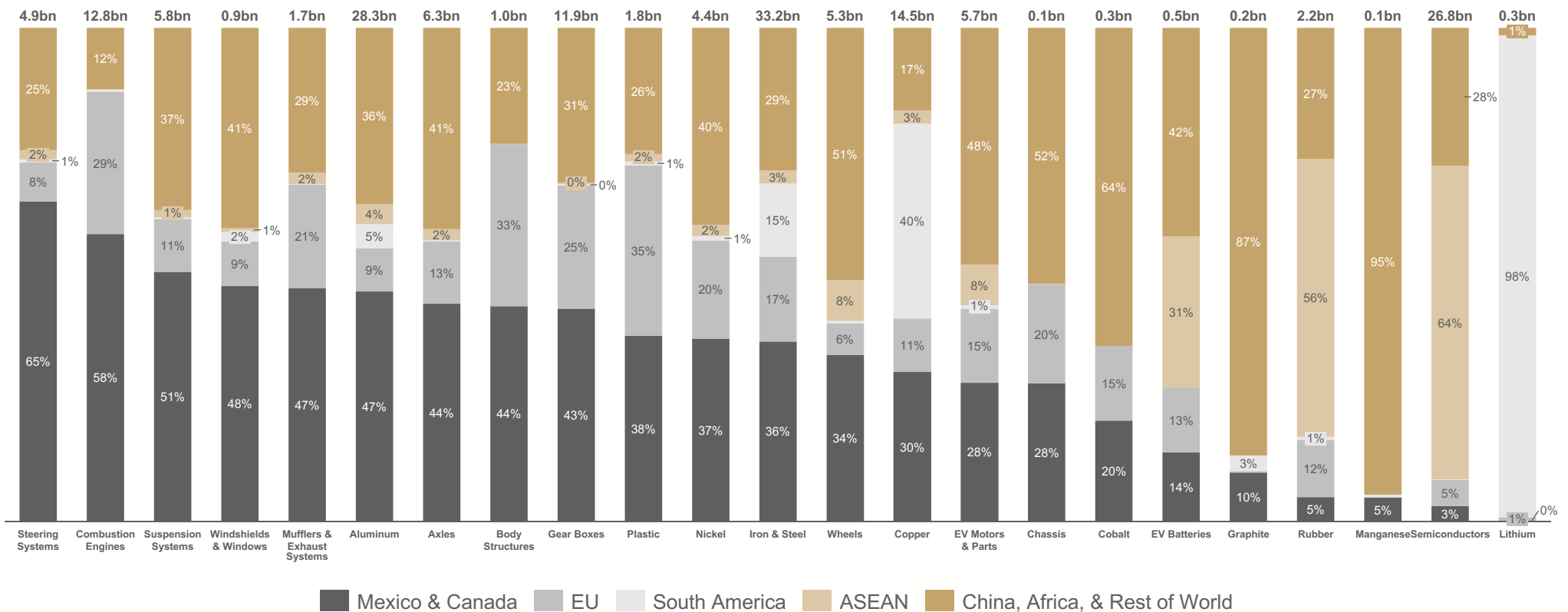
Share of US imports from Mexico & Canada



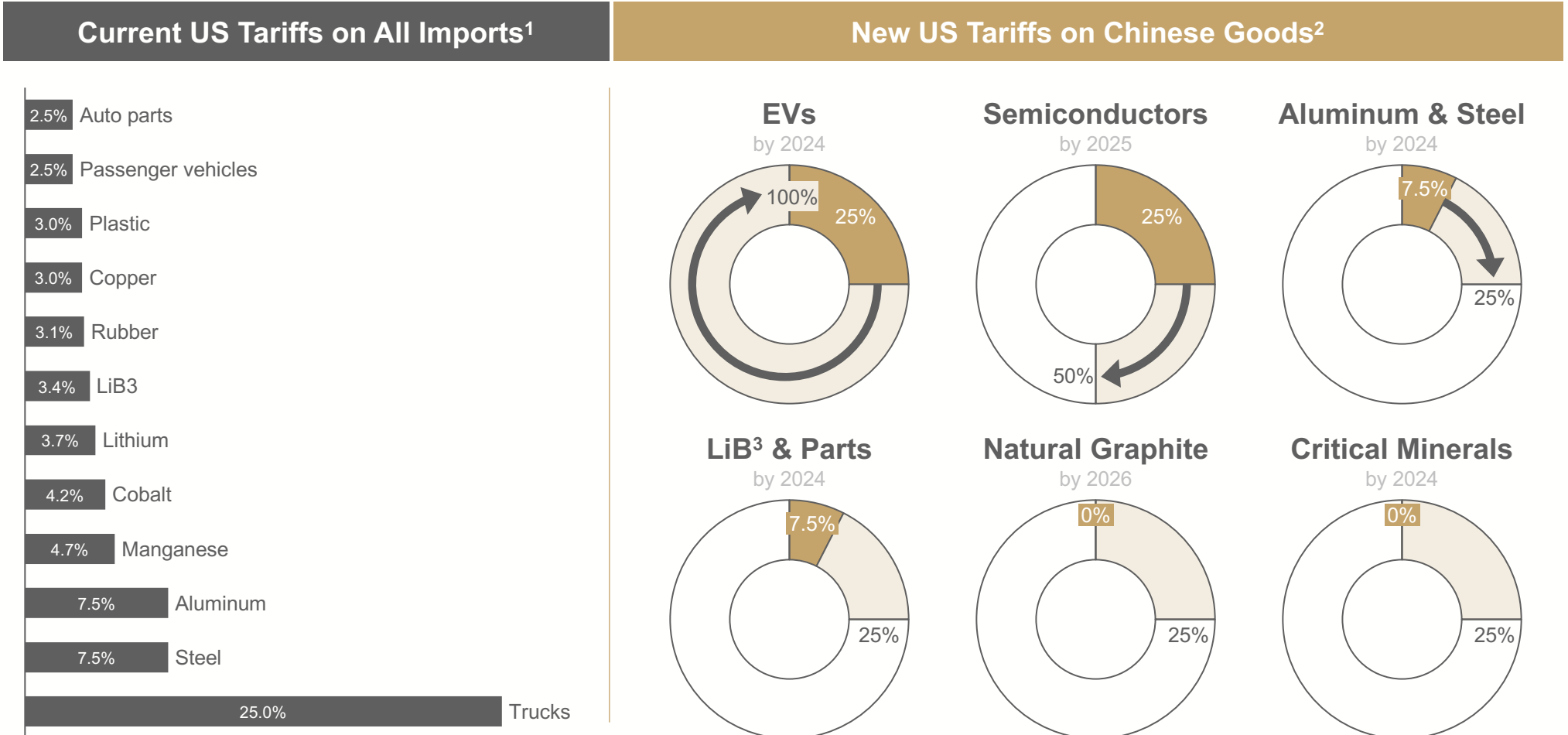
Many critical components & raw materials are still sourced from risky overseas suppliers

US import share by country, selection of auto components & raw materials

lower share of imports from Mexico & Canada

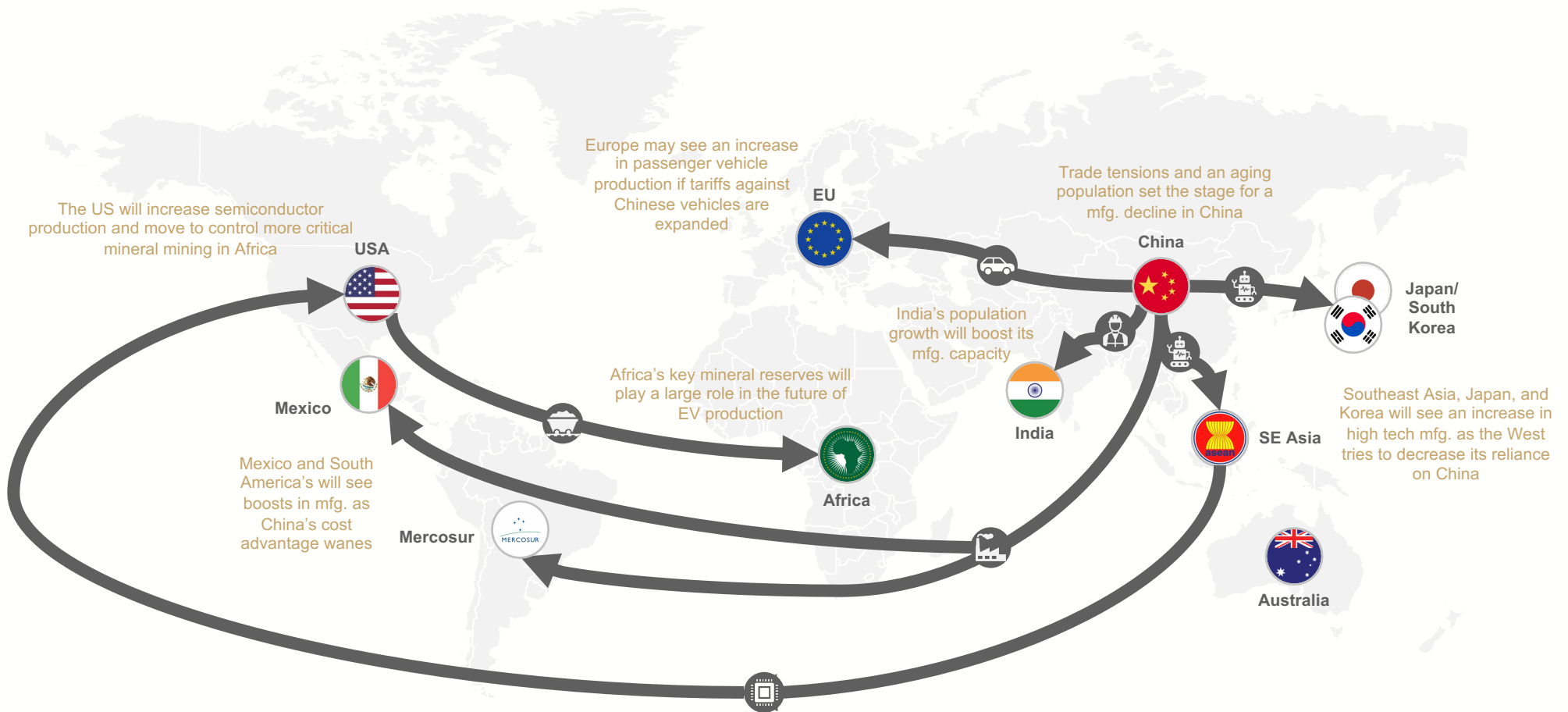


But a renewed wave of tariffs aims to accelerate nearshoring, specifically targeting Chinese goods



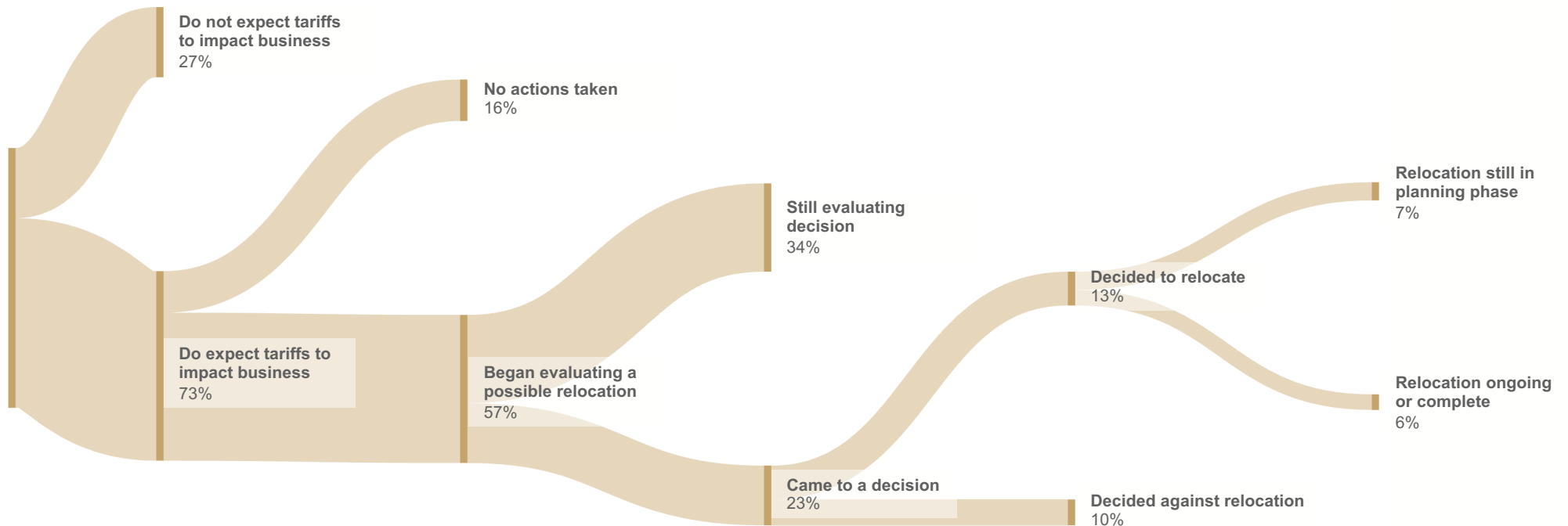
1) With select exceptions for Canada, Mexico, and Europe 2) Non-exhaustive list 3) Lithium-ion batteries
Source: Harmonized Tariff Schedule, White House

All told, we expect to see manufacturing shift out of China and into more favorable regions



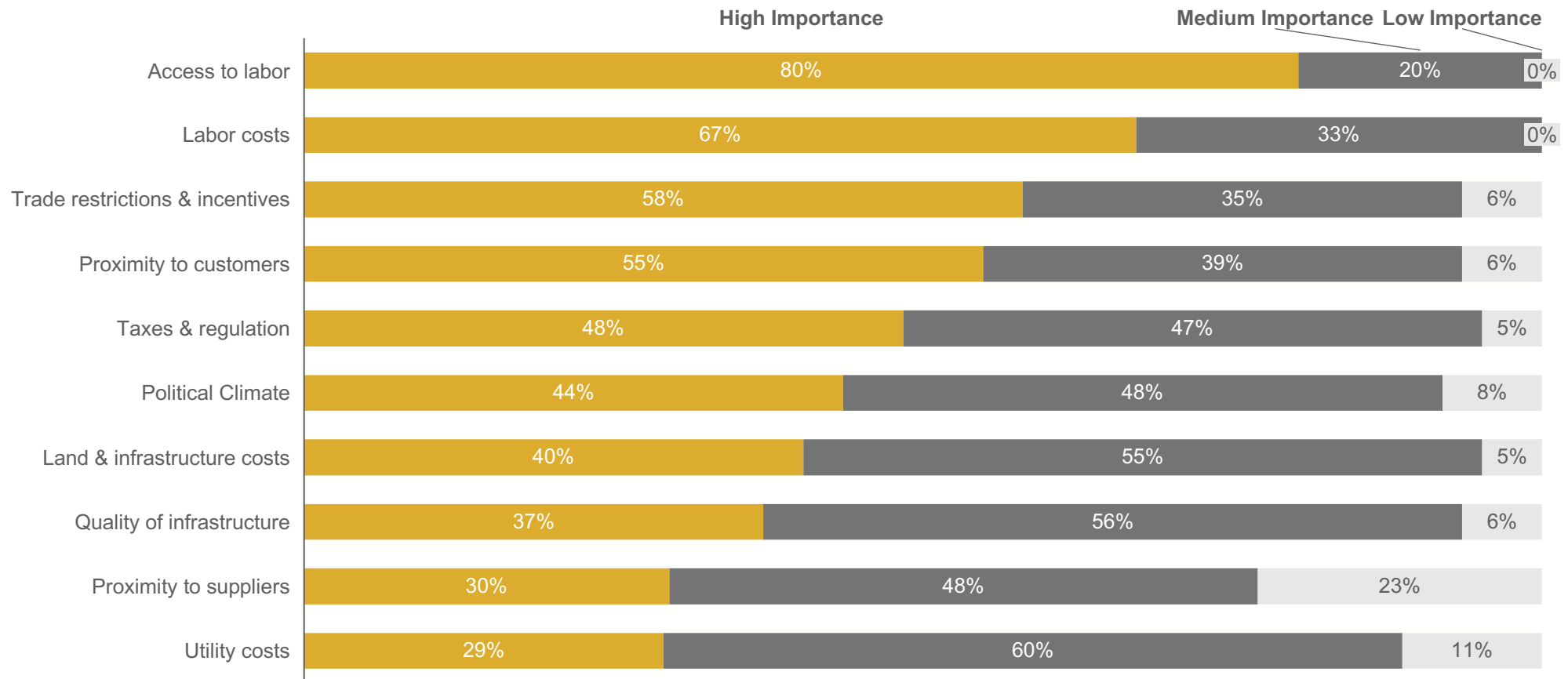
Auto leaders agree, 73% of those surveyed expect tariffs to impact their business, but only 23% have fully evaluated a move

Responses to “How has your company taken action regarding tariff risks?”









Labor is the driving factor for Seraph survey respondents when selecting sites, with less concern about proximity to suppliers

How important are each of the following factors when choosing a location for a new plant or plant relocation?



Labor and cost challenges persist in low-cost country relocation, according to surveyed leaders

Describe your greatest challenge realizing the projected benefits of moving production to a low-cost country.

 <p>Labor and Workforce</p> <ul style="list-style-type: none"> • Access to labor and proximity to suppliers • Lack of qualified labor leading to high training expenses • Finding/hiring qualified workforce availability • Employee retention and turnover • Labor access (union tariffs) • Ramp up the local team to the required level with minimum launch costs 	 <p>Cost and Financial Considerations</p> <ul style="list-style-type: none"> • High investment • Financial risks due to quality spills, inventory pipeline, and logistics • Low-cost countries (Mexico vs. overseas risks with tariffs, freight, and inventory) • Finding a facility that's not overpriced • Safety and ease of doing business • Utilities and manpower costs 	 <p>Logistics and Supply Chain</p> <ul style="list-style-type: none"> • Logistic costs • Proximity to suppliers • Finding the right partner able to scale from low to high volume
 <p>Market and Customer Considerations</p> <ul style="list-style-type: none"> • Customer validation and product validation with customers • US customers prefer local production, especially for mass production 	 <p>Political and External Risks</p> <ul style="list-style-type: none"> • Political climate • Tariffs for big markets 	 <p>Business Case and Strategic Challenges</p> <ul style="list-style-type: none"> • Building product and process know-how • Creating a positive business case • Planning reliability • Cultural sensitivity in business decisions

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LET'S MEET

We'd love to come in and visit your team, take you through the report, and discuss the impacts for your business.

Please consider Seraph as you optimize your footprint and supply chain, improve operations, drive value on the shop floor, and address challenges in new product launches and industrialization engineering programs.



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