



Finished vehicle logistics global survey: Fishing in troubled waters

The global finished vehicle logistics (FVL) sector is currently dealing with a number of simultaneous pressures. China's zero-Covid policy, rising fuel, equipment and freight costs, labour shortages and the repercussions of the conflict in Ukraine are all impacting vehicle production and distribution, as well as sales.

To more accurately measure the main concerns of those using and providing finished vehicle services around the world, Automotive Logistics teamed up with finished vehicle and freight transport expert RPM to research the sector and provide data on the findings on a quarterly basis starting in 2022.

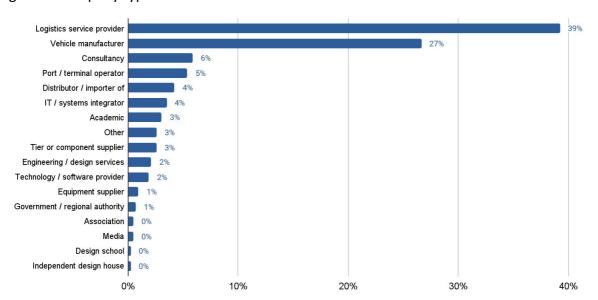
Survey respondents

That research was based on a detailed survey of almost 700 companies, which predominantly featured logistics service providers (39%), carmakers (27%) as well as consultancies, port terminal operators and distributors (amongst others). See Figure 1.



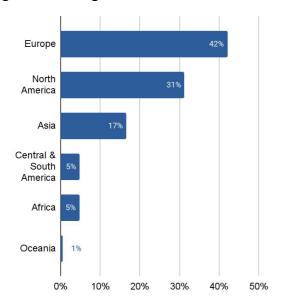


Figure 1: Company type



Respondents mainly came from Europe (42%) and North America (31%), with a significant number also based in Asia (17%), providing an insightful regional representation of industry views which we were able to compare and contrast. See Figure 2.

Figure 2: FVL region

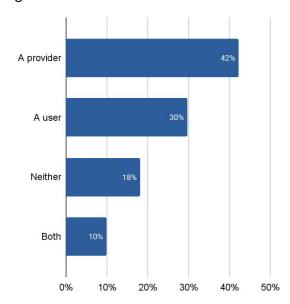


Survey respondents were either providers of transport and logistic services (42%) or users of them (30%). See Figure 3.



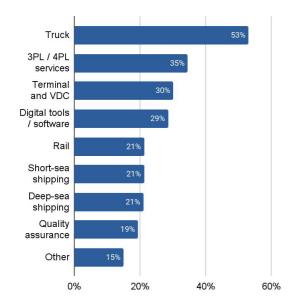


Figure 3: FVL role



For clarification in this survey, users of FVL services were the OEMs, distributors and importers. The providers were those offering multimodal transport and related logistics services, though there was a notably stronger response from the providers of road-based FVL services (53%). See Figure 4.

Figure 4: FVL services provided



Key survey findings

The survey found that the rise in fuel prices was the main concern for 50% of respondents across the three main geographic regions, but with some regional variance: 48% of European respondents, 46% of North Americans responses and 59% of responses from Asia reported fuel prices as the number one issue. See Figure 5.





Rising fuel costs Market uncertainty FV inventory shortages Geopolitical tensions / conflicts Pandemic-related restrictions Rising labour costs Asset capacity constraints Land and space constraints Limited equipment investment Quality assurance challenges 0% 10% 20% 30% 40% 50%

Figure 5: Biggest challenges likely to impact your business over the next 3 months?

In terms of the FVL sector, rising fuel costs were a particular concern equally for both 48% of logistics service providers surveyed, and also 48% of the logistics service users including the OEMs, distributors and importers. See Table 1.

Table 1: Top 3 challenges: FVL providers vs FVL users

FVL Service Providers	FVL Service Users
1 Rising fuel costs 48%	1 Rising fuel costs 48%
2 Market uncertainty 41%	2 Delivery delays 39%
3 Finished vehicle inventory	3 Finished vehicle inventory
shortages 36%	shortages 33%

In terms of overall rising costs, 78% of those surveyed said that fuel was the one they were most concerned about in the next quarter. See Figure 6. Major oil producing nations are struggling to meet renewed demand for oil after the pandemic and the international response to Russia's invasion of Ukraine is causing market uncertainty and pushing up prices further.





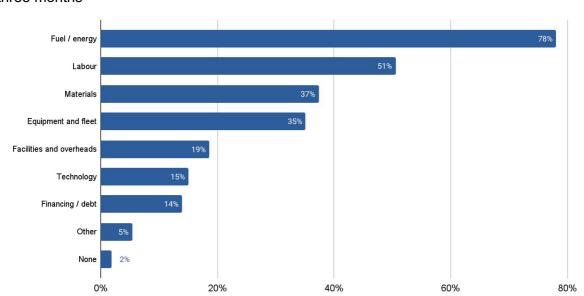


Figure 6: Areas most concerned about rising costs impacting your business over the next three months

Uncertain outlook

Overall market uncertainty ranked highly with 36% of respondents as a concern in the survey, along with concern for the geopolitical risks a key concern with 32% of respondents, primarily the conflict in Ukraine, See Figure 5. which has caused parts shortages for carmakers across Europe and hampered production. Geopolitical tensions certainly fed into overall uncertainty in Europe, which was the region from which a greater number of respondents expressed concern, with 48% of respondents, and most foreign carmakers have stopped production in Russia and sanctions are impacting domestic producers. However, in other regions geopolitical tensions were not a top 3 concern with only 26% in Asia and only 17% in North America reporting it as a concern. See Table 2.

After rising fuel costs, two of the top three concerns in the Asia region were the pandemic-related restrictions (32%) and market uncertainty (31%) in equal third place with delivery delays (31%). By contrast, pandemic-related restrictions were not a top 3 concern in other regions, with only 9% of those surveyed in North America noted the pandemic as a top concern, compared with 21% in Europe. See Table 2.

Table 2: Top 3 challenges by region

Asia	Europe	North America
1 Rising fuel costs 59%	1= Rising fuel costs 48% / geopolitical tensions / conflict 48%	1 Rising fuel costs 46%
2 Pandemic-related restrictions 32%		2 Driver shortages 40%
3= Market uncertainty 31% / delivery delays 31%	3 Market uncertainty 47%	3 Finished vehicle inventory shortages 38%

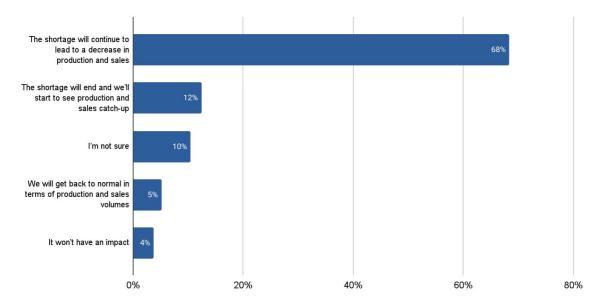
Delays in the delivery of vehicles (for 28% of those surveyed) and inventory shortages (with 33% of responses) were seen as major challenges, especially related to the supply of semiconductors, which continues to hamper production. See Figure 5.





It is one of the biggest problems for the automotive industry at the moment, with 68% of survey respondents pointing out it was going to impact their business in the next three months with a decrease in vehicle production and sales. See Figure 6.

Figure 6: How do you expect semiconductor supply to impact your business in the next three months?



Overall, the industry expects delivery delays over the next quarter to last for weeks at least. Delays in delivery of both parts and vehicles was closely linked to market uncertainty for respondents in Asia and the Covid pandemic restrictions imposed were a big factor, notably the zero-Covid policy taken by China, which has affected production and led to record backlogs at the Chinese ports.

Labour concerns

After rising fuel costs (46%), the driver shortage (40%) and the shortage of vehicle inventory (38%) were the highest-ranking concerns for the industry in North America. See Table 2.

The ongoing driver shortage was also a top issue, the biggest labour concern in fact, most notably in North America where 40% of respondents put it in the top three issues. Not surprisingly it was also more of a concern to logistics providers. This situation has been exacerbating delays in the delivery of finished vehicles to the dealer lots because of lower output caused by the semiconductor shortages, one of the top three concerns for companies in North America.

<u>As has been seen in the wake of Covid</u> in the US, dealer inventories went from an average of between 90-120 days of lead time down to around 26 days last year, with some reporting vehicles being sold before they were even unloaded from the delivery trucks onto the lots.

In Europe the driver shortage ranked lower as a top concern (26%) and it was lower again in Asia (16%), and outside of the top 3 concerns in both regions. See Table 2.





In terms of sector divisions, the rising cost of labour was a top-three concern for 35% of port/terminal operators and 24% of LSPs but barely at all (7%) for the users of FVL services i.e. the OEMs, distributors and importers. However, 39% of those logistics service users said delivery delays were a top-three challenge. See Table 2.

Overall, labour was the second most concerning cost for those surveyed, with 51% of respondents identifying it as having an impact in the next quarter. See Figure 7. It was more of a concern in North America (66%) compared to Asia (32%), with 52% of Europeans stating it would impact on their businesses in the next three months. See Table 3.

Figure 7: In which of the following areas are you most concerned about rising costs impacting your business over the next three months?

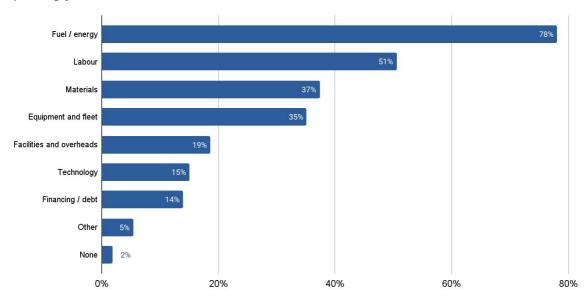


Table 3: Top 3 Cost concerns by region

Asia	Europe	North America
1 Fuel / energy 74%	1 Fuel / energy 85%	1 Fuel / energy 71%
2 Materials 41%	2 Labour 52%	2 Labour 66%
3 Equipment & fleet 38%	3 Materials 37%	3 Equipment & fleet 37%

Port capacity

The most severe impacts on capacity were reckoned to be in maritime shipping (30%) and road (28%). See Figure 8. Port terminal operators were also more concerned than average about facilities and overhead costs.





Shipping

Road

Port terminals

Rail

9%

Vehicle yards

Other

3%

10%

20%

30%

Figure 8: In which area do you think capacity constraints are likely to be most severe in the next three months?

In terms of region, those in Asia was most concerned about maritime shipping capacity – 39% selected it as the most constrained area compared to 30% in Europe, which was more concerned about road, and 20% in North America, where respondents were more concerned about rail capacity.

It is not surprising that Asian companies are more concerned about ports and shipping capacity given the current congestion at the port of Shanghai, the world's busiest container port, and delays building at Ningbo-Zhoushan, the world's third busiest container port. Toward the end of April there were reckoned to be around 500 vessels stuck around the main Chinese ports.

The users of FVL services were more concerned about maritime shipping (37%) but this may in part be due to more respondents from Asia being users of FVL services rather than providers of the services (23%).

Logistics doldrums

Maritime shipping is the mode that is expected to see the most delays in the coming months, ahead of truck and rail. See Figure 9.





Months shorter Weeks shorter Stay the same Weeks longer Months longer

Truck 13 43 46 46 33 5% 13%

Shipping 13 42 24% 50% 75% 100%

Figure 9 Are You Expecting Shorter Or Longer Lead Times For The Following Logistics Modes Over The Next Three Months?'

Port terminal operators based in Asia were also more concerned about facility overheads (29%) than their contemporaries in Europe and North America. In contrast, 39% of FVL users selected delivery delays as a top-three challenge compared to 17% of logistics providers. The same challenge was expressed from a different perspective by the users of services, including the carmakers, with delivery delays a top concern for around 45% of them but for only 17% of logistics services providers.

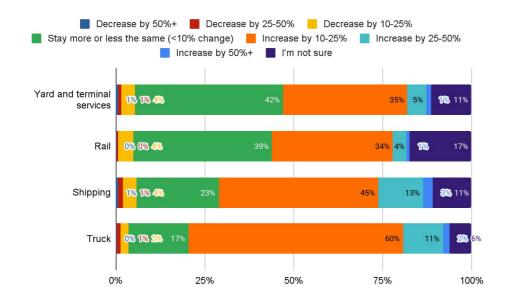
Overall, delays of weeks to delivery lead times were expected in all areas, including domestic and regional vehicle imports, production and allocation and total order-to-delivery. European respondents were the most pessimistic when it came to delays, with 15% expecting total order-to-delivery lead times to stay the same, compared to 20% of North Americans and 26% of those from Asia. Europeans also saw truck lead times increasing (47%) and they were the most likely to predict lead-time delays of months rather than weeks, with 34% in Asia and 28% in North America. Notably, 50% of respondents from North America predicted rail delays compared to 35% in Europe and 33% in Asia.

Given the shortage of capacity, freight rates are expected to further increase across the board over the next three months. See Figure 10.





Figure 10: How do you expect freight rates to change, for the following services, in the next three months?

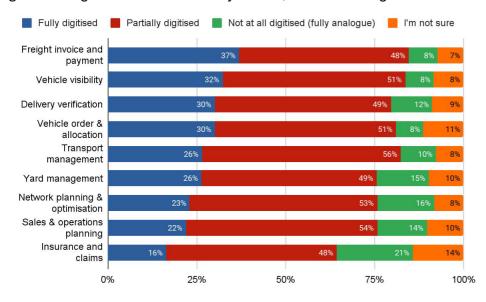


A majority of respondents predicted an increase in truck freight rates of 10%+ and Europe was the region where respondents were most likely to expect an increase. In Asia, respondents were less likely than average to predict an increase for truck rates.

Digital lag

On the question of technology innovation and digitalisation, progress is being made but it does not appear to be a major priority in the current climate and across the various logistics functions the uptake of digital tools remains partial rather than complete. Order management was more of a priority above digitalisation of planning. See Figure 11.

Figure 11: Digitalisation: where are you now, in the following areas?







Across the different logistics functions a mean average of only 26% of those surveyed declared they were fully digitalised, while 50% admitted they were only partially digitalised.

A clear majority of those surveyed had no immediate plans to invest in either autonomous technology for vehicle logistics (59%) or machine learning and artificial intelligence (54%). See Figure 11.

The users of logistics services were more likely than logistics providers to have invested in autonomous technology for FVL.

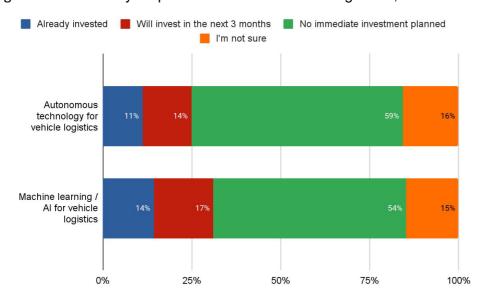


Figure 11: What are your plans to invest in the following areas, in the next three months?

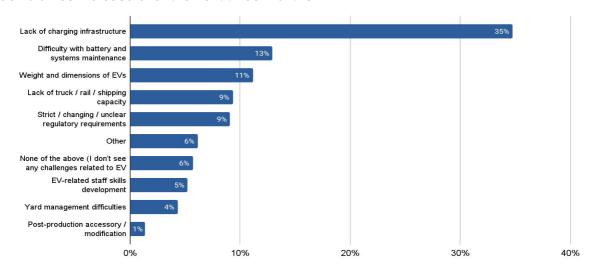
Charging anxiety

Meanwhile, the biggest concern for most when it came to the adoption and movement of electric vehicles (EVs) is the lack of charging infrastructure, more so than any logistics issues. Charging anxiety has replaced range anxiety for consumer, OEM and provider alike, and there is a clear margin in the result of the survey between a concern for the lack of charging infrastructure (35% of respondents) and other logistics issues such as battery maintenance (13%) or EV weights and dimensions (11%). See Figure 12.





Figure 12: Which of the following poses the biggest challenge when it comes to ev logistics, as volumes increase over the next three months?



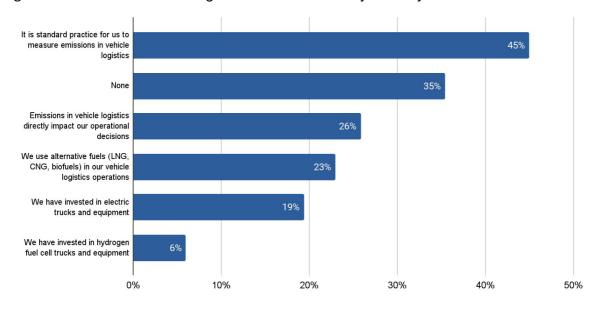
Regionally, however, those companies based in Asia were more concerned than average about battery systems and maintenance, with 19% selecting this as the biggest challenge versus 10% of those from Europe and 15% from North America.

Also noteworthy was the finding that LSPs were more likely to be concerned about weights and dimensions than their OEM customers.

Measuring emissions

On the all-important topic of sustainability, there was a clear indication from respondents to the survey that measuring emissions was standard practice in vehicle logistics (45%). However, it was less the case that the results directly impacted operational decisions (26%) and there was little further progress forecast in the short term. See Figure 13.

Figure 13: Which of the following statements are already true of your business?







However, there was some evidence of the adoption of alternative fuels and electric trucks for vehicle logistics operations, with 23% of those surveyed stating they were using alternative fuels, such as LNG, CNG and biofuels, and 19% stating they had invested in battery electric trucks and equipment. See Figure 13.

It was more likely that companies had switched modes rather than adopted greener logistics, with 33% of respondents stating that moving vehicle volumes to rail or water from road was an option. See Figure 14.

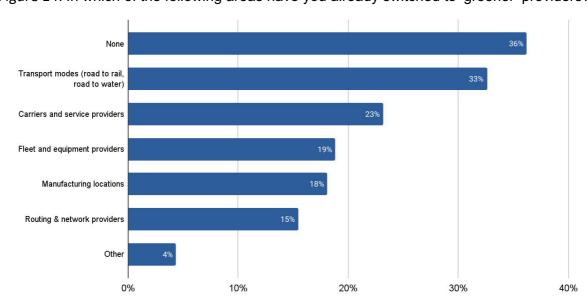


Figure 14: In which of the following areas have you already switched to 'greener' providers?

Regionally, only 21% of North Americans had switched transport mode versus 40% of Europeans and 45% of Asians.

Only 18% of OEMs had not already switched to a greener provider, and either changed transport modes (56%) or manufacturing location (36%). See Figure 14.

Regionally, North America is lagging behind Asia and Europe when it comes to making vehicle logistics more sustainable. More than half of respondents in that region it's unclear which region you are referring to here?! had not adopted any sustainable alternatives for operations. Moreover, only 15% said emissions in vehicle logistics directly impacted their operational decisions against 30% of people from Europe and 31% from Asia.

Asia was leading the way in terms of cleaner vehicle logistics, according to the survey. Of those surveyed, 29% of those from Asia had switched to greener manufacturing locations compared to just 10% of those from North America, and 18% of those from Europe.

Asian optimism

Overall, users of finished vehicle services seemed to be slightly more optimistic than providers about production and sales volumes over the next quarter. Regionally, Europeans were more pessimistic when it came to forecasts for their company over the next three months. The main body of respondents in Europe predicted significant revenue and profit decreases, and more than 50% said they expected vehicle production to decrease.

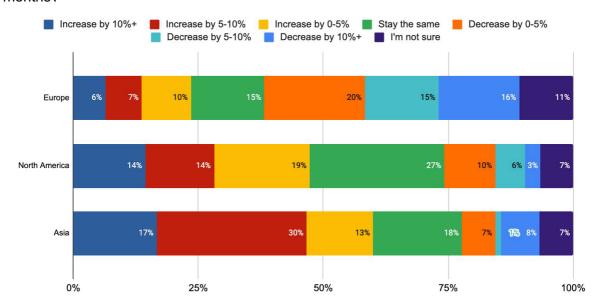




Compared to which, around two-thirds of respondents from Asia expected to see growth in production and sales, with 60% predicting production increases and 64% expecting sales growth. Those based in Asia were also likely to predict both revenue and profit increases, as well as investment in their business.

Meanwhile, those based in North America were more likely to predict an increase than a decrease in both production and sales. See Figure 15.

Figure 15: How do you expect the following to change in your region over the next three months?



Respondents were questioned about the outlook for profitability, investment and revenue over the next three months. 45% of respondents stated that profits would increase, 28% stay the same, and 26% decrease. Regarding investment, 29% stated that it would increase, 21% remain the same and 50% said it would decrease. In terms of revenues, a total of 56% of respondents said that revenues would increase, 26% remain the same and 18% that revenue would decrease. See Figure 16.

In conclusion, despite the numerous challenges, headwinds and macroeconomic uncertainties, respondents were broadly positive in the business outlook for finished vehicle logistics, particularly regarding revenue and profitability.





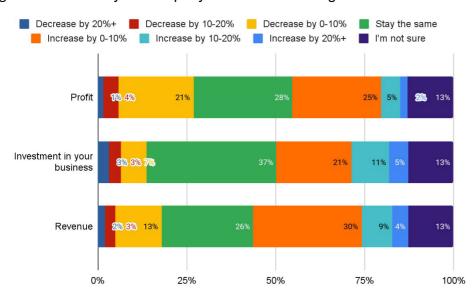


Figure 16: How will your company fare in the following areas in the next three months?

Stay posted for the results of the next quarterly review of the FVL sector from Automotive Logistics and RPM.



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