



Global Automotive Risk Outlook 2024

What does the future hold
for OEMs and component
manufacturers?

Global Automotive Survey

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Introduction

Rethinking the risk landscape of automotive manufacturing

The pace of change within the automotive sector is unprecedented, where modern vehicles are viewed as ‘computers on wheels’ as much as they are machines.

Innovation within software and electronics applications enables vehicles to predict, identify and avoid potential collisions. With over 30,000 individual components in vehicles rolling off factory floors today, the level of integration is unprecedented.

But what happens when one of these products fail? As well as navigating the fast pace of electrification, automation and connectivity, manufacturers must also negotiate new contractual roles and responsibilities, and plan for potential liabilities in case of, as yet unknown, technological defects.

At this time of great risk — and opportunity — we surveyed 500 leading companies around the world, to find out how they see the industry developing. This includes original equipment manufacturers (OEMs) and component manufacturers, to highlight the unique challenges encountered at different stages of the supply chain.

We found that businesses are broadly optimistic about the future, despite various headwinds. With global conflicts and trade tensions on the rise, ESG requirements and regulations becoming more onerous, and the risks associated with software and autonomy yet to be fully understood, the sector faces a number of new challenges.

Companies are increasingly dependent on third party software and more enabled by the benefits it brings, such as leveraging technology to identify defects earlier, before they become critical. But, as we move into an era of highly computerised, hyper-connected vehicles, few are sure where the liability for faults will begin and end.

About the survey



When

Autumn 2023



Who

500 senior executives, including C-suite and heads of finance, risk, HR, sales, marketing, procurement, legal, compliance, governance and corporate communications



Type of business

OEMs, and tier 1, 2 and 3 manufacturers of automotive components



Where

more than 20 countries in Europe, Asia Pacific, North and South America, and the Middle East



Size

56% over \$1bn revenue; 44% \$100m-\$1bn

40%

of miles driven in Europe could be by autonomous vehicles in 2030.¹

¹ PWC Five trends transforming the automotive industry

<https://www.pwc.com/gx/en/industries/automotive/assets/pwc-five-trends-transforming-the-automotive-industry.pdf>

Key findings



Firms are positive about their prospects

78% of automotive manufacturers said they were either somewhat optimistic or very optimistic about their organization's prospects over the next two years.



Geopolitics is the industry's biggest concern

The conflict in Ukraine and trade tensions between the U.S. and China pushed geopolitics to the top of the risk table, named by 81% as a concern over the next five years.



Digitalization will make it easier to identify defects

82% agree or strongly agree that the increasing digitalization of components will make it easier to identify product defects.



Contracts put financial squeeze on component makers

75% of Tier 1, 2 and 3 manufacturers agreed or slightly agreed they face increasing financial exposure because of contractual obligations from OEMs.



Safety is the top barrier to adoption of EVs

50% named safety as a barrier, reflecting concerns about the risk of fires caused by thermal warming. Only **18%** cited infrastructure among their top barriers.



Liquidity is top strategic objective

39% named increasing liquidity as a top strategic priority, as they seek funds to invest in new technologies and manage rapid change.



Manufacturers rely heavily on third party software

61% rely on a mix of in-house and third-party suppliers, with 17% completely reliant on third parties. Just 22% said they made all of their own software.



It's not clear who is liable for product defects

Only 9% strongly agreed that it's clear who is liable for faults between software developers, component manufacturers and OEMs when a product fails. 56% slightly agreed.



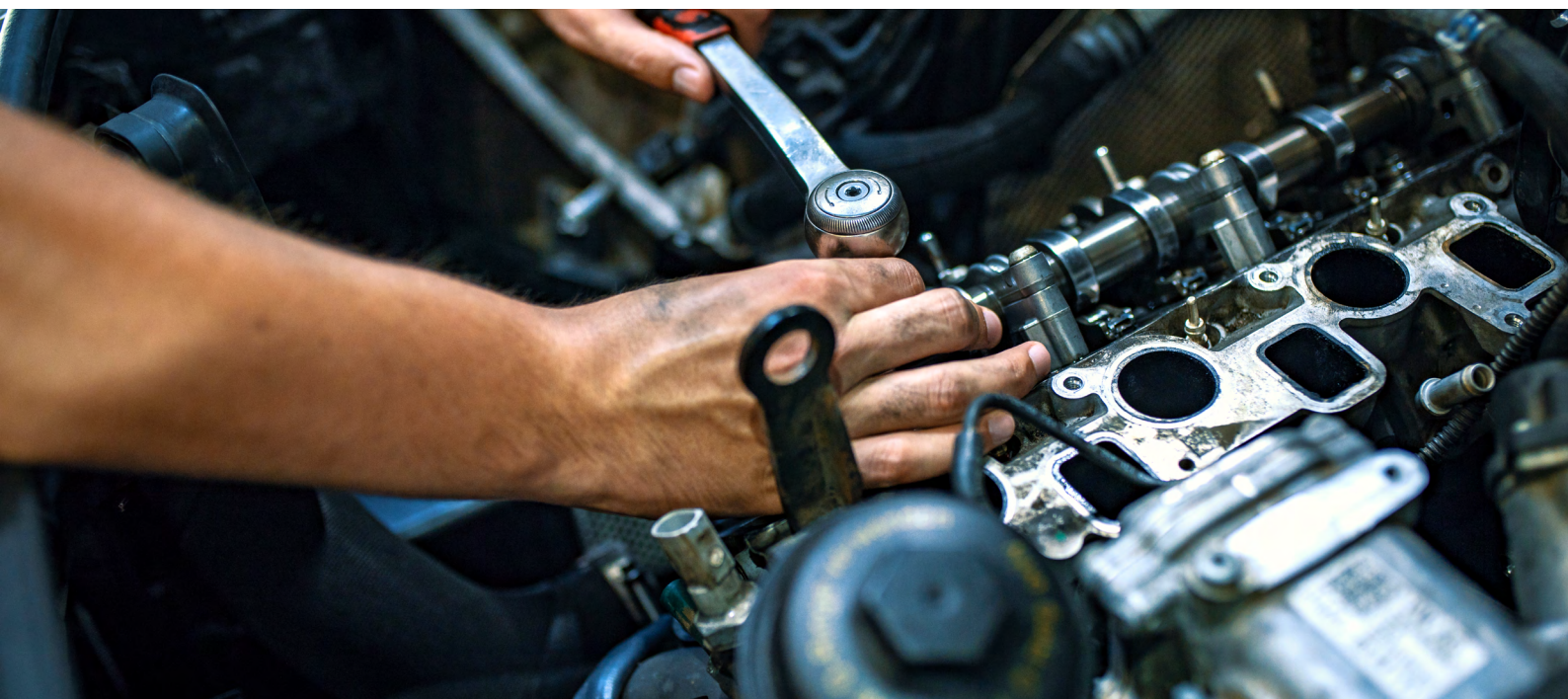
Hydrogen will be viable alternative to electric vehicles

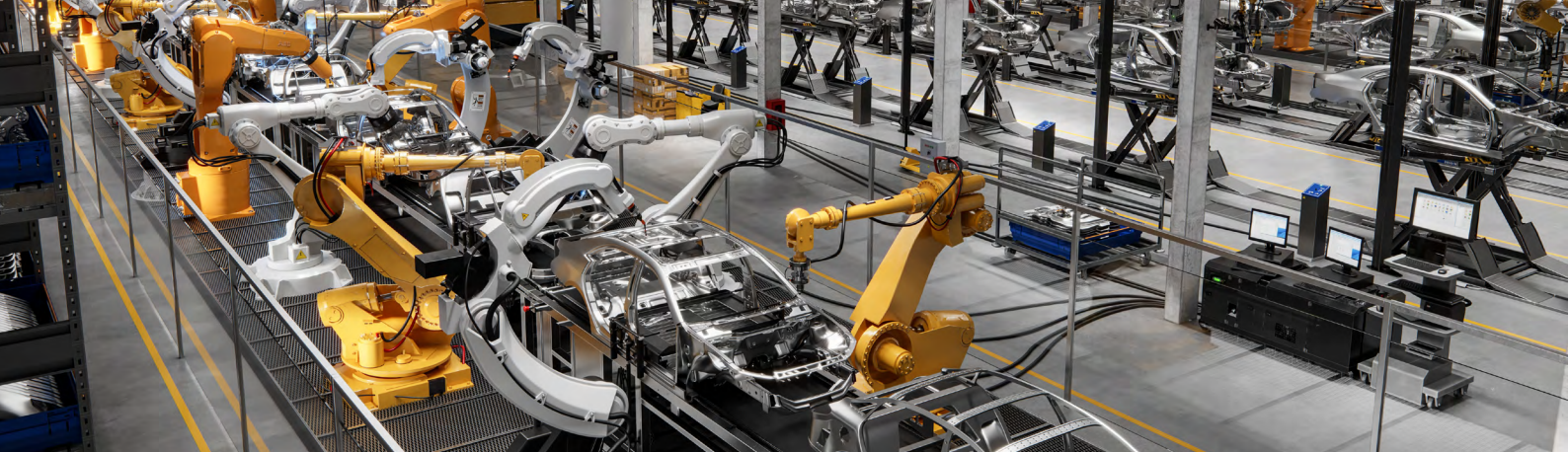
72% said that hydrogen cell technology will become a viable alternative to EVs in the next 10 years, reflecting growing doubts about the pace and scale of electrification.



Just in time has had its day

77% strongly agreed or slightly agreed that just-in-time supply chain strategies are no longer fit for purpose following recent supply chain disruption and rising global instability.





Sector overview and risk landscape

Transformation will be a bumpy road for manufacturers

The automotive industry is going through one of the greatest periods of transformation in its history, posing huge questions and challenges for the future.

- How can we protect our global supply chain from geopolitical shocks and changes in consumer behaviour?
- Can we build the infrastructure to support the growth of electric vehicles in time?
- How will autonomous vehicles be regulated, and is there a clear route to adoption?

With the need to address this transition, increasing liquidity emerged as the leading strategic objective for the next two years, named by 39% of respondents among their top three. This priority was higher among Tier 2 manufacturers (52%) and in Asia Pacific (47%). This aligns closely with a study undertaken by PWC, highlighting the need to improve liquidity in the short term.²

Companies are seeing the need to have the capital available to invest in new technologies and react to meet unexpected challenges as they arise. This is against a backdrop of pressurised margins and distress throughout the supply chain, driven by high-interest rates, inflationary pressures and volatile commodity pricing. Fisker announced in December that it would scale back production to prioritise liquidity and enable business flexibility.³

Companies are prioritizing ESG requirements

A key takeaway from the survey is the need to adapt business models to address the ESG requirements of investors — identified by 35% of companies in their top three strategic objectives. Access to financing is closely correlated to a company's ability to demonstrate ESG credentials. According to PWC, ESG-related assets under management are projected to grow to US\$33.9 trillion by 2026, constituting 21.5% of global assets under management.⁴

In the energy intensive manufacturing sector, compliance may prove more demanding for mature companies than new entrants, who can build ESG into decision making, such as choosing to locate new manufacturing sites based on access to reliable sources of renewable energy.

Culture and supply chain issues are obstacles

Internal culture emerged as the greatest single obstacle to achieving strategic objectives, with 45% naming it among their top three, rising to 54% among Tier 1 component manufacturers. This may reflect concerns over labor shortages, or the need to upskill the existing workforce to adopt new technologies and motivate them to meet transformation challenges.

Supply chain issues remained a key theme amongst respondents, named by 38% of all respondents and 42% of Tier 1 manufacturers among their top three obstacles.. Companies are still recovering from the fallout from the global semiconductor shortage, which severely limited new vehicle production, and was estimated to have cost the sector \$210 billion in lost revenue in 2021 alone.⁵

² <https://www.pwc.com/us/en/industries/industrial-products/library/automotive-industry-trends.html>

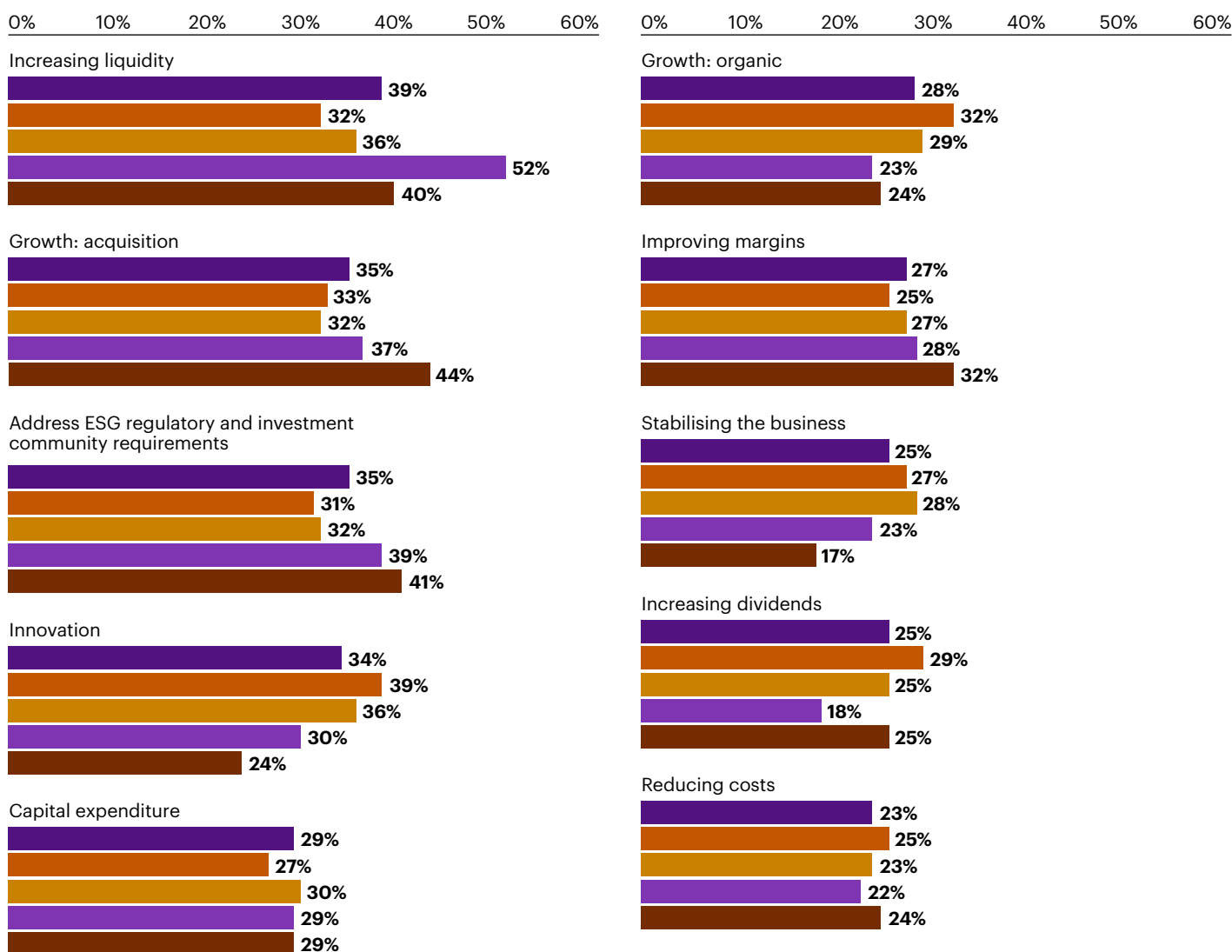
³ <https://investors.fiskerinc.com/news/news-details/2023/Fisker-Provides-Business-Update/default.aspx>

⁴ <https://www.pwc.com/gx/en/news-room/press-releases/2022/awm-revolution-2022-report.html>

⁵ <https://www.alixpartners.com/media-center/press-releases/press-release-shortages-related-to-semiconductors-to-cost-the-auto-industry-210-billion-in-revenues-this-year-says-new-alixpartners-forecast/>

Figure 1:

Top strategic objectives for the next two years



■ Total (500)
 ■ Original equipment manufacturer (154)
 ■ Tier 1 automotive component manufacturer (157)
 ■ Tier 2 automotive component manufacturer (126)
 ■ Tier 3 automotive component manufacturer (63)

Q: What are your organisation's top five strategic objectives for the next 2 years?

Rank 1/2/3

Looking to the future, questions remain over the sector's capacity to meet long-term demand. Shipments of automotive semiconductor units increased from 2020-2021. However, supply was still not able to meet the growing demand for infotainment and advanced driver assistance systems (ADAS), which are driving rapid increases in the number of semiconductors per vehicle. This pressure will only increase with the transition from internal combustion engines to electric vehicles.

The value of semiconductors installed in vehicles averaged US\$500 per car in 2020, but is forecast to reach US\$1,400 per car by 2028.⁶

⁵ <https://www.alixpartners.com/media-center/press-releases/press-release-shortages-related-to-semiconductors-to-cost-the-auto-industry-210-billion-in-revenues-this-year-says-new-alixpartners-forecast/>

⁶ <https://www.spglobal.com/mobility/en/research-analysis/the-semiconductor-shortage-is-mostly-over-for-the-auto-industry.html>

Companies are finding the capital they need

Although increasing liquidity placed at the top of the sector’s strategic objectives, respondents did not see access to capital as a major hurdle — it was named by 26% in their top three obstacles to achieving strategy and only 17% in their top two. In fact, investment in the automotive industry, including private sector and government support, has increased dramatically. For example, the UK automotive industry has attracted more investment in 2023 than in all the years back to 2016 combined.⁷

Political instability causes growing concern

Unsurprisingly, when asked about the greatest risks facing the sector over the next five years, 81% said they

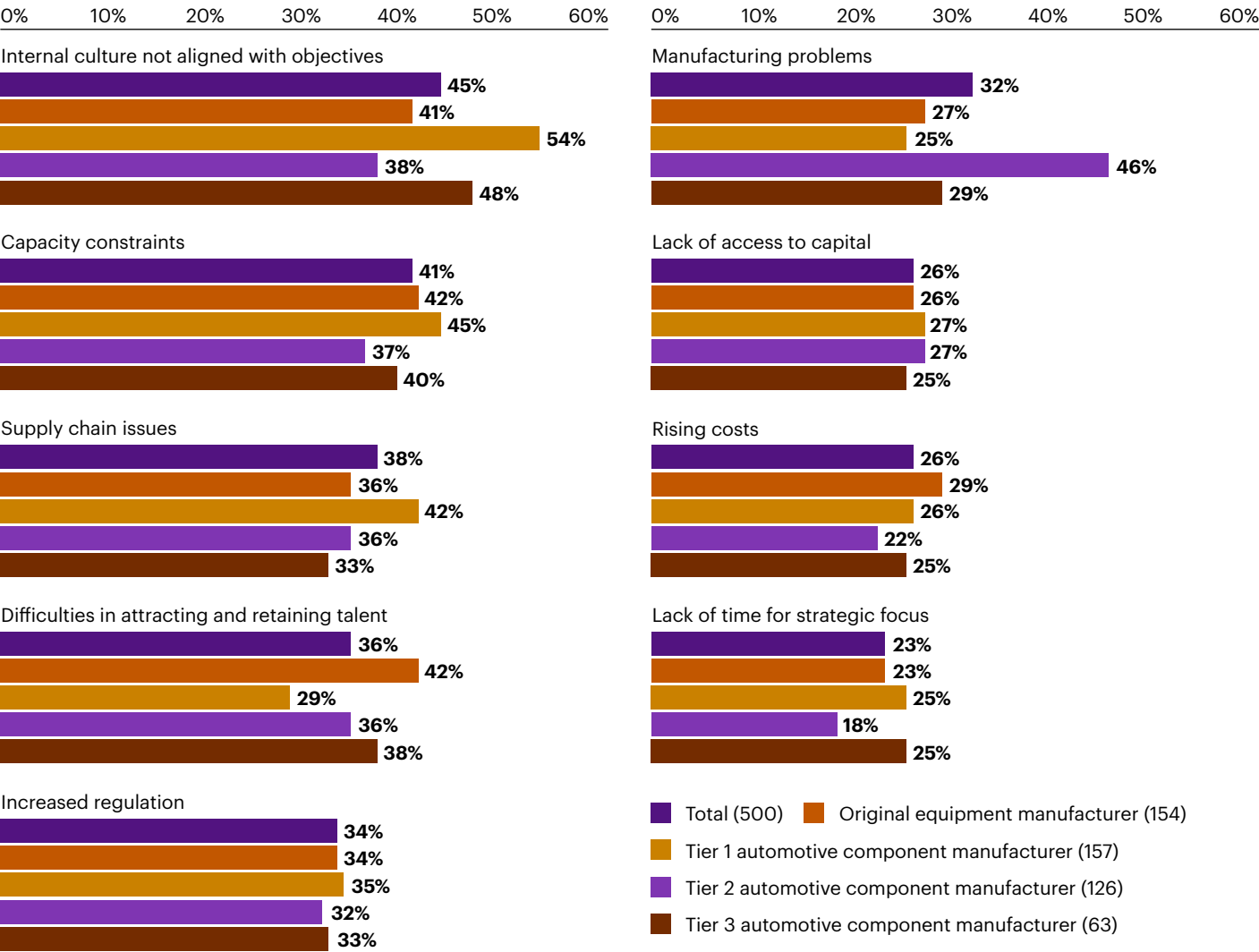
were either somewhat concerned or very concerned about geopolitical risk. It was also a leading source of losses over the last two years, named by 41% among their top five responses.

The ongoing conflict in Ukraine is projected to reduce global vehicle production by 400,000 units⁸. Key components such as wiring harnesses are manufactured in Ukraine and Russia is a major source of palladium and neon gas. These remain vital for manufacturing of catalytic converters and semiconductors respectively.

The Israel-Gaza conflict continues to disrupt international trade, notably traffic through the Red Sea, one of the world’s busiest shipping routes.

Figure 2:

Top obstacles to achieving strategic objectives



Q: What are the top three obstacles to your organisation in achieving its strategic objectives?

Rank 1/2/3

⁷ <https://www.smmmt.co.uk/2023/11/uk-auto-manufacturing-charges-up-with-20bn-investment-boost-in-2023/>
⁸ <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2023/impact-auto-industry.pdf>

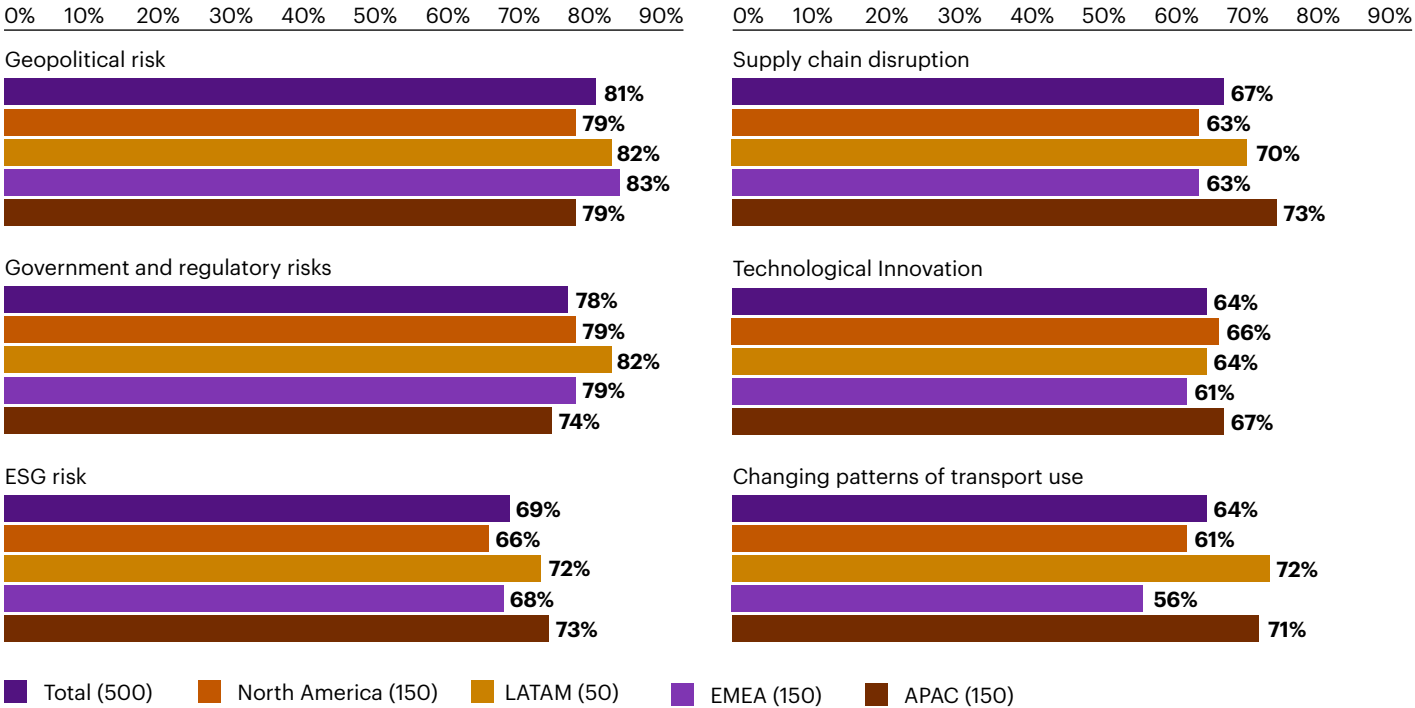
Tensions between China and Taiwan threaten the already strained semiconductor supply chain, especially given Taiwan Semiconductor Manufacturing Company's 'near monopolistic position in production of advanced semiconductors'.⁹ Further deterioration of international relations could lead to the deglobalisation of the supply chain, with the imposition of trade barriers, subsidies and restrictions on technologies impacting suppliers, manufacturers and consumers alike.

Most companies have a positive outlook

However, even with all these challenges, the industry still views transformation as an opportunity rather than a downside and most businesses have a broadly positive outlook. More than three-quarters of our respondents (78%) said they were either somewhat optimistic or very optimistic about their organizations' prospects over the next two years.

Figure 3:

Concern about risks to automotive sector over the next five years

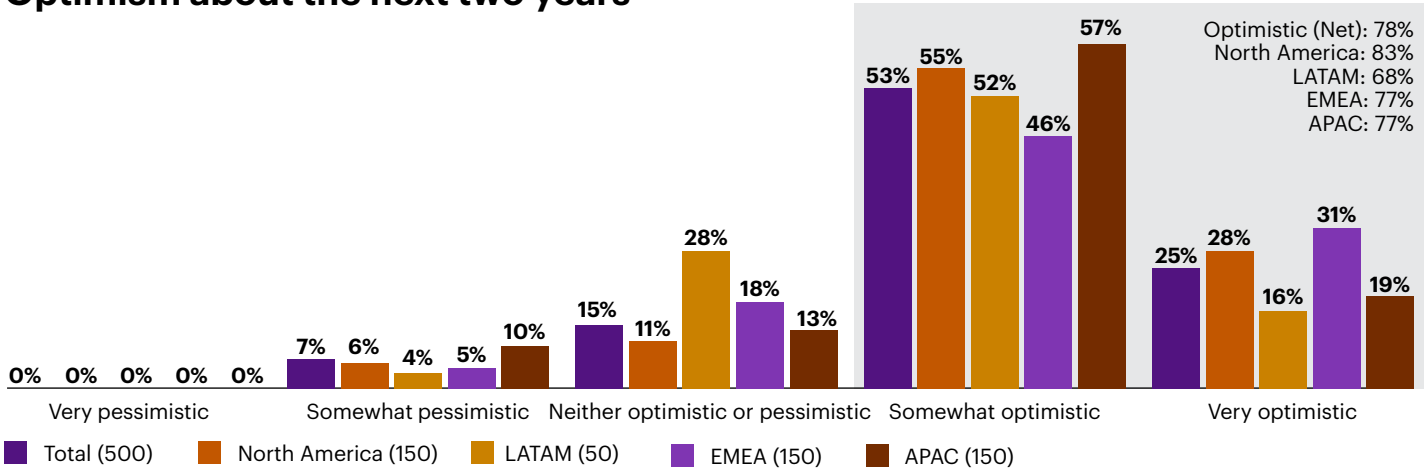


Q: How concerned are you about the following risks to the automotive sector over the next five years?

Top 2 box: Very concerned + Somewhat concerned

Figure 4:

Optimism about the next two years



Q: How optimistic are you about your organisation's future over the next two years?

Single code question

⁹ <https://globaltaiwan.org/2023/12/despite-chinese-market-controls-taiwans-semiconductor-supply-chain-remains-secure/>



Automation, software and digitalization

Dividing lines are unclear as product complexity increases

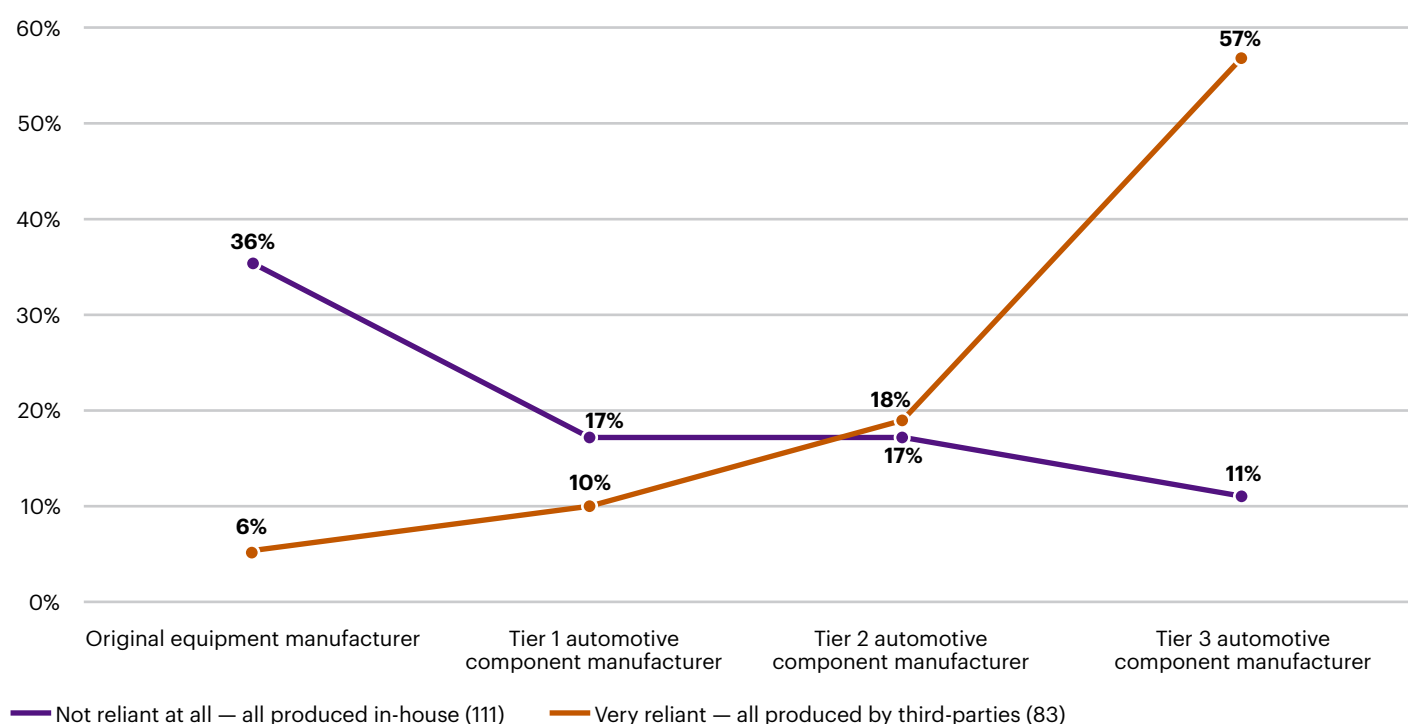
Vehicles are increasingly controlled by sophisticated software and systems, focused on improving driver safety and experience.

This trend is only going to increase as electrification and automation reach their full potential. With every new convenience comes new potential for failure.

Of the OEM's we surveyed, 36% produced their software in house, with a majority somewhat reliant on third parties. Very rarely is all software provided by third parties. For Tier 3 component manufacturers, the roles were reversed — they were heavily reliant on third party software for their products (57%).

Figure 5:

Reliance on third party software



Q: How reliant are you on third-party suppliers for software that is incorporated into your products?

Rank 1/2/3



Software compatibility risks are increasing

When we asked about software and autonomous driving risks, 61% said compatibility risks are increasing. That was significantly higher than malfunctions (52%), and design and manufacturing defects (47%). More than a third (34%) thought design and manufacturing defects were decreasing.

These findings reveal a worry that defects could emerge, not necessarily from the incorrect design or production of technology, but from the failure of the different systems to communicate, blurring the gap between a genuine defect and incompatibility of products.

Cyber-crime is an increasing threat

Cyber-crime was the risk most respondents thought was increasing (75% in total, 82% in Latin America). Nearly every car for sale today has a telematics unit and other components that provide a connection to the outside world. Connected car components make it possible to remotely attack a vehicle's functionality, while the storage of car-related data poses has significant implications for consumer privacy.

While there was a consistent response on the increase in cyber risk, actual cyber losses in the last two years were higher among larger companies including OEM's, Tier 1 manufacturers and large multi-national companies (revenue over \$501 million).

In 2010, some vehicles had about 10 million single lines of code; by 2016, this had expanded by a factor of 15, to around 150 million lines.¹²

Insight

Digitization and legislation are adding to automotive cyber risks



Ransomware attacks have cost the manufacturing sector \$46b¹⁰ in down time since 2018. With increased digitization and the manufacturing industry's low tolerance for downtime, the risks surrounding both malicious events and unforeseen operational errors need to be considered within business planning.

Concerns with digitization exist both within a company's own infrastructure and also with any operations that are outsourced or where a company relies on a supply chain for components. This is also being reflected in developing legislation, such as the EU's Cyber Resilience Act and the UK Product Security and Telecommunications Act.¹¹ It is important for risk managers to be confident that they can make informed decisions around the acceptance, transfer, or avoidance of risk especially in such a dynamic, changeable operating environment. This should include limits as well as available cover and how it is accommodated within traditional lines of insurance and the cyber insurance market.

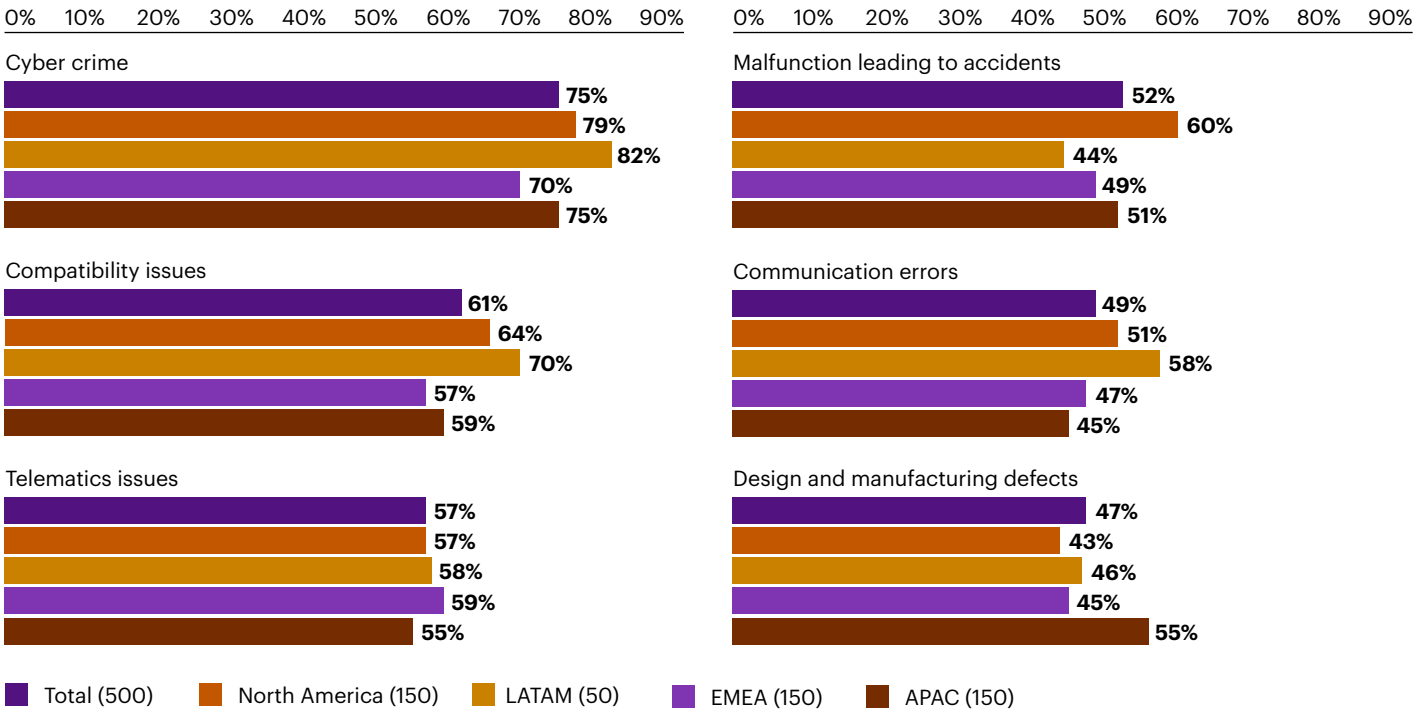
¹⁰ <https://www.tripwire.com/state-of-security/ransomware-attacks-cost-manufacturing-sector-46-billion-downtime-2018-report>

¹¹ <https://www.burges-salmon.com/news-and-insight/legal-updates/technology-and-communications/product-security-and-telecommunications-infrastructure-act-2022-an-overview> <https://www.insideprivacy.com/cybersecurity-2/the-eus-cyber-resilience-act-has-now-been-agreed/>

¹² <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/rethinking-car-software-and-electronics-architecture>

Figure 6:

Increasing risks in relation to software and autonomous driving



Q: To what extent are the following risks increasing or decreasing in relation to software and autonomous driving?

Top 2 Box: Significantly increasing + Slightly Increasing

Digitalization will make defects easier to detect

While concern about the risks emerging from new technologies was high, there is also optimism that digitisation will help to solve some of the problems it creates.

More than 8 in 10 manufacturers (82%) agree or strongly agree that ongoing digital transformation in components will enhance their ability to identify defects. Among OEM respondents, this number rises to 87%. BMW have recently launched Proactive Care, which provides real time analysis of the vehicle, notifying the driver and BMW of any servicing, maintenance or repair requirements.¹³ This can prevent longstanding defects developing undetected, and drastically enhances an OEM's response capabilities without the need for costly physical inspections.

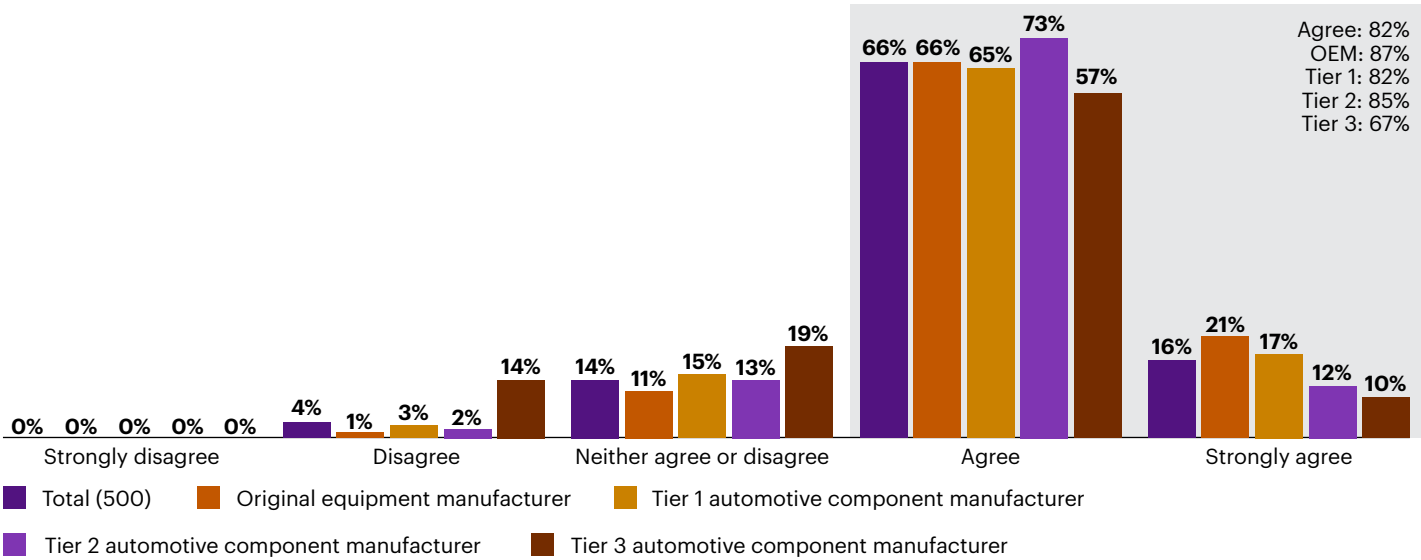


¹³ <https://www.bmw.co.uk/en/topics/owners/service-workshop/servicing/proactive-care.html>

Figure 7:

Attitude statement: Digitalization and product defects

'The ongoing digital transformation of automotive components will allow manufacturers to identify product defects more effectively.'



Q: To what extent do you agree or disagree with the statement?

Single code question

Insight

Identifying defects early will be critical to reduce recall risks



When it comes to managing a product recall, there is a strong correlation between the time taken to identify a defect and the costs associated with responding. As products make their way through the supply chain and enter global distribution, the testing, labour, transport, and communication costs will increase exponentially.

End-of-line testing prevents defective products from leaving the production floor and ensures companies can isolate the issue successfully, minimising reputational risk from highly-publicized recalls. This also reduces the possibility of costly regulatory action should product safety be a concern.

This survey explores a variety of factors that are increasing exposure to product recalls. However, the responses also show the benefits companies can leverage using innovative technologies to identify and remediate defects. Meanwhile, over-the-air updates are constantly reducing the costs of recalls that would previously have required a manual fix.

When engaging with insurers, the ability to demonstrate improvements within the manufacturing and testing process is vital to securing competitive terms and conditions. Access to product recall insurance enables the industry to continue to innovate without assuming unacceptable levels of risk.



Electrification and alternative energy

Alternative fuels, thinking and technologies are needed to reach climate goals

The transport sector is one of the largest emitters of greenhouse gasses, with huge potential to help cut global emissions on the road to Net Zero. Most of that reduction is expected to come from alternative fuels.

Battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) currently dominate the market for non-combustion vehicles, yet many manufacturers in our survey think that other fuels, besides electricity, will play an increasing role. Almost three-quarters (72%) said that hydrogen cell technology will become a viable alternative to EVs in the next 10 years, rising to 77% in EMEA. This view had broad consensus across respondents working across all power systems.

21.6% of all new cars sold in the EU in 2022 had a plug¹⁴

Figure 8:

Views on alternative energy systems

Respondents split based on the fuel type they manufacture products

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

The automotive industry is over-reliant on government subsidies for development and production of electric vehicles and alternative energy systems



Hydrogen cell technology will emerge as a viable alternative to electric vehicles within the next 10 years



Electrification and the transition to alternative energy systems brings new, and more complex, product risks to automotive manufacturers



■ Total ■ Hydrogen
■ Internal combustion engine (ICE)
■ Electrical ■ Not specific to fuel type + other

Q: To what extent do you agree or disagree with the following statements?

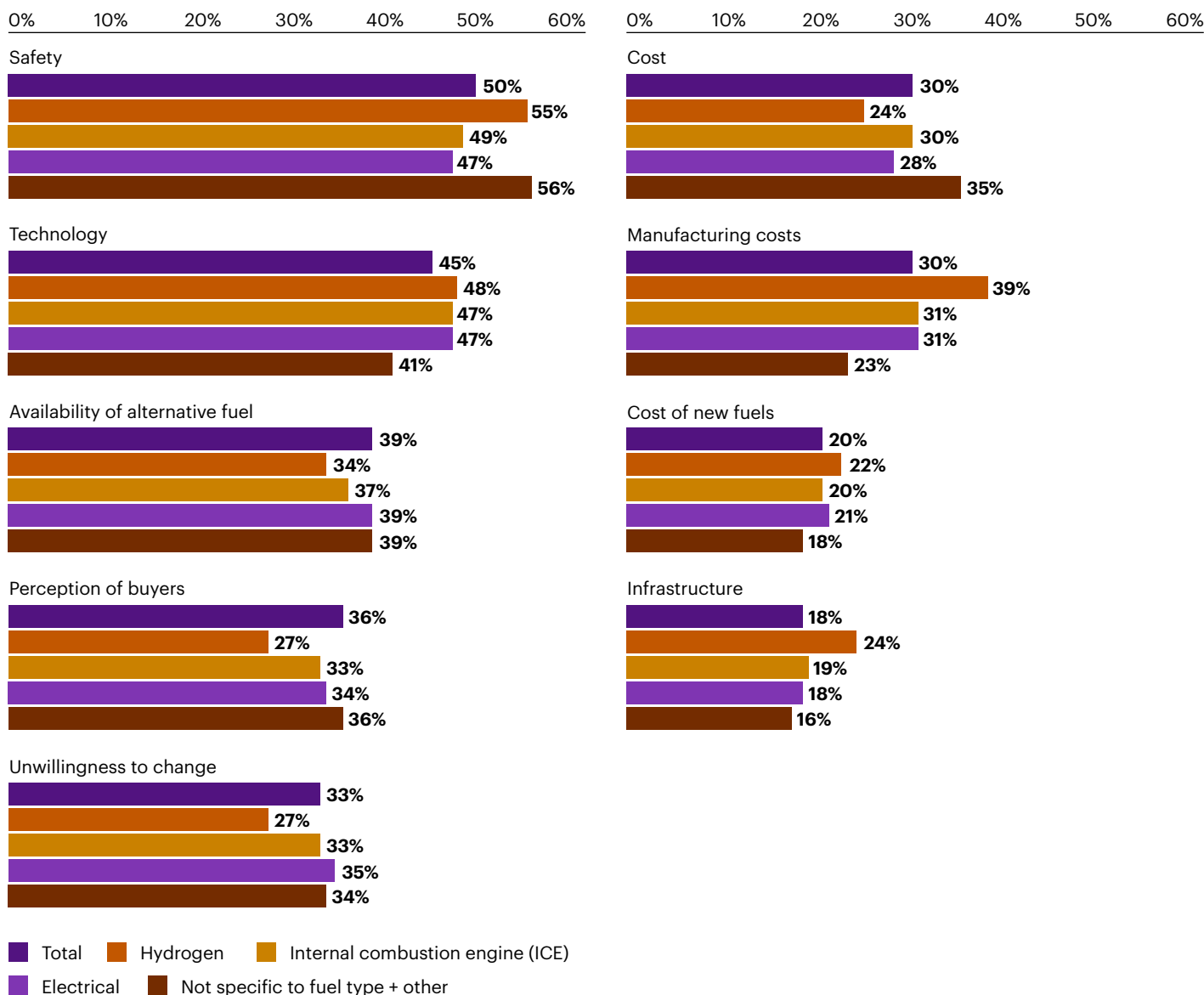
Top 2 Box: Strongly agree + Slightly agree
Single code per row question

¹⁴ <https://www.acea.auto/figure/fuel-types-of-new-passenger-cars-in-eu/>

Figure 9:

Barriers to the adoption of electric cars and alternative fuels

Respondents split based on the fuel type they manufacture products



Q: What are the top four barriers to the adoption of electric cars and alternative fuels?

Rank 1/2/3

Overcoming consumer perceptions on safety

When we asked what were the main barriers to adoption of electric vehicles and alternative fuels, safety topped the list, with 50% naming it among their top three. This was followed by technology (45%) and availability of alternative fuel (39%). Highly publicised recalls and battery fires caused by thermal runaway have materially influenced consumer perception when it comes to safety.

However, alarming headlines about the fire risks associated with electric vehicles may not be justified. There is a growing response that these perceptions do not reflect the data, with the Association of British Insurers providing evidence that the fire risk of EVs does not exceed that of traditional ICE vehicles.¹⁵ This has been corroborated by publications from the UK's 'Energy and Climate Intelligence Unit' thinktank, which suggest fires from combustion engines simply aren't reported.

¹⁵ <https://publications.parliament.uk/pa/ld5804/ldselect/ldenvcl/51/51.pdf>

We found it surprising that only 18% of respondents cited infrastructure among their top barriers. In a recent survey of consumers in the U.S., insufficient public charging stations was a top barrier to adoption.¹⁶ The more relaxed view among manufacturers could be driven by greater confidence in the potential of alternative charging solutions, such as domestic chargers, and projected improvements in performance.

However, taken together, the barriers to adoption are considerable, and extensive investment will be needed to make alternative fuel types the preference of most drivers.

Funding the transition: insight into government subsidies

Vehicle manufacturers and battery makers plan to invest \$860 billion globally by 2030 to support the transition away from fossil fuels.¹⁷ But, given the scale of transformation needed, this will not be nearly enough — so who is going to fund it?

A key finding of the survey was the broad consensus (73%) that the industry is over-reliant on government subsidies for the development and production of electric vehicles. We have seen landmark deals, such as the CHIPS and Science Act in the U.S. providing a \$52 billion boost to American semiconductor research, development, and production with extensive automotive applications.¹⁸ Other governments have taken advantage of the burgeoning auto industry by offering generous benefits to encourage foreign investment. Hungary has positioned itself as a gateway into the European markets, having received over EUR14bn of investment into its battery sector alone, with 29 of 31 cash subsidies given to companies from Germany, China and South Korea, according to government data.¹⁹

This dependence can leave the sector vulnerable if subsidies are changed or withdrawn, as was the case when the UK Government refused to bring forward previously promised grant funding for Britishvolt, which had plans to build a £3.8bn gigafactory in the north-east of England.²⁰

Insight

Governments should back alternative fuels and stabilize subsidy regimes



“Thermal runaway fires in electric vehicles are extremely rare but very widely reported. The emotive response to a single event can be huge. It can lead to a general perception that all EVs are unsafe at a time when people are still unsure about the technology and, as our survey suggests, as yet unwilling to change.

This is just one of the challenges that electrification needs to overcome. Others include the roll-out of charging infrastructure and the battery technology needed to charge larger commercial vehicles and trucks viably — the best available batteries today can take up to a third of the space inside an average trailer.

Given these challenges, it’s not surprising to find that most automotive companies agree hydrogen will be an alternative to EVs as we move towards Net Zero, especially for heavy vehicles and public transport applications, where infrastructure requirements are less extensive. We expect that governments will continue to recognise the importance of alternative fuels and start backing them more heavily with funding and policy support.

Subsidies are a critical factor in determining where private investment goes and what countries are chosen for new facilities and manufacturing operations. Subsidy regimes should be stable and predictable to reduce risks. Where subsidies are changed or withdrawn, it can lead to a significant reduction in EV sales and second-hand values, with consequent financial risks.”

¹⁶ <https://www.sciencedirect.com/science/article/pii/S2590198223002099>

¹⁷ https://www.atlasevhub.com/data_story/210-billion-of-announced-investments-in-electric-vehicle-manufacturing-headed-for-the-u-s/#_ftn4

¹⁸ <https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china/#:~:text=The%20CHIPS%20and%20Science%20Act%20will%3A%20Bolster%20U.S.,America>

¹⁹ <https://www.reuters.com/world/china/german-car-giants-asian-battery-kings-match-made-hungary-2022-12-13/>

²⁰ <https://www.bbc.co.uk/news/business-63457813>



Supply chain

Supply chains vulnerable to shortages, economic uncertainty and trade risks

Following disruption in recent years, manufacturers have been forced to re-think supply chain management and question common practices.

Just in time to start stockpiling components

More than three-quarters (77%) strongly or slightly agreed that just-in-time supply chain strategies are no longer fit for purpose. Many automotive businesses have responded to recent supply chain disruption and rising political instability by stockpiling critical components.

This can provide manufacturers with more resilience to supply shocks, but it can also add cost and complication when it comes to insurance. Holding more stock means higher valuations for property insurance, leading to higher premiums and accumulations of risk. Likewise, stocks held in-house may not be covered under product liability or recall insurance, which often doesn't extend to goods that are still in a company's own care, custody and control.

Nearshoring — opportunity or risk?

As a response to pandemic and geopolitical shocks, many automotive companies are nearshoring manufacturing to reduce volatility in the supply chain. This offers greater certainty of delivery, deeper commercial ties, and the ability to audit and monitor suppliers more easily, without sharp rises in labour costs.

For US companies, Mexico now offers an attractive alternative to China, avoiding rising tariffs imposed on Chinese exports, and taking advantage of geographical proximity, transport links and strategic tax exemptions. After 20 years of Chinese dominance, Mexico is now the largest exporter of goods to the US, worth a total of \$475.6 billion in 2023.²¹

However, this does not come without its challenges. Interest in Mexican opportunities is growing “in spite of local government policies, rather than because of them”, according to Ryan Berg, Director of the Americas Program at the Center for Strategic and International Studies.²² Mexico ranked 126 out of 180 countries in the 2023 Corruption Perception Index²³, and companies need to understand the structural, operational and regulatory risks they face to enter such territories. Sophisticated supplier approval processes are essential to maintain quality and resilience during this on-boarding process.

²¹ <https://edition.cnn.com/2024/02/07/economy/china-mexico-us-trade/index.html>

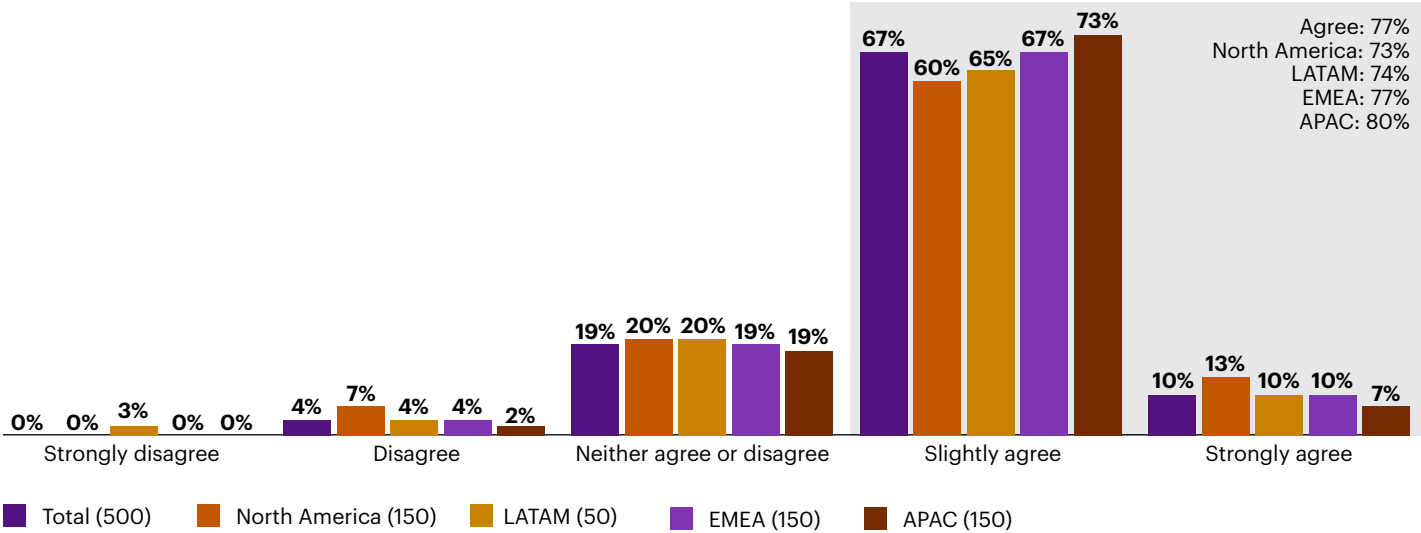
²² <https://www.fticonsulting.com/insights/articles/nearshoring-mexico-where-opportunities>

²³ Corruption Perceptions Index 2023 <https://www.transparency.org/en/cpi/2023>

Figure 10:

Attitude statement: Just-in-time supply chains

'Just-in-time supply chain strategies are too susceptible to disruption and no longer fit for purpose.'



Q: To what extent do you agree or disagree with the following statement:
'Just-in-time supply chain strategies are too susceptible to disruption and no longer fit for purpose.'

Single code question

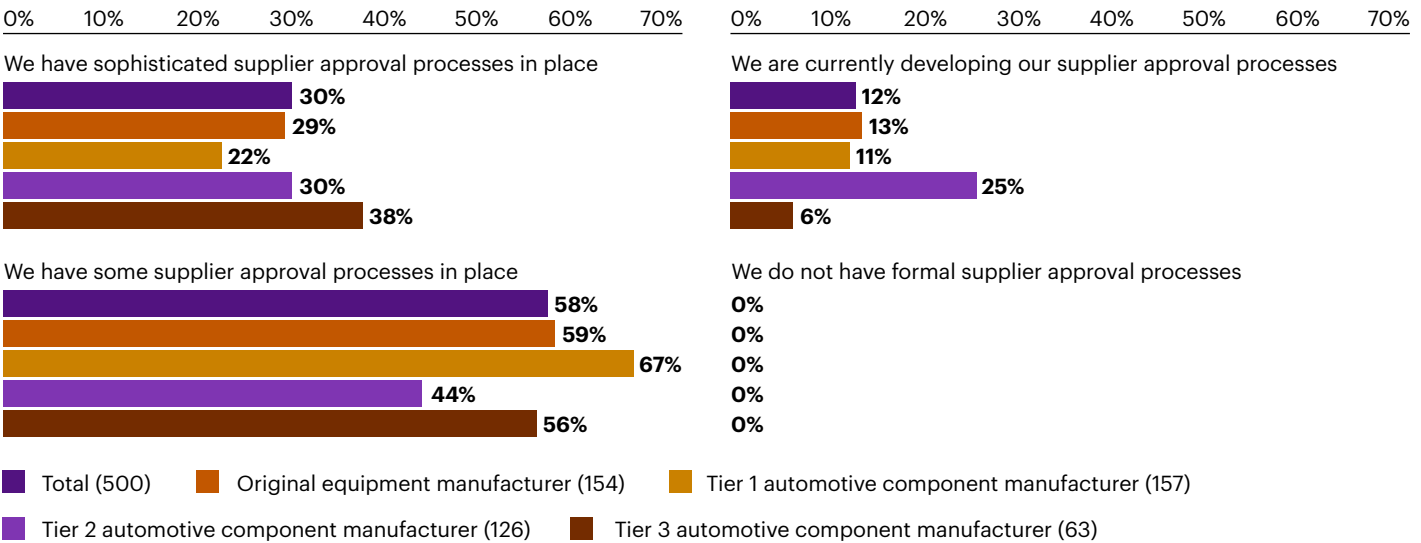
Supplier approval processes need improvement

The vast majority of the companies in our survey (88%) have some kind of process in place to assess and approve suppliers, but only 1 in 3 (30%) described their processes as sophisticated. Not surprisingly, this level of assessment is more common among OEMs at 38%.

Similarly, almost all respondents (91%) identify whether suppliers have insurance as part of their approval process in at least some cases. However, relatively few (28%) make this a requirement for all suppliers. These checks are likely to be for core liability coverage, less so for specialty insurance products such as product recall or contingent business interruption.

Figure 11:

Use of process to assess and approve suppliers



Q: Do you have a process in place to assess and approve suppliers?

Single code question



Contractual responsibilities and liabilities

More clarity is needed to apportion responsibility and liability for defects

Contractual obligations in supply agreements play a central role in determining who is responsible, and ultimately liable, for any damages to rectify defects.

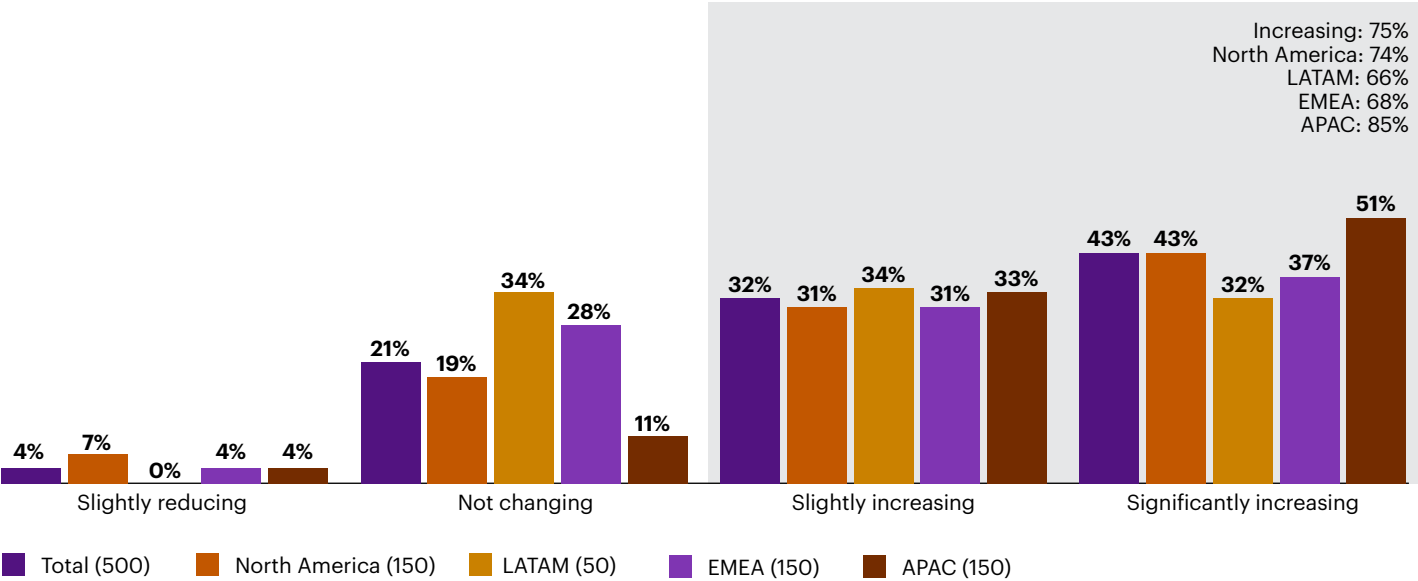
Worryingly, only 9% of our respondents strongly agreed that it's clear who is liable for faults between software developers, component manufacturers and OEMs

when a product fails (as low as 4% in Latin America). A majority (55%) slightly agreed. When you factor warranty provisions into the discussion, the picture can become even more unclear.

Three quarters of businesses in our survey (75%) said costs associated with managing a product defect were increasing as a result of government and regulatory action, with 4 in 10 (43%) seeing a significant increase. APAC stands out with more than half (51%) in this region highlighting significant cost increases.

Figure 12:

The impact of government and regulatory action on the cost of managing a product defect is...



Q: Choose an option to complete the following statement:
'The impact of government and regulatory action on the cost of managing a product defect is...'

Single code question

OEMs demand greater obligations in contract

When safety critical components are defective, it is paramount that manufacturers respond urgently. So who ends up bearing most of these costs?

OEMs have the immediate responsibility for implementing recalls or service campaigns, given the direct relationship with the end consumer. In many instances, they incur costs without the confidence that they can be recouped from third parties at fault.

Our survey suggests that OEMs are looking for greater certainty in apportioning responsibility, especially at a time when the costs involved are rising. This is being reflected in the obligations they impose on suppliers in contractual negotiations. A large majority (73%) agreed or strongly agreed that they had strengthened their suppliers' contractual responsibilities or intended to do so.

Conversely, three-quarters (75%) of component manufacturers globally agreed or slightly agreed they are facing greater financial exposure because of the

contractual obligations placed on them by OEMs. This sentiment is highest in APAC at 84%, which may reflect the growing relationships between suppliers in APAC and OEMs in the U.S. and Europe, where contracts are traditionally more onerous.

Only 72% of OEMs believe their suppliers fully understand their obligations in the event of a defect. This suggests suppliers may be exposed to unforeseen costs they may be unable to absorb. As these obligations continue to strengthen and pose larger financial risks, access to risk management solutions will be vital.

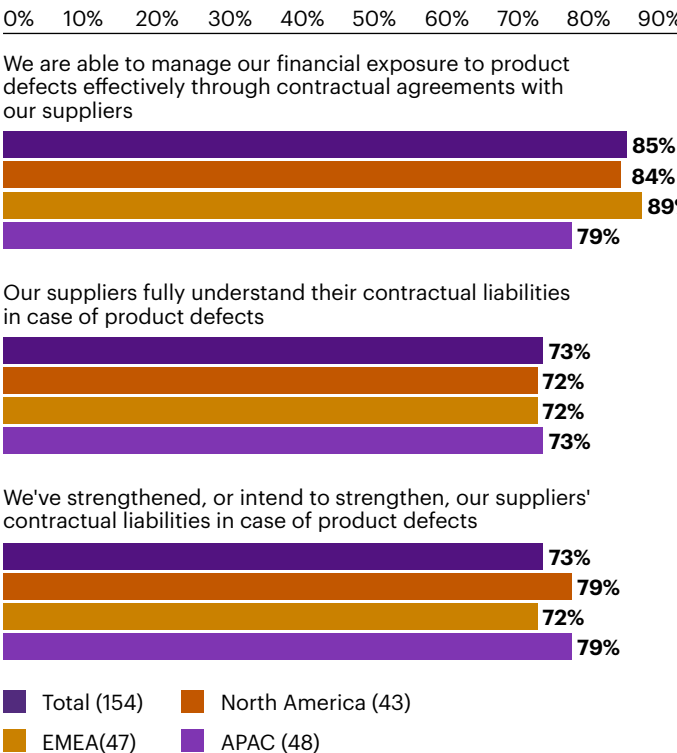
Component manufacturers face growing financial exposures

Taken together, the results suggest that OEMs are successfully passing the cost of product defects down the supply chain to tier 1, 2 and 3 component manufacturers. They could be burdened with greater risks and liabilities, requiring more protection than they have in place today. Only 21% of these businesses said they had insurance in place for every contract. Just under half (49%) said they sometimes considered insurance and 22% said only if they thought the contract was risky.

This shows that a significant portion of the supply chain remains uninsured. Changes in insurance purchasing are often reactive, following events that highlight gaps in coverage or unforeseen exposures. A transition to a more proactive stance would ensure component manufacturers can respond to these trends.

Figure 13:

OEMs contractual approach to product defects



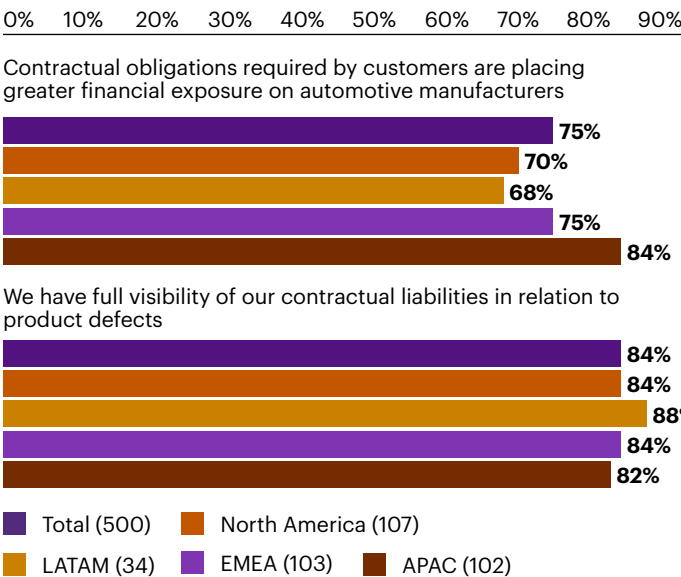
Q: To what extent do you agree or disagree with the following statements?

Top 2 Box: Strongly agree + Agree
Single code per row question

Original equipment manufacturers only
Please note small base sizes. LATAM not shown due to low base.

Figure 14:

Component manufacturer views on contractual liabilities



Q: To what extent do you agree or disagree with the following statements?

Top 2 Box: Strongly agree + Slightly agree
Single code per row question
Component manufacturers only



Risk management and insurance

Answers reveal gaps in risk management and risk transfer

Given the range of existing and emerging threats facing the industry, it's encouraging to see that most automotive manufacturers have good risk management processes in place.

Across a spectrum of risks from business interruption to product recall, reputation to cyber, more than three-quarters had good risk management processes that, at a minimum were timely and consistent in addressing priority issues.

However, relatively few are yet at the top end of the risk maturity curve, with processes embedded in strategic planning and early warning systems linked to action by board and management. Only 10% had this level of management for environmental risks, which may be a cause for concern given the current focus on ESG and the requirements of the investment community.

Over-reliance on general insurance for emerging risks

However, there is still a serious disconnect between perceptions of cover and the actual cover provided for some risks. For example, 55% said that product recall was covered by a general insurance product, however solutions offered through general liability policies do not respond to a large proportion of recall exposures. In

many cases, coverage would be limited to safety critical defects, overlooking the majority of components and functions in a modern vehicle that fall outside of this scope.

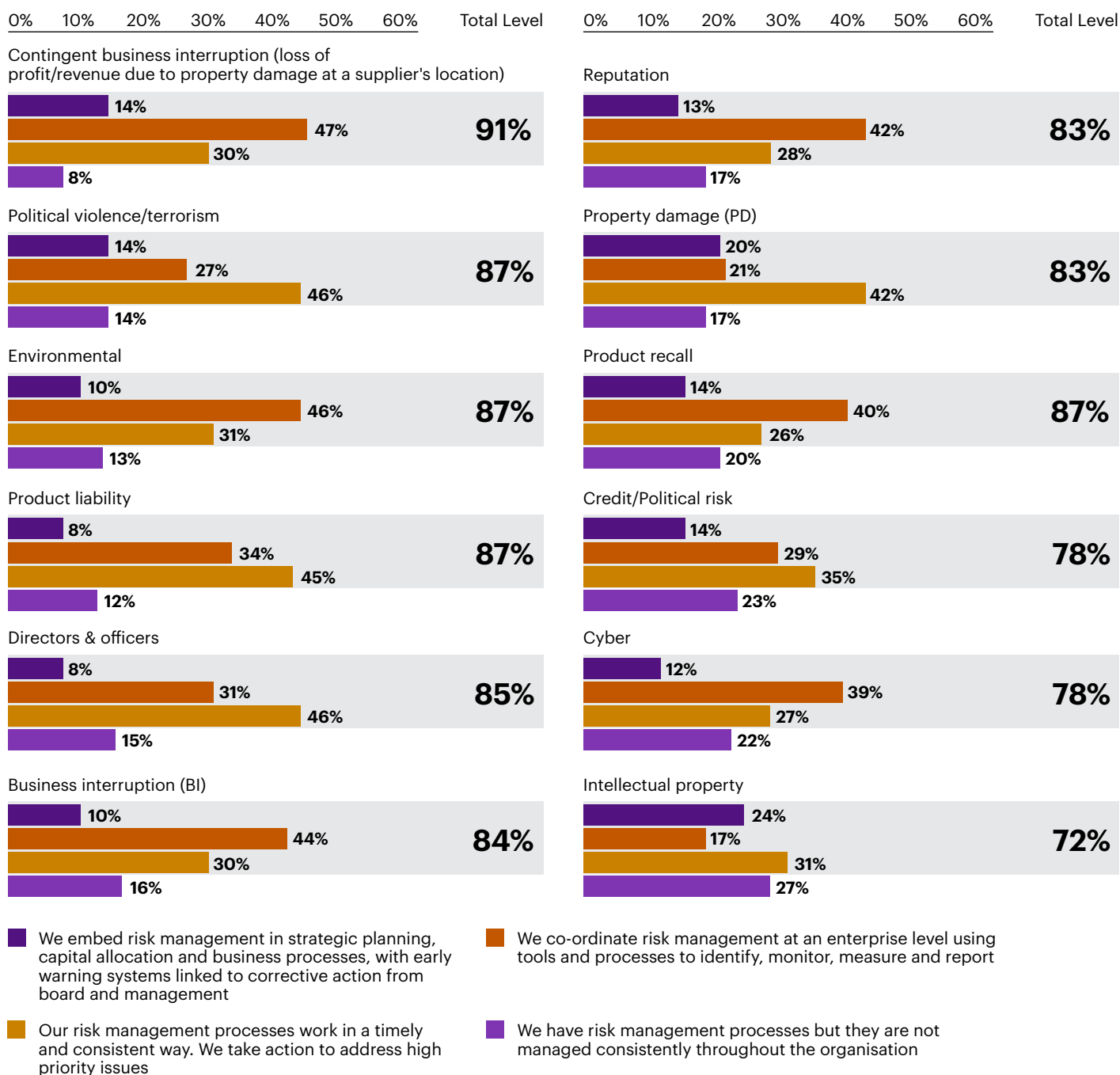
While first-party costs to recall defective components will likely be covered, extensive third-party costs and costs to manufacture replacement components are often excluded from general insurance products.

Similarly, 42% said environmental risks were covered by general insurance. Yet this only covers sudden and accidental pollution arising from third party liabilities. General insurance does not cover first-party clean-up costs, biodiversity damage, statutory clean-up costs, loss mitigation costs, gradual pollution or historical pollution, all of which can be insured on a stand-alone environmental impairment liability wording. In the US, it is commonplace for general insurance policies to exclude pollution in its entirety, including sudden and accidental events.

Insurers are constantly developing new products and solutions to meet the needs of companies within the automotive industry, whether through brand-new products or bespoke changes to policy language. Automotive companies should consult with their insurance brokers to make sure they are up to date with what is available and that their insurance programs are fit to address ever-changing needs.

Figure 15:

Approach to risk management for key risks

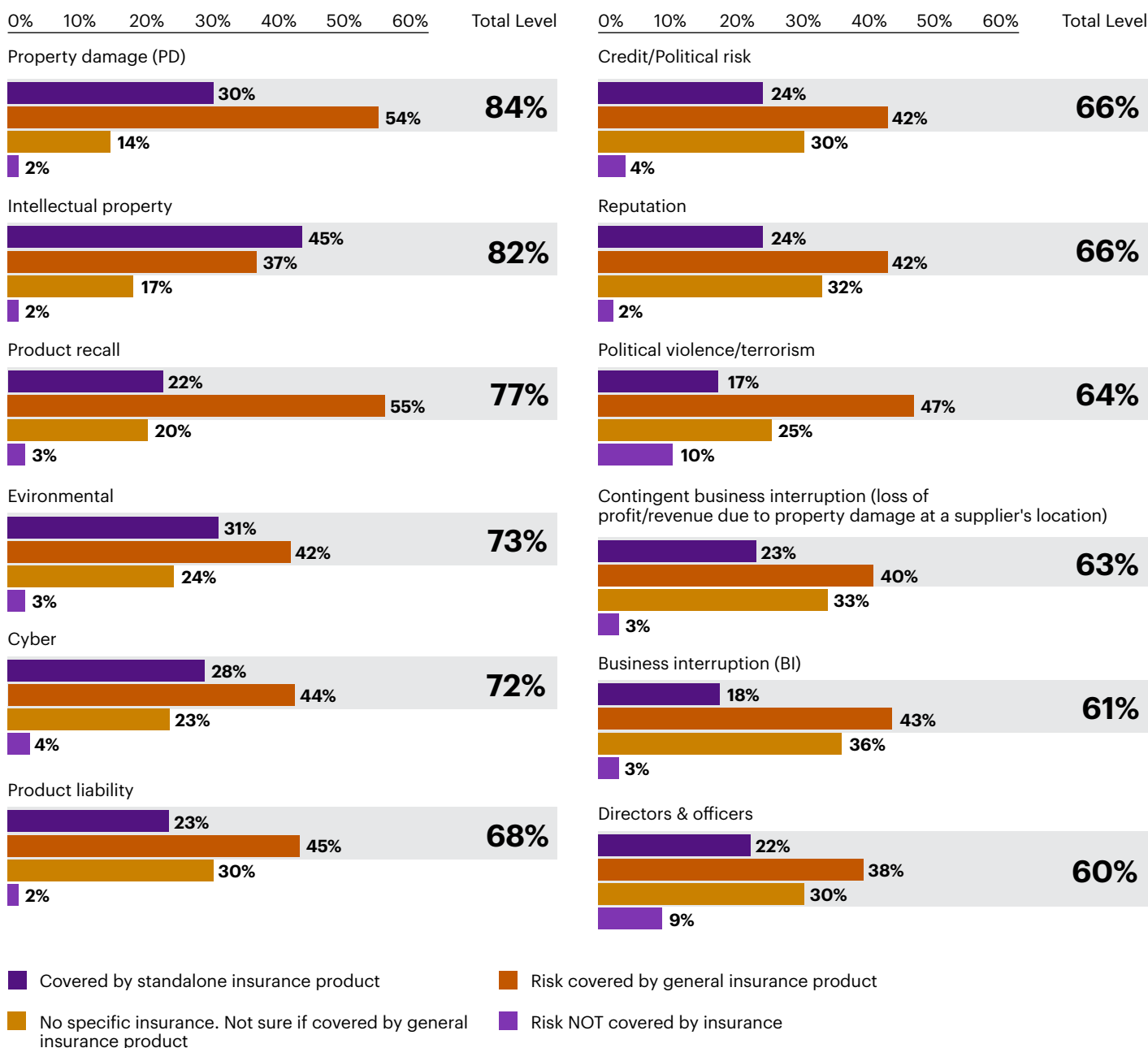


Q: Please indicate your organisation's approach to risk management for each of the following risks:

Single code per row question

Figure 16:

Approach to insurance for key risks



Q: Please indicate your organisation's approach to insurance for each of the following risks:

Single code per row question

Insurance needs to work harder

More than 8 in 10 (84%) said insurance was effective in helping them manage their key risks. However, only 22% said it was very effective.

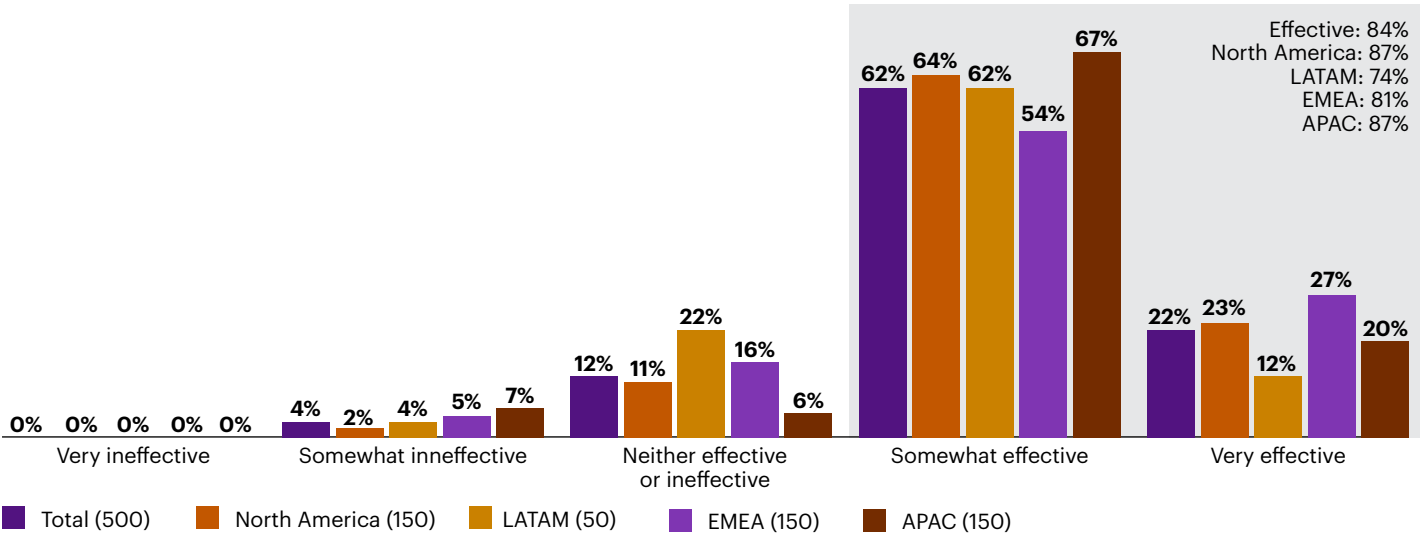
This may reflect the experience of manufacturers during the pandemic disruption when many losses were not covered by insurance as they related to delay rather than damage. As a result, companies are giving increasing

priority to managing contingent business interruption, which came top of our risk maturity table.

More than a third of companies (36%) said they only review insurance needs on an annual basis, or at renewal. This may not be frequent enough to keep up to date with new and emerging risks, and the insurance that is available to cover them, or other market changes. More regular reviews might help to identify and rectify gaps between perception and actual insurance cover.

Figure 17:

Effectiveness of insurance in helping manage key risks



Q: How effective is insurance in helping you to manage your key risks?

Single code question

Insight

Make sure your insurance provides the cover you expect

Automotive manufacturers need to continuously review their insurance arrangements to assess what cover they need for both existing and emerging risks in the context of corporate strategy and appetite for risk. While insurance will generally provide broad coverage, it may not provide cover for all scenarios – this is a good reason for organisations to test loss scenarios against insurance policy coverage.

The survey has highlighted a number of considerations for insurance programmes: manufacturers need to assess their specific exposures to risks such as environmental, cyber, intellectual property and reputation, and make sure the cover they think they have is what the terms actually provide. A switch from just-in-time to just-in-case stock holdings can impact property valuations and business interruption exposures. It is important to understand any changes

to the risk profile as a result of holding more stock, make necessary declarations to insurers, and consider how this affects your risk management procedures. Insurers are also keen to see that robust contractual risk management procedures are in place and clarify liability for defects and subsequent losses that could arise.

To address these issues, manufacturers should carry out regular insurance reviews so that they have confidence their insurance programme will respond to a loss in the way they anticipate at the time they need it.

Survey sample and methodology

Our survey was carried out by our research partner, Coleman Parkes, in September 2023 using phone-to-web methodology.

We received 500 responses from senior executives responsible for risk strategy across their organization. Respondents were based in more than 20 countries across Europe, North and South America, Asia Pacific and the Middle East.

Study detail

Methodology
Phone to web survey

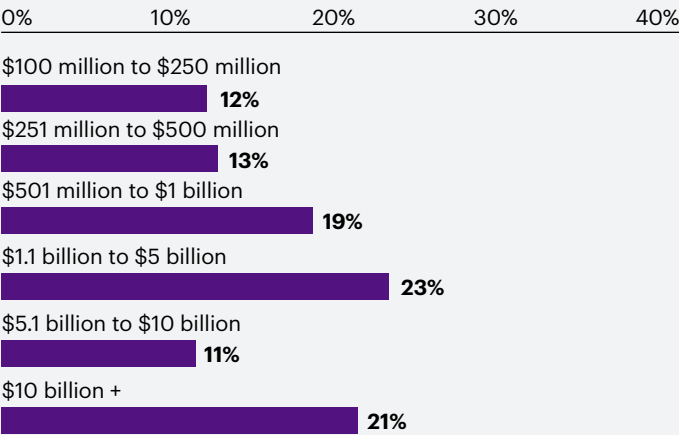
Sample size
500 Total:

- North America (150)
- LATAM (50)
- EMEA (150)
- APAC (150)

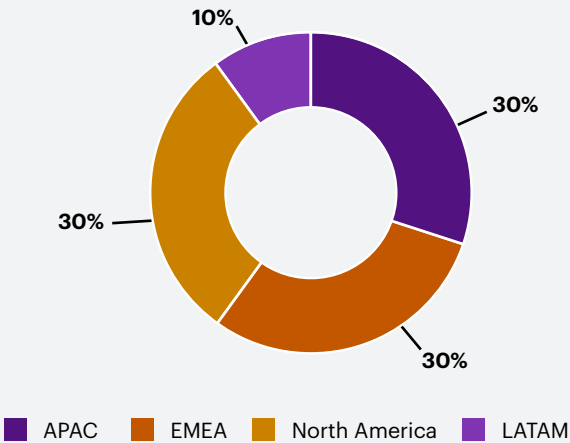
Audience profile
Working for either an original equipment manufacturer (OEM) or a component manufacturer (Tier 1, 2, or 3) with a reported annual revenue of at least \$100 million

Fieldwork dates
Autumn 2023

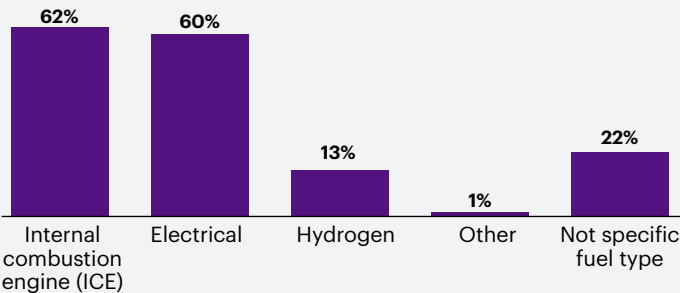
Revenue



Region

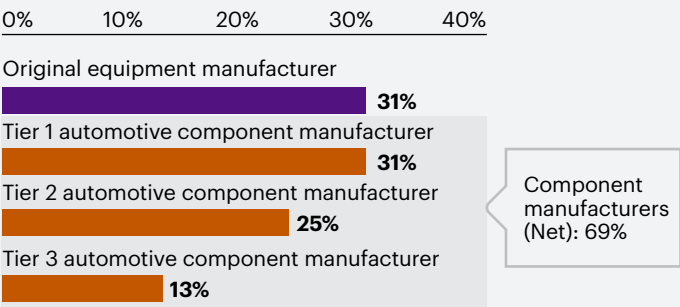


Fuel type manufacture for



Note: Many companies manufacture for more than one fuel type

Type of manufacturer



Job responsibility

