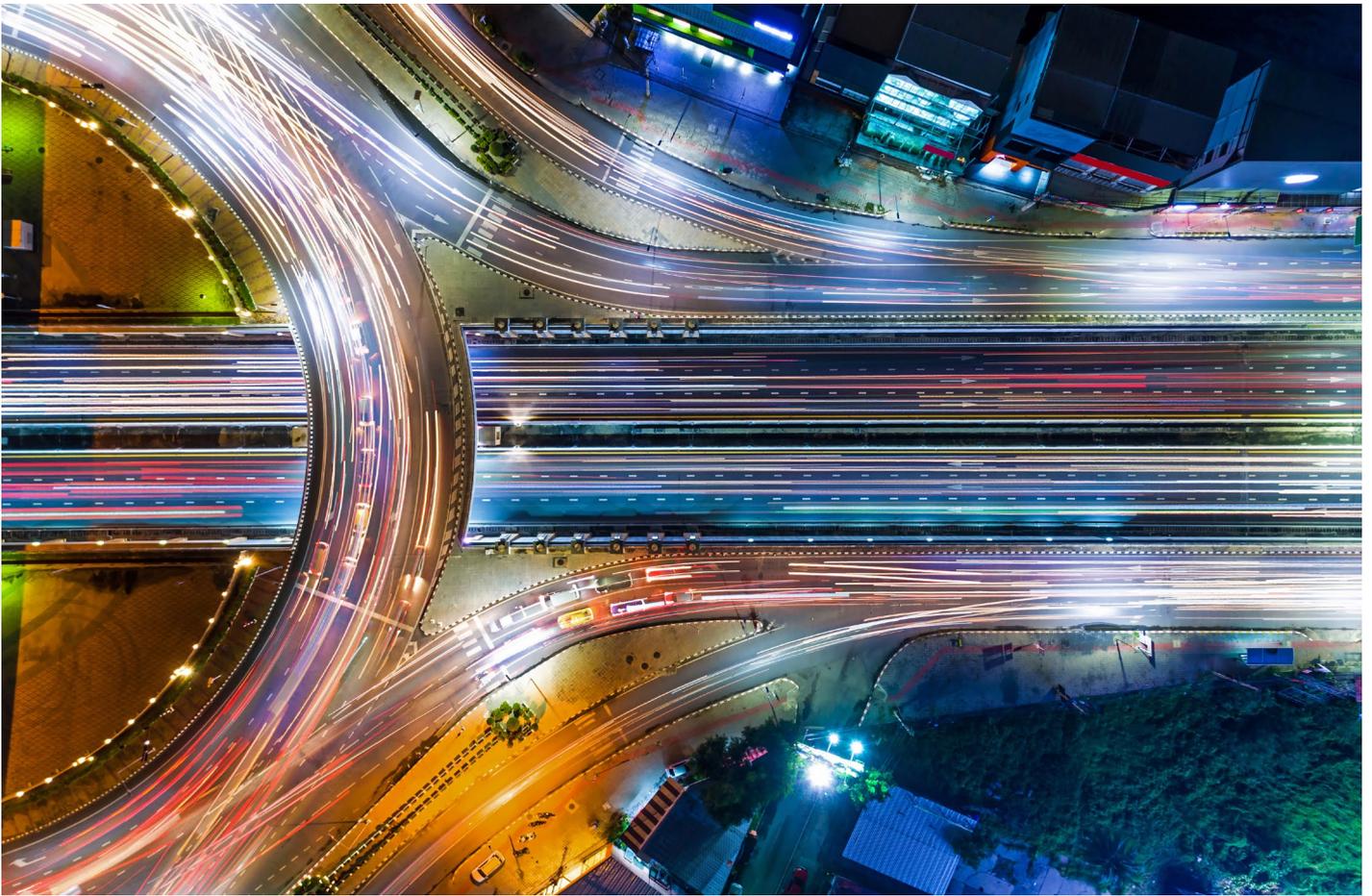


Center for the Long View

Scenarios for Tomorrow

The future of the automotive
supplier industry in 2030

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Introduction

The future of the automotive supplier industry is riddled with question marks. How it will look in 2030 depends on a range of variables related to the critical uncertainties in technology, markets, society, politics and the environmental agenda. How quickly can we expect to achieve vehicle and infrastructure electrification? How soon can we expect the technological potential of connectivity and autonomous driving to be realized in the mass market? Which way will the balance of power tip by 2030: towards automotive OEMs or suppliers? How will geopolitical factors come into play? Will governments invest in green policies? And most importantly: how can you derive clues for your own strategy decisions from this complex web of possibilities?

Deloitte's strategy experts have developed an innovative approach to this issue: scenario-based modeling. Typically, companies address future uncertainty by extrapolating from the past and generating a probabilistic prognosis. When it comes to the automotive supplier industry, however, the limitations of such an approach are immediately apparent. Linear extrapolation fails to cover the full spectrum of possible developments and their implications for the sector, most of them disruptive, some mutually exclusive. Rather than basing decisions on the past, Deloitte's scenario method recommends factoring in independent critical uncertainties – highly impactful, yet uncertain developments. This approach allows us to create a scenario framework with four plausible extremes that will, with a high degree of certainty, encompass the "actual" future. Based on these extremes, we can infer a wide range of possible

impacts for the individual supplier. By weaving these potential developments into four coherent scenario narratives and combining them with quantification models, leaders can form a strategy and develop specific sets of relevant actions, which will prepare them for any conceivable outcome. In 2016, Deloitte developed and published the first set of scenarios for the industry with projections for 2025, and we have now updated these scenarios for 2030. On the following pages, we will explain the methodology in more detail, outline the four new scenarios and take a quantitative look at two case studies.

Automotive suppliers are facing fundamental change. But how to adapt to the inherent uncertainty of the future? Deloitte presents an update to its scenario-based framework for strategy decisions: four scenarios for automotive suppliers in the next decade.

From drivers to narratives: Building industry scenarios

Scenarios incorporate observations, conclusions and projections about variables and driving forces that are relevant for the future, which is why our supplier scenarios started with exhaustive trend research into the most impactful drivers for the industry. In the first phase, we identified around 100 economic, technological, environmental, political and social drivers on the basis of AI-driven analysis of news, articles and blogs, using Deloitte's AI tool *Deep View*¹. We also conducted interviews with numerous

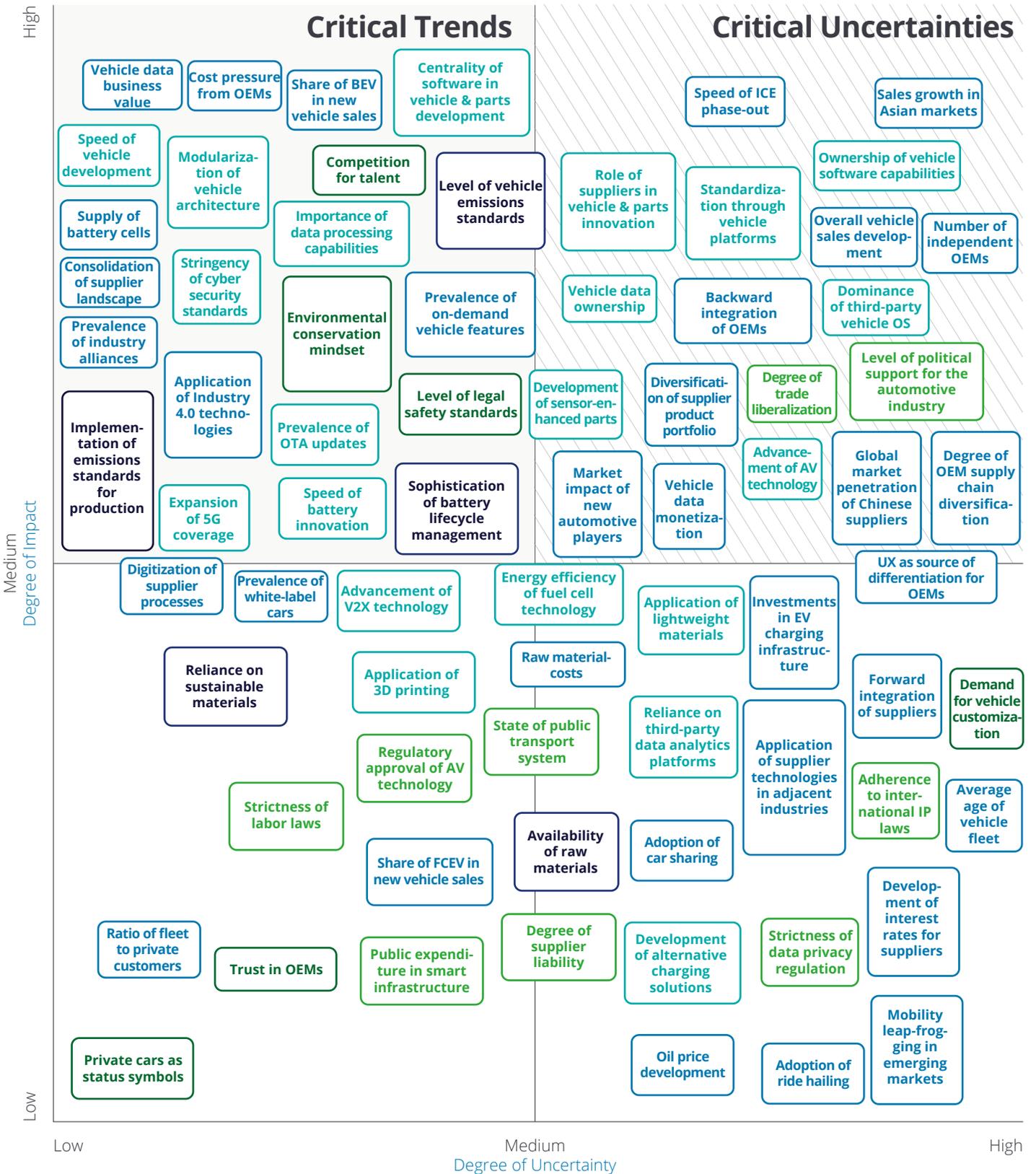
industry experts, as "human" expert input is crucial in judging which drivers are the most significant and how individual drivers are interconnected. From our 74 selected drivers, we prioritized a set of 18 "critical uncertainties" in terms of impact and degree of uncertainty (see Fig. 1). Compared to Deloitte's 2017 study *The Future of the Automotive Value Chain: 2025 and beyond*², we have identified an additional 32 new drivers.

Scenario planning is not about predicting the future. The goal is to paint a plausible, if at times extreme, picture of how the market environment might evolve over time.

¹ Deloitte, *Study: Automotive Value Chain 2025+*, 2017

² Deloitte, *Perceive – Understand your market and competitors*, 2020.

Fig. 1 – Driving forces survey results



In the second phase, we clustered the “critical uncertainties” into four key themes: “sales growth on Asian markets”, “adoption of novel technologies”, “level of OEM reliance on suppliers”, and “degree of market liberalization”. We defined plausible yet extreme endpoints for each cluster and identified two dominant themes, which define the scope of potential developments and serve as axes in the visualization of the scenarios:

- 01. Level of OEM reliance on suppliers
- 02. State of techno-economic ecosystems

Along these axes, we ideated different combinations of developments and condensed them into four key narratives (see Fig. 2), including insights regarding the near and medium term (2023, 2025). The scenarios are not to be seen as predictions, but rather as frames of reference we can use to apply Deloitte’s quantification models for the supplier industry. Details are less important than the overall picture – the exercise is about asking yourself what these scenarios could mean for your company. Which automotive trends will thrive in the respective scenario (see Fig. 3, CASA trends)? It is crucial to contemplate future

scenarios that may seem inconceivable today. In fact, this is precisely the point of scenario-thinking: to challenge expectations and to prepare for the unexpected.



Fig. 2 – Scenario framework

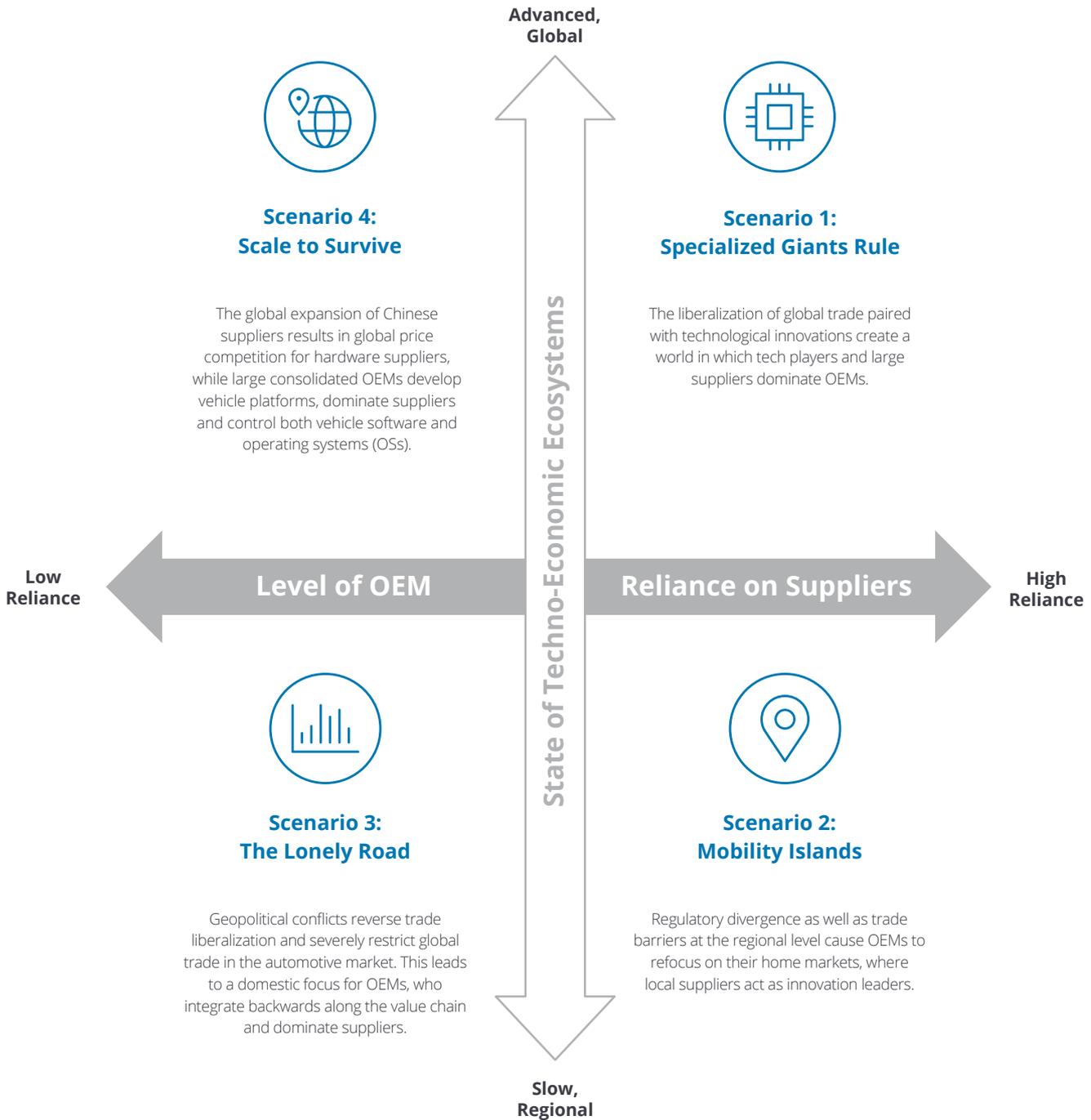
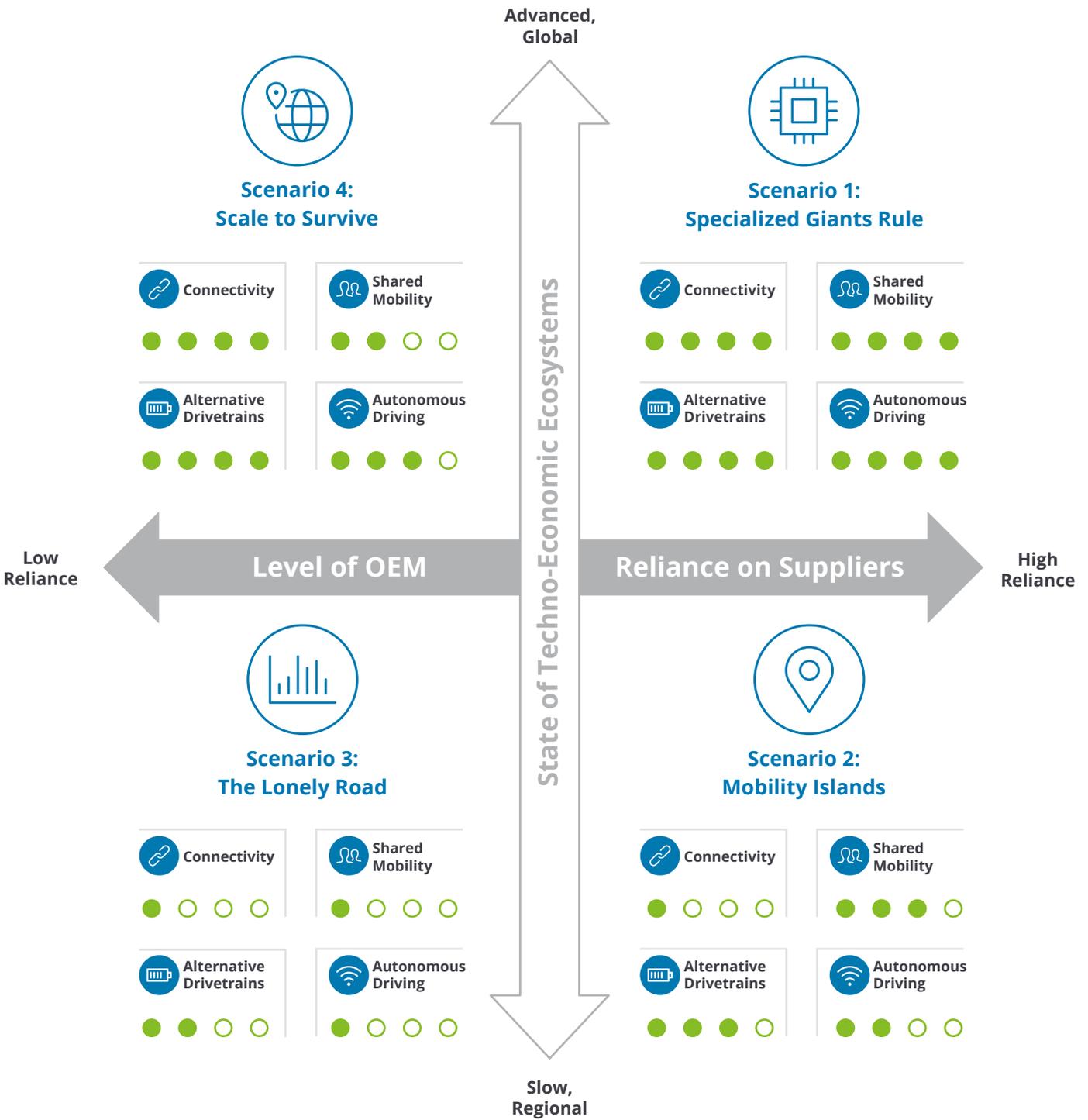


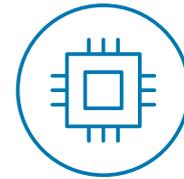
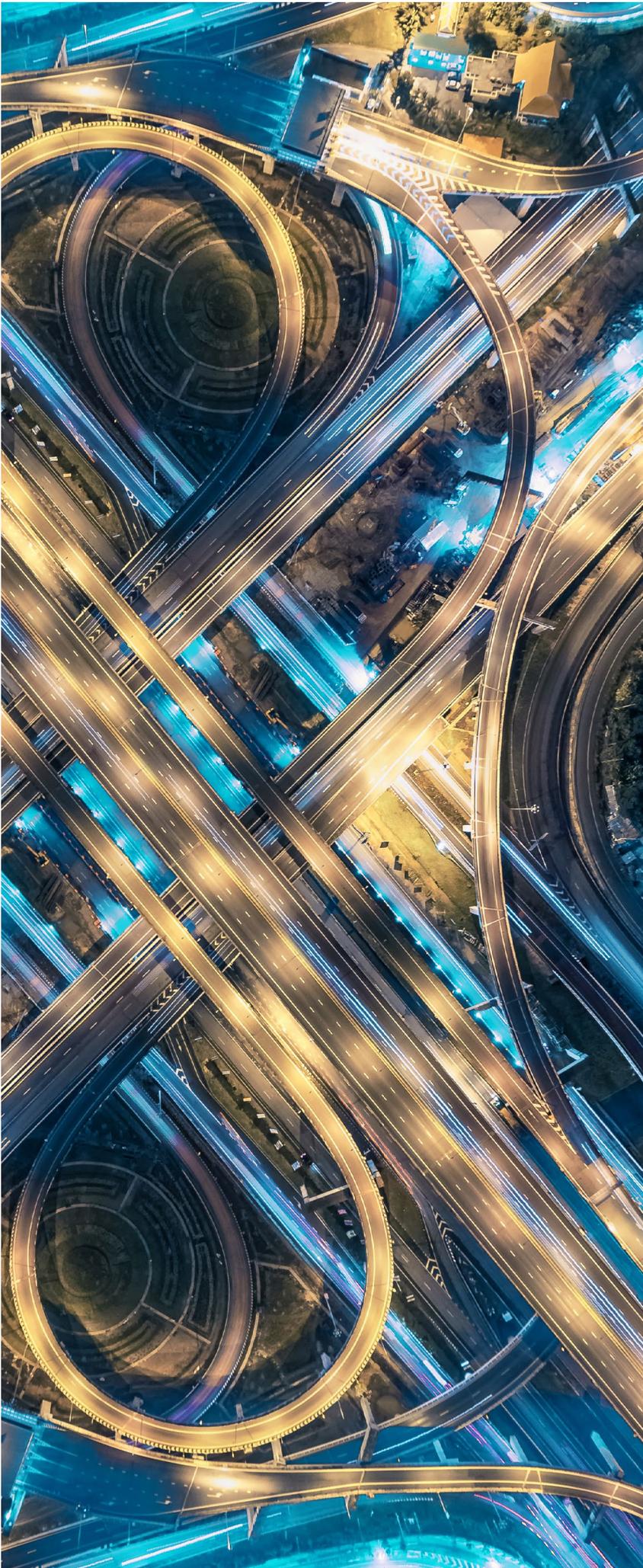
Fig. 3 – Expression CASA trends for each scenario



● ● ○ ○ Relative technological advancement and adoption between scenarios from low to high

These scenarios show how the future could play out for automotive suppliers.

Developing suitable responses based on the scenarios will give companies a clear competitive advantage.



Scenario 1: Specialized Giants Rule

The key drivers for the Scenario 1 narrative are liberalization of global trade, economic growth and technological innovation. By 2023, we have achieved a speedy economic recovery from the current COVID-19 crisis. International collaboration, regulatory support and global standards enable companies to thrive by rolling out alternative and innovative concepts such as car sharing and robo-taxis. By 2025, battery electric vehicles (BEVs) account for a significant share of new car sales. Total vehicles sales, however, decrease significantly by 2030. Value contribution shifts from hardware to software, allowing tech players to take leadership in the industry, orchestrate data ecosystems and provide automotive operating systems (OSs). In this scenario, global competition is strong. Large traditional suppliers provide solutions with specialized, sensor-enabled parts and acquire smaller players. Traditional OEMs are likely to react by collaborating more with tech players and suppliers on software solutions, eventually losing influence as they struggle to keep up with the pace of innovation. Suppliers, on the other hand, position themselves as specialized giants covering at least one crucial part of the value chain (e.g., battery packs, autonomous driving sensors). They form global oligopolies and force OEMs to rely more and more on standardized vehicle platforms.



Scenario 2: Mobility Islands

Diverging regulatory priorities regarding sustainability, smart urban mobility and other market-specific requirements lead to regional discrepancies in the automotive industry and slow down technological progress. However, demand decreases in the near term by 2023 as customers are less inclined to spend on car ownership in a COVID-19 recession, which contributes to the transformation of the mobility space. Economic growth is stifled due to protectionism and higher trade barriers, which materialize by 2025 as a consequence of international tensions in the aftermath of the COVID-19 crisis. These trends coupled with technological path dependencies cause OEMs to refocus on their home markets. Although regional subsidies are available, it becomes difficult for OEMs to invest in new technologies, while local suppliers emerge as important drivers of innovation. They collaborate with tech players in regional ecosystems and develop tailored software solutions, vehicle platforms and purpose-built parts to meet regional demand. International joint ventures and partnerships are more important than ever to circumvent trade barriers and achieve scale. While less pronounced than in Scenario 1, mobility innovation is still a success, with a focus on regional needs and regulatory context. This contributes to stagnation in vehicle sales, however, as does the recession. OEMs have lost some of their power, while regional suppliers and tech firms overtake OEMs in technology leadership. Responding rapidly to regional regulations, suppliers improve their margins and increase pressure on OEMs, which they dominate by 2030.



Scenario 3: The Lonely Road

Scenario 3 paints a picture of slow economic growth, recession and severe limitations for technological progress. Triggered by the COVID-19 crisis, global economies continue to slump well into 2023. By 2025, this leads to the rise of populist governments. Geopolitical conflicts ensue and result in economic stagnation by 2030. Trade barriers emerge, and market liberalization is limited to the regional level for the automotive industry. Battery technology development has slowed, while internal combustion engine (ICE) vehicles still play a significant role in the market in 2030. Asia is the main driver of growth in global vehicle sales. Chinese industrial policy turns inwards, adding to the global fragmentation of the technological ecosystem. The limited funds of regional players across the globe stifle innovation in new mobility and connected services. In isolated markets, OEMs are the only regional players with sufficient capital to invest in software capabilities. They refocus their supply chains on the regional level and integrate backwards along the value chain. OEMs aim to achieve end-to-end innovation leadership and develop their own OSs and mobility platforms. In this world, OEMs are still the face of mobility and gain superior pricing power, while suppliers are increasingly dependent on them.



Scenario 4: Scale to Survive

In the fourth scenario, growth, innovation and significant price competition drive the global automotive ecosystem. This is intensified by the global expansion of Chinese suppliers and by China opening up its own markets. Further support comes from the quick recovery from the COVID-19 crisis by 2023 as well as international agreements on trade and standards. Breakthroughs in solid-state battery technologies provide the basis for affordable BEVs and an increase in Chinese production, accelerating the shift to electrification. Vehicle sales increase in Asian countries by 2025, while decreasing in industrialized nations. The trend towards economies of scale forces major OEMs to pursue international consolidation. Vehicle architecture becomes highly standardized through platforms (skateboards) and centralized OSs managed by OEMs, who emerge as the new innovation leaders. Hardware suppliers are increasingly forced to consolidate in order to remain viable, while OEMs control ever larger parts of the value chain by pushing backwards integration in certain areas (software, battery management). By 2030, thanks to new software capabilities, OEMs have the ability to process and monetize data as well as develop mobility services. Overall, OEMs dominate the industry by 2030 in this scenario, while cash-strapped suppliers struggle to find new paths to innovation.

Scenarios in practice: Quantifying the implications for individual cases

What do these scenarios mean for individual companies? In order to make decisions about which path to take, you must first take a look at your own company: What does the scenario imply for you? Is it necessary to take action, and if so, how? Once you have answered these questions, the next critical step is to quantify the implications. This will enable companies to optimize their strategies, to assemble relevant action portfolios and, finally, to implement and monitor actions with real-world developments as they unfold. What this looks like in practice also depends on the respective time horizon, as the following examples demonstrate. In the short to mid-term, the effort incorporates existing company plans, while long-term quantification relies more on a top-down approach.

Automotive Supplier Case 1: Quantifying long-term strategy decisions

The first case revolves around the long-term future of a supplier that has business interests in various component clusters. With a large share of the overall profit being generated in declining traditional clusters related to ICE components and certain profit pools set to decrease significantly over the long run, the supplier felt compelled to take a proactive approach. This involved asking questions about developments in target markets, the necessary lead time for transformation, the viability of “last man standing” strategies to generate profit even in declining segments and the ability to finance the transformation with the traditional core business. To quantify each of the different strategies in different scenarios over the long term, it was important to combine both market and company views. The market view included simulations based on a benchmarking database of 500+ suppliers (adjusted to scenarios) to determine how volume and profitability will develop across the component clusters and to what extent this will impact associated profit pools. The company view in turn revealed that a significant share of profit was flowing from decreasing pools. The base case for the ICE cluster indicated a roughly 74 percent reduction in profit contribution by 2030 and a 6.5 percent to 2.0 percent decline in the EBIT profit margin over the same period.

The next step was to test various available strategies against these numbers. For instance, the “harvest” strategy (aggressive approach) centered around leveraging the current market position by reducing costs through operations excellence and R&D reform, which would significantly improve profit contribution and margins (6.0%). However, this strategy is only viable for a limited period and comes with the challenge of optimizing businesses that are already very efficient. Consolidation strategies involving inorganic growth through M&A activity may look less attractive in comparison (1.5% to 3.0% margin, plus considerable profit contribution, depending on aggressiveness). Yet they may also – provided the acquisitions are big enough – prove to be more sustainable over the long term because of increased scale. In addition to these strategies, it is essential to simultaneously invest in growth clusters in each case, for instance by adopting a “portfolio shift” strategy that might initially be costly but can be funded through contributions from optimized traditional clusters. The big advantage of a scenario-based quantification is that it allows to simulate the interdependence of traditional and transformative business segments. These quantitative insights made it possible for the supplier to develop a clear business case for each option, to consider its risks and challenges, and to arrive at a well-founded decision.

Automotive Supplier Case 2: Short to medium-term action planning

We also used Deloitte's scenario and action planning methodology to achieve near-term improvements for another supplier. Swift action was needed in this case, as the company was heavily impacted by COVID-19 and the ensuing industry disruption. Multiple factors complicated the situation: a global slump in vehicle sales, the urgent need to pursue business transformation and the existing reliance on a narrow, linear planning approach based on outdated information. A project using Deloitte's proven scenario and action planning approach enabled the supplier to broaden its perspective and plan for a range of different developments (for more information on that approach, see *Deloitte CFO Insights*). We developed and quantified scenarios and action plans, with detailed insights into the trends for various product component clusters (e.g., axles, brakes, fuel system, ICE, transmission). For the quantification, we linked underlying external drivers to a driver-based financial planning model using expert insights. We factored the projected development of each driver into an updated financial plan (profit and loss, balance sheet, cash flow statement) for the next 2 years. Notably, around 15 financial drivers and 5 planning objects were sufficient for 80 percent of the business model.

In the next step, we identified and quantified potential actions along the supply chain as well as strategic levers such as growth, profitability, asset efficiency and cash that covered actions such as headcount measures, product portfolio optimization, renegotiation management or R&D reallocations. The quantifications were also adjusted for specific scenario effects over time, including aspects such as seasonality and COVID-19 implications. Deloitte's proprietary Advanced Planning & Simulation Tool was an important digital enabler for these quantifications. This project took only six weeks overall, including all necessary steps from trend research to action prioritization. Going forward, we will monitor action execution and scenario development in regular control tower sessions.

³ Deloitte, *Scenario and Action Planning in Uncertain Times*, 2020.

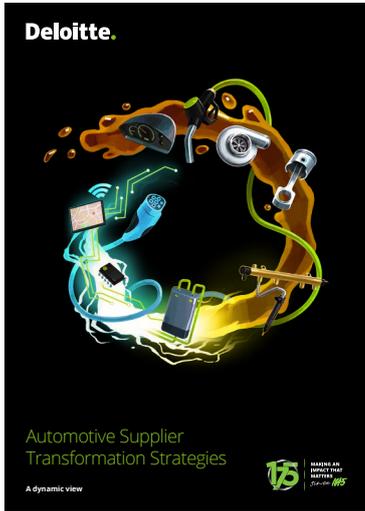


Paving the way for automotive suppliers

By its very nature, the future is unpredictable. We cannot expect scenario-based action and strategy planning to be a magic crystal ball for automotive suppliers. Quite possibly, however, Deloitte's scenario framework may be the next best thing with its unique combination of AI-based empirical analysis, high-value qualitative input from industry experts and quantitative

financial analyses. Automotive suppliers are facing hard choices for their future, and the best way to approach them is with a realistic view of what could happen next. Armed with scenario insights and action plans, suppliers will be well prepared for the changes to come regardless of which scenario ultimately becomes reality for the automotive industry in 2030.

Fig. 4 – Complementary reading



Automotive Supplier Transformation Strategies: A Dynamic View

In an era of climate change, e-mobility and COVID-related disruption in global supply chains, transformation is inevitable for many players in the automotive supplier industry. Companies now have the opportunity to proactively manage the dynamics changing the industry and develop new strategies. Read the publication to discover the key drivers for the changes we can expect in the next three to four years and the strategic options available to today's suppliers.



Global Automotive Risk Monitor

The proactive detection and anticipation of risk areas across different supplier component clusters serve as a key input for developing transformation strategies to secure the business in the long run and maneuver through the extreme changes of the automotive value chain. In order to assist the strategy formulation process, Deloitte has developed the Global Automotive Risk Monitor. Our research raises awareness of current market trends and supports automotive suppliers and their stakeholders in their effort to manage and mitigate risks by suggesting actions to take.

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We have models that develop, quantify and monitor both scenarios and actions – allow us to analyze your particular case and come up with the best strategy for your business.

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