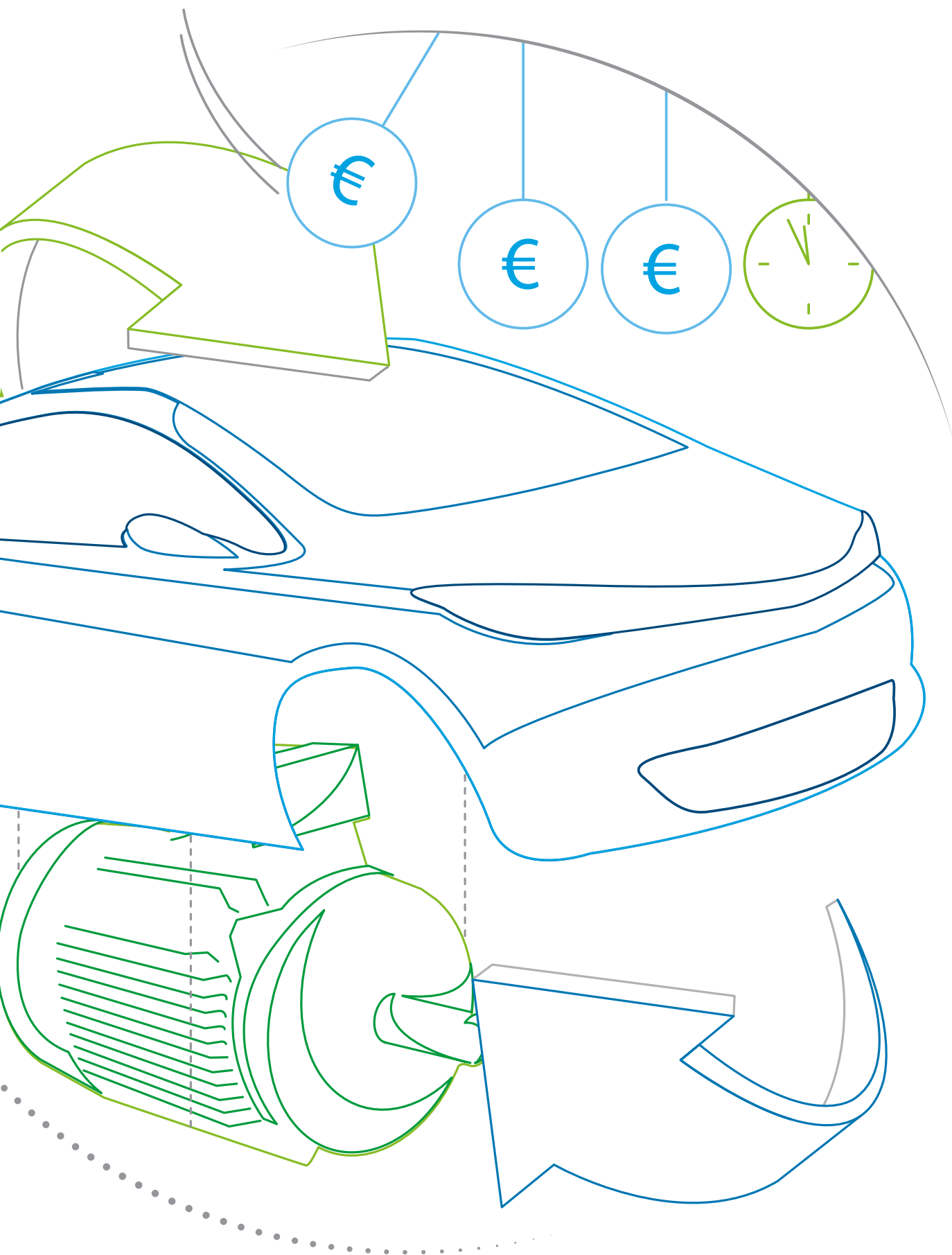


The Future of the Automotive Value Chain

The Supplier Financial Transformation Model

Preface	05
The future of the automotive value chain and impacts on automotive suppliers	06
Key questions and strategies to proactively master the transformation	12
Deloitte Automotive Supplier Financial Transformation Model	20
Deep Dives: Selected component clusters	26
Profit pool development across component cluster markets	72
Prerequisites for surviving in declining component clusters	82
Financing the transformation	84
Case study: The transformation is already ongoing	86
Conclusion	90
Appendix	92
Contact	98



Preface

Four megatrends are challenging the automotive industry:

- E-mobility
- Autonomous driving
- Digitalization
- Sharing economy

There is no doubt that automotive suppliers and OEMs are facing disruptive times. The questions they need to answer now are how they can best address these challenges and how they can prepare for the inevitable transformation despite substantial uncertainty about timing and eventual market developments.

Many insights, opinions, and recommendations on this have been published. Most of the available studies elaborate on the drivers that will shape the automotive industry and predict volume and price changes. In 2017, we also published our views about the automotive value chain (AVC), which gave a detailed insight into 19 different vehicle component clusters and how the upcoming sector changes will affect them.

We have now developed our analysis by combining deep sector expertise with financial transformation experience. While price and volume are a great starting point for shaping a transformation strategy, this eventually also requires a sound understanding of cost effects and cash requirements. Only when combined and applied to specific scenarios – tailored to the individual situation and needs of a supplier – does it enable management to make thorough and robust strategic decisions.

For this purpose we have built the Deloitte Supplier Financial Transformation Model, which helps suppliers capture their situation in the market while also pointing out potential areas requiring action. The model can simulate different transformation strategies “on the fly” for a specific supplier and show their direct impact on profit & loss, the balance sheet and cash flow. Possible angles to review are product portfolio shifts, collaboration and platform strategies, consolidation and scaling strategies, or location reviews. Although suppliers, especially in tiers 2 and 3, are fully aware that they need to prepare for transformation, the “how” and “when” are often unknown or uncertain. It is at this point that our model offers guidance.

In this study, we will walk you through the key automotive value chain developments, their effects on component clusters and their financial impact on automotive suppliers. We will demonstrate the power of our Deloitte Supplier Financial Transformation Model by both explaining its functionality and applying it to different suppliers in three deep dives – resulting in a clear strategy advice for these supplier. We hope that you will enjoy our study and the Deloitte approach to developing robust and successful transformation strategies for automotive suppliers.

The future of the automotive value chain and impacts on automotive suppliers

The automotive industry is facing disruptive times with severe impacts for all participants in the automotive value chain. These challenges, for both OEMs and suppliers, are new to the industry in terms of impact and speed, and they are caused by manifold drivers ranging from, social change, technological advancements and economic shifts to environmental trends and political developments.

Building attractive and sustainable supply chains and addressing the four frequently discussed megatrends of e-mobility, autonomous driving, digitalization, and sharing economy requires OEMs to have considerable innovative strength while also bearing significant costs. Automotive suppliers are the primary interface for both topics – innovation and cost reduction. Depending on their key market segment, some suppliers will most likely face a strong market volume decrease in their core business, while others can expect stable or even increasing volumes. Looking at the automotive megatrends, we can conclude that e-mobility is constantly gaining importance, primarily driven by environmental requirements and political targets, while autonomous driving continues to be sub-

ject to extensive research and regulatory development. Although the final impact of both trends is difficult to predict, the competitive environment is already reacting. An increasing number of tech giants and start-ups are entering the automotive (supplier) market with products serving those trends, e.g., components related to electric driving (especially batteries and electric powertrain technologies) and electronics (ADAS & Sensor technologies and electric components). Not surprisingly, the likely losers will be ICEs and ICE-related components such as transmissions, fuel systems and exhaust systems. The shift toward shared mobility (social changes) and the shift in demand toward emerging markets (economic developments) bring additional challenges. Our study, "The Future of the automotive

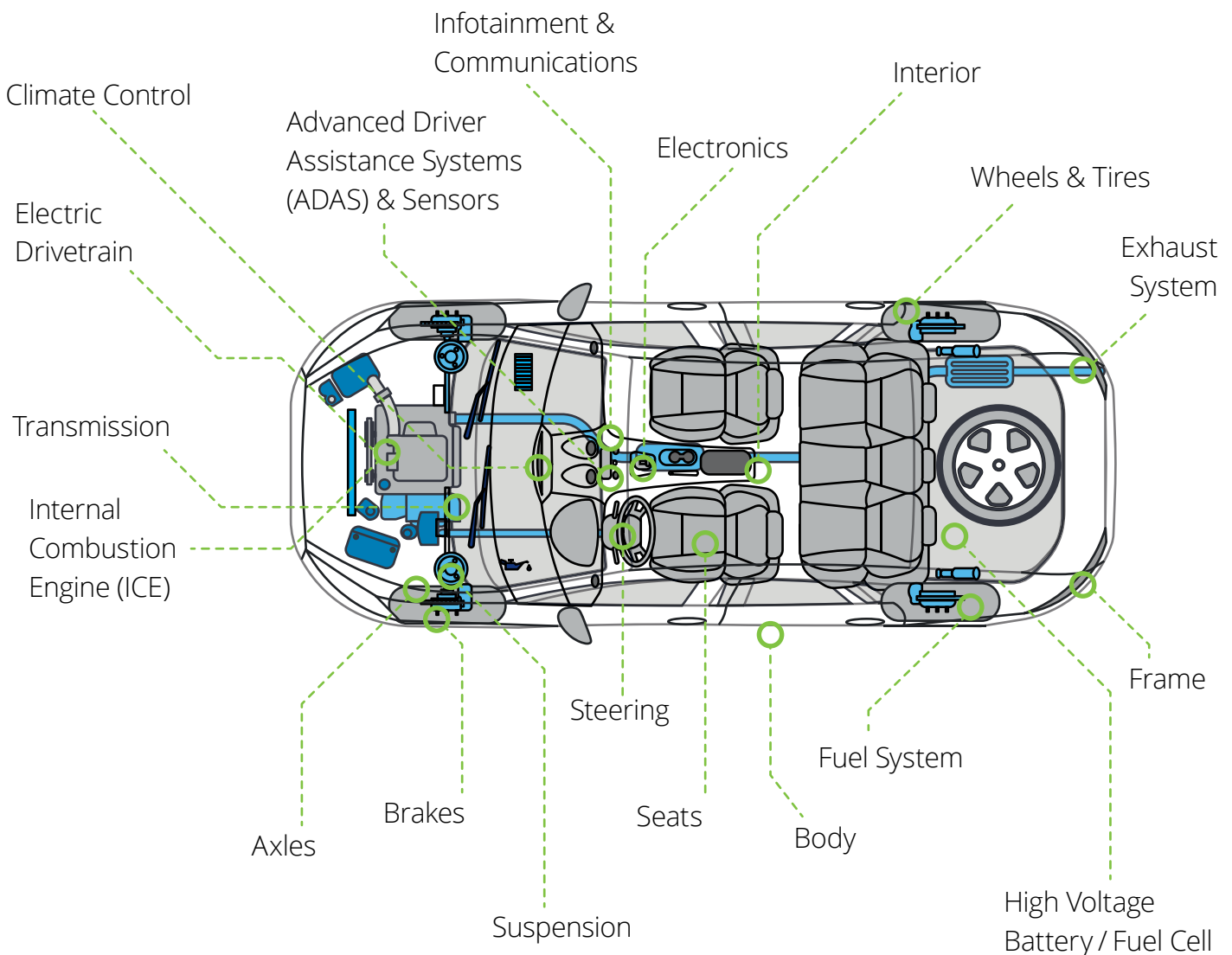
value chain – Supplier Industry Outlook 2025”, published in December 2017, analyzed the future development of the supplier markets by addressing key questions such as:

- What is the impact of automotive mega-trends on material cost developments in different component clusters?
- How will demand and revenue volumes develop in each component cluster?

The Deloitte automotive value chain Industry Model, which we describe in the study, helps to answer these questions by quantifying key market volume parameters and dimensions of different potential future automotive value chain scenarios (see recap box). The study examines and simulates four future scenarios by pooling different trends in varying directions, which allows volume projections for different component clusters.

The different component clusters considered are: Electronics, Infotainment & Communication, ICE, Electric Drivetrain, HV Battery / Fuel Cell, Transmission, Suspension, Brakes, Axles, Fuel System, Exhaust System, Wheels & Tires, Interior, Frame, Seats, Climate Control, ADAS & Sensors, Body and Steering. You will find the same clusters used in this study.

Fig. 1 – Breakdown of vehicle component clusters



Recap:

The Future of the automotive value chain – Supplier Industry Outlook 2025

The four scenarios are built along two key dimensions: balance of power and capabilities of cars. Balance of power ranges from “OEMs dominate the automotive world” to “suppliers and outsiders set the rules”, while capabilities of cars range from “to the full extent” to “below technological possibilities”. The implications of each scenario are discussed extensively in our previous study. Let us briefly recap the supplier-specific considerations for each:



Scenario

Hardware Platform Provider

Suppliers support and form alliances with tech players designing new automotive services/platforms alongside the classic parts supply for OEMs. They become providers of innovative software solutions, while OEMs have mainly become suppliers of white-label cars (hardware providers) to the tech giants. The coordination effort between suppliers and third party service providers increases dramatically (e.g., for Google traffic control systems). Due to even stronger interlinkage of furnished software functionality, data, and conventional hardware, suppliers gain significant bargaining power.

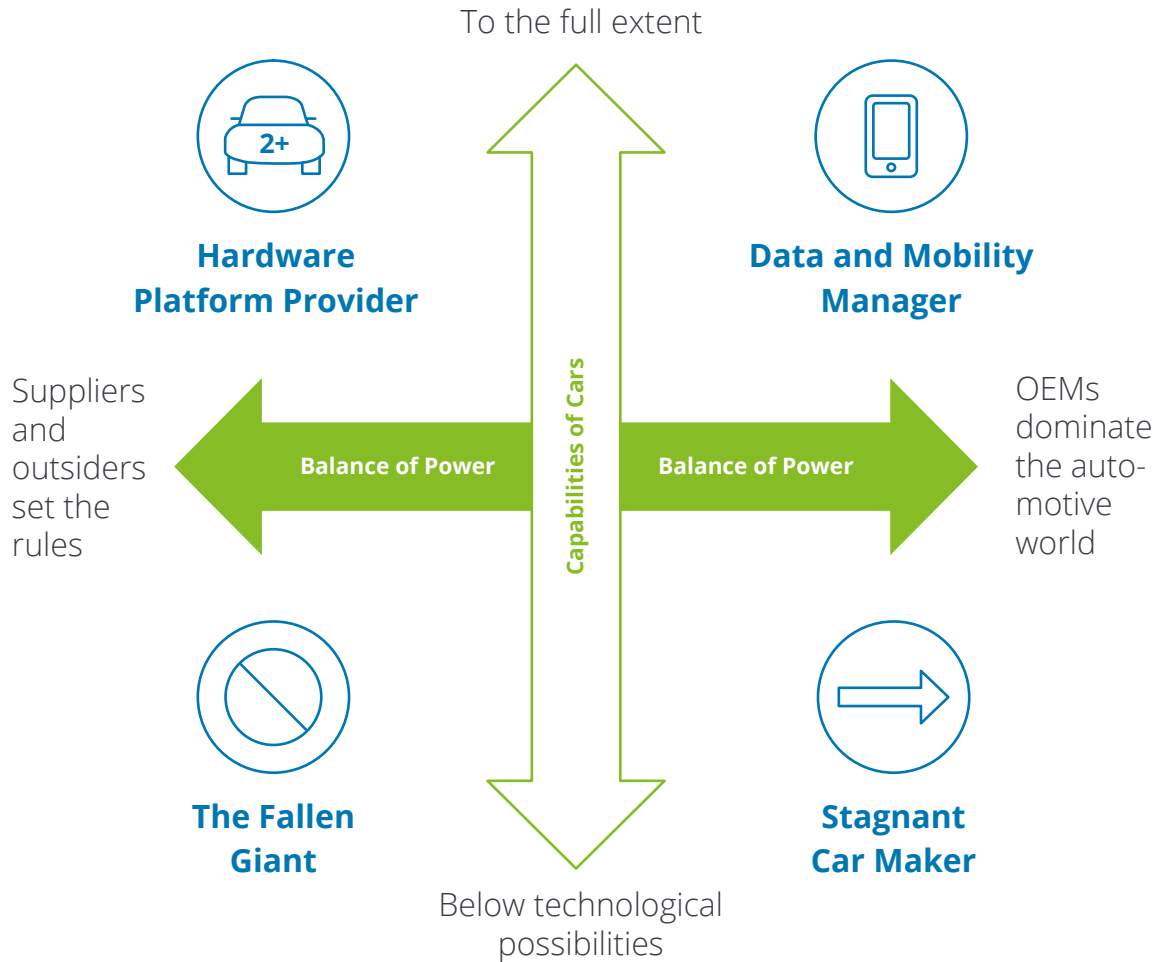


Scenario

Data and Mobility Manager

Premium suppliers dominate through alliances with OEMs and their software solutions. They take on a high number of OEM tasks, e.g., data analysis to improve products and features. Furthermore, through massive investments, suppliers help OEMs to set standards for connected services while ensuring premium quality, which plays a key role in this scenario. OEMs demand further services based on platform solutions provided by suppliers. Research and development as well as innovation activities are still driven by rules set by the OEMs.

Fig. 2 – Four scenarios for 2025



Scenario The Fallen Giant

The car is a mere means of transportation and brand attractiveness has diminished. The technology hype has cooled down and mobility has become a commodity. Industry outsiders like Uber enter the OEM market and forge exclusive alliances with suppliers to provide affordable mass mobility. Suppliers support mass mobility by expanding their service portfolio, e.g., by introducing usage-based pricing schemes for certain components. This also applies to traditional OEM customers, who increasingly focus on fleet management operations, since private care ownership has decreased, and ask for highly durable but affordable spare parts.

Scenario Stagnant Car Maker

The automotive value chain remains mostly unchanged and suppliers keep their traditional role. The hype around connected and autonomous drive technologies has gone and suppliers focus on what they were good at, i.e., incremental innovation along today's vehicle features. Like today, suppliers are challenged by OEMs to provide high quality at competitive prices. E-mobility emerges as an independent business model among OEMs, which leads to a high R&D spend for this sector among suppliers. In any case, suppliers who focus on innovation in drivetrain technologies are the "winners" in their competitive fields.

Scenario-based thinking helps suppliers to overcome insecurity regarding future developments and think through options and their impacts.

Essentially, we can draw the following key conclusions from our study:

1. **Growing market volume overall with regional shifts:** Overall market volume is expected to grow slightly (excluding spare parts and inflation). This growth will be driven by increasing volumes in China, while volumes in Germany and NAFTA will decrease.
2. **Volume decrease for conventional solutions:** Regardless of the chosen scenario, 15 out of 19 vehicle component clusters will likely see a decline in market volume, some by more than 35% by 2025. Some parts will gradually become obsolete due to E-mobility and face the biggest challenges, e.g., ICE-related components such as transmissions, combustion engines, and fuel systems.
3. **Very attractive growth areas:** In some component clusters, high growth rates are expected by 2025, e.g., electric drivetrains, HV batteries, ADAS and sensors. Suppliers in these clusters may experience a strong positive business impact. However, it is also clear that market shares in these innovative, but not yet advanced or mature technologies will be highly contested between established and new suppliers.
4. **High sensitivity along the four scenarios:** The key messages outlined in our study are clear, but if we differentiate between the four scenarios described, we see extreme variations.

We can conclude from the study that there are existential threats and divergent market expectations for suppliers. To give an example, within the Infotainment & Communications cluster the Deloitte automotive value chain Industry Model shows growth of 25% in the best case (Data mobility manager) and a decrease of almost 60% in the worst case (The fallen giant).

The high level of uncertainty and the dynamics of future developments require even more rigorous ongoing evaluation of one's own position in the automotive value chain. Furthermore, the influence of future developments on the competitive position must be closely examined and monitored, while key decision-makers need to navigate this dynamic environment.

A scenario-based view is a powerful, robust, and flexible approach in such a situation and helps to develop viable options and ensures responsiveness. To better support decision makers in this situation, we used the Deloitte automotive value chain Industry Model as a basis and supplemented the model with detailed financial and strategic simulation capabilities. The resulting Deloitte Automotive Supplier Financial Transformation Model supports strategic scenario-based discussion and decision-making for navigating through the industry-wide transformation. We combine market developments for single component clusters (supplier markets) with

a detailed financial view to simulate how suppliers in different markets can proactively address the need for transformation. The model enables us to simulate different possible transformation scenarios tailored to specific supplier situations on the fly and evaluate the scenarios according to their financial and strategic advantages. This helps to determine a feasible transformation sequence. Monitoring trends and translating these into concrete measures, including their financial impact (quantification) for each company, is key to shaping the market and protecting competitive positions in the future automotive value chain.

While each of the four scenarios has its justification, in the following we will focus on one scenario only to discuss potential impacts and to demonstrate the power of our financial transformation model. Although discussions with OEMs and suppliers show a mixed picture regarding which scenario is most likely, we will focus on the 'Stagnant Car Maker' for now. How fast technological trends really come about, and to what degree, is very difficult to predict, but for the moment this rather moderate scenario for 2025 seems to provide a solid basis for our explanations. In addition, we can adjust our scenarios to specific supplier requests and use them for scenario-based decision-making, as they provide maximum flexibility.



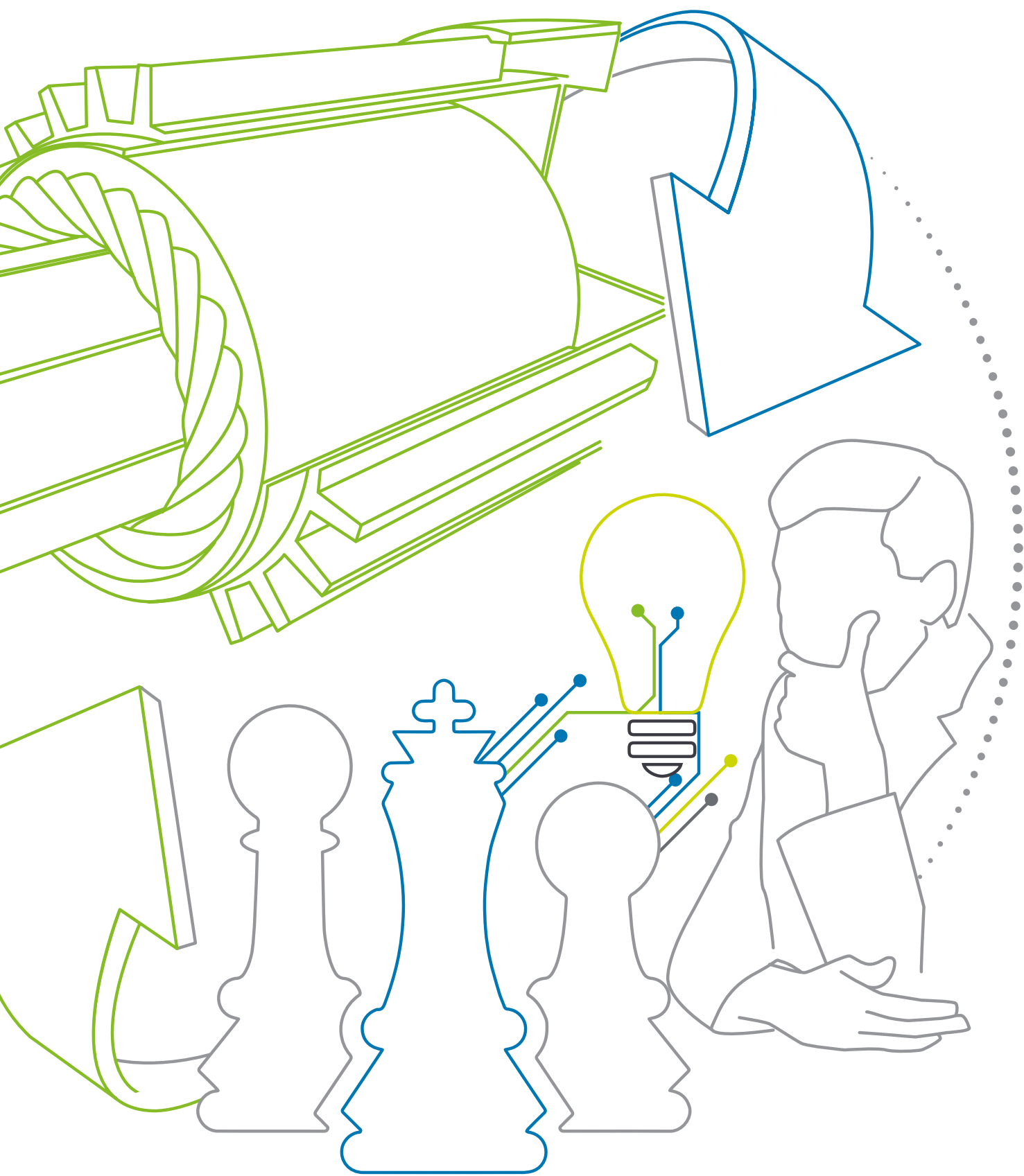
More about "The Future of the automotive value chain: Supplier Industry Outlook 2025"

www.deloitte.com/de/supplier-industry-outlook

Key questions and strategies to proactively master the transformation

The need for action in the automotive value chain is evident; however, it is difficult to predict the impact, the speed and, – in some cases – the direction of the change. To master the transformation amid such uncertainty, strategic foresight is needed. Suppliers must answer questions, e.g., regarding the timing of the market volume tipping point for their component cluster or whether their revenues can develop against the overall market development, to decide on the timing of their own transformation, while also taking into consideration possible lead times for the required transformation steps. Additionally – and most importantly – they have to assess transformation options in the light of their individual transformation need so that they can develop a concrete strategy.





The chosen strategy needs to fit the current supplier situation. Independently of any predictions about component clusters, all suppliers should critically evaluate their current position in the light of the automotive megatrends to derive concrete answers to questions such as: Do I have a burning platform? If so, what is the transformation need and which options do I have? To respond to these questions, it is essential to review their own situation along the key dimensions of product portfolio, markets and relative market position and relate these to the market development projections.



Key questions for the required strategic considerations are:

- Can we expect sufficient growth and profitability in our current product portfolio and regional market footprint?
- Do projections suggest reviewing our product portfolio, as our current portfolio will become obsolete in parts or highly commoditized in the future?
- What is our strategy for products becoming obsolete in the future, and what is our strategy for products where we expect stable or increasing volumes?
- If our portfolio becomes (partly) obsolete should we focus on the remaining products or diversify by investing in new products/ product clusters with (high) relevance in the future automotive value chain and attractive profit pools?
- Do we see opportunities with our products or core capabilities in other industries (non-automotive)?
- Is it necessary to examine the regional customer focus and in turn reassess the current manufacturing footprint?
- How can the transformation be financed? Is my competitive position so strong that the OEM will probably contribute to the transformation costs?

The answers to these questions will depend on the current setup along the aforementioned dimensions of products, markets, competitive position, and expected market development.

It is vital to first look at the overall product portfolio before defining a strategy for specific component clusters in the portfolio. If suppliers focus their business on just one component cluster, for example spark plugs that will become obsolete in the future or at least face severe volume decreases, they should think about the future vision of their business and consider existential questions:

- What should I stand for in the future?
- Where and how can I position myself to survive in the business?

A huge transformational effort including product and/or market shifts is inevitable. However, developing new product offerings or acquiring a competitor who is already active in one of the increasing profit pools requires significant investment, which needs to be financed from cash flows coming from the current core business. In other words, the old business must finance the new world. Maintaining profitability amid shrinking market volumes in component clusters with declining market volumes and managing quick innovation and ramp-up processes for new products must go hand in hand. A key enabler for such a portfolio shift is finding talented employees for future business demands. Although the 'war for talent' is not in the scope of this study, we cannot emphasize enough the importance of this dimension. A clear talent strategy is essential for remaining successful throughout this automotive value chain transformation.

Once the overall product portfolio decision is made, the strategy for single component clusters needs to be defined.

For component clusters with a stable or increasing market volumes forecast, the position is rather comfortable, although changes may still be required. Depending on the relative market share, a focus on holding or even growing the position seems to be the logical consequence. However, it is essential to have the right structures in place to meet growing demands. Typically, high investments are required to do so, and if successful, the business can become a very profitable cash machine.

For component clusters with an expected market volume decrease, the situation needs close monitoring. It goes without saying that the transformation path for suppliers in declining market segments is of particular interest as the need for change is obvious and required to safeguard the company's continued existence in the long run. For these suppliers, the time to act is now, since it is uncertain how fast the volume will decrease, as our different market scenarios suggest.

We have identified four key transformation strategies for declining component clusters depending on the two dimensions of competitive pressure and relative market position:

- Harvest
- Safeguard market position
- Exit
- Consolidate

Each strategy must be assessed against the background of the current situation and future expectations regarding the development of competitive intensity.

Focus on ...

Overview of Transformation Strategies

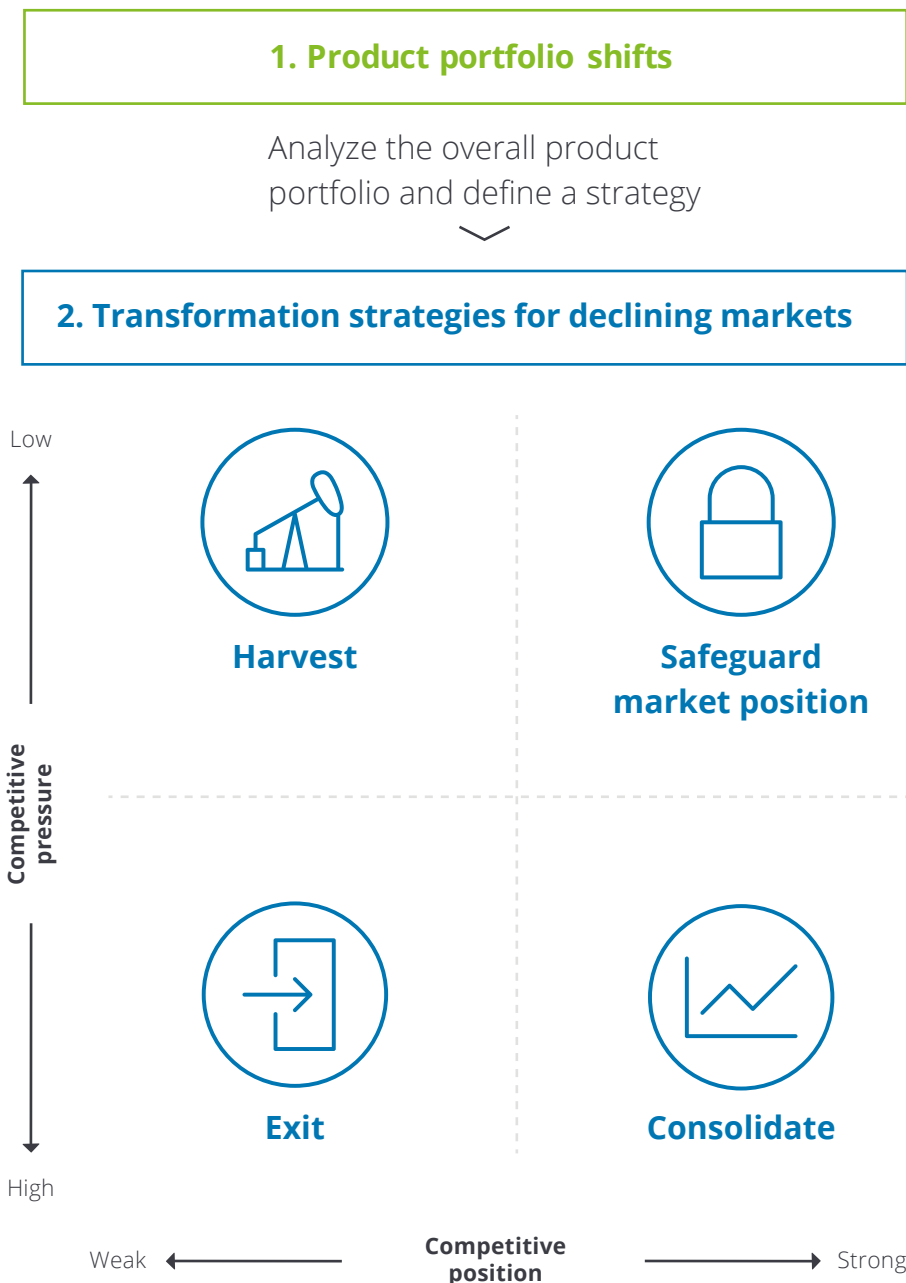
Along the dimensions of competitive pressure and relative market position, we see four key transformation strategies that can be applied to declining component clusters.

Before discussing strategies for specific component clusters, a holistic and critical look at the overall product portfolio is required to evaluate future options and derive a strategy for the whole portfolio. Each supplier should check carefully which component clusters in their portfolios are likely to generate solid or even increasing profits in the future, considering the technological developments, and which

component clusters may become obsolete or, at the very least, suffer a sharp decrease in volume and profit. Overall, it is clear that suppliers in many component clusters face ongoing cost pressure combined with the threat of technological substitution of their current products. For suppliers that are heavily impacted by technological shifts, e.g., in the fields of ICE, a radical change in the product portfolio may be required.

Steering away from such component clusters, or at least reducing dependency on them, should be of high priority and addressed immediately. Having formulated their views on future profit pools and an overall strategy, they should then consider component cluster-specific transformation strategies, such as harvesting, safeguarding their market position, exiting or consolidating.

Fig. 3 – Transformation steps





Harvest

If the competitive position is weak, the probability of maintaining the current market share in a declining market is very low, so suppliers in this position should focus on getting as much cash flow out of the business for as long as they can by radically improving the cost base. "Milking" the current declining core business might be an option to finance required investments for the development of new growth areas. To follow a harvest strategy, annual cost savings of the supplier must exceed the price downs expected by OEMs. Hence, radical and comprehensive improvements of the cost base are required, e.g., footprint optimization, reducing R&D spending to a minimum, outsourcing, collaboration, and platform strategies and reduced investments.

Ultimately, a controlled exit out of the declining market is unavoidable in the medium or long term. Hence, this strategy requires the supplier to always keep a possible exit scenario in mind and prepare for it accordingly.



Safeguard market position

Suppliers in strong competitive positions who face a slow decline of the market and thus expect rather stable competitive intensity have the best prerequisites to protect their current position in the market.

To gain necessary market share and keep production volumes stable, suppliers need to rely on their individual differentiation factors and strengthen these further. In this strategy, innovation could be the decisive differentiating feature, forcing less innovative competitors to exit the market and protecting the supplier's own market position. Also in a declining market, differentiation via a unique and future oriented business model is feasible. An expansion of the product portfolio to include software and services that complement the currently sold hardware components could be a solution. Focusing on a niche market, where the supplier has a strong competitive position and competitive pressure is low, might be an option as well to safeguard a market position.



Exit

An exit is the ultimate alternative when competitive pressure is high and market position is weak with little or no option of maintaining profitability. In this case, suppliers can aim either for an M&A process or wind down the business themselves. Since delivery obligations exist for the entire product lifecycle including an obligation to supply spare parts to the OEM after EoP (usually for 10 years or more), a wind-down might take a very long time and is therefore very likely the most expensive option. Furthermore, a long wind-down process involves risks such as strikes, increased workforce absences, decreasing productivity or even sabotage, so an M&A process might be the preferable option to exit from the declining business and free up liquidity for the transformation. Especially if the market is in an early stage of decline, the M&A process should be favored. Recently, the M&A market for suppliers has been very dynamic. "Size matters" continues to be one of the imperatives of the automotive supplier industry. As a result, some buyers are willing to pay an attractive price for businesses with an expected declining market development. However, timing is key. Once free cash flows are negative or project pipelines thin out, it will be difficult to achieve an attractive purchase price – if an investor can be found at all.



Consolidate

In the light of a fiercely competitive landscape, suppliers should aim at driving market consolidation by actively crowding out competitors. However, they can only force consolidation from a strong competitive position. Gaining market share and keeping existing plants utilized in falling markets requires additional volume, while following a volume strategy in declining markets requires aggressive pricing. The acquisition of competitors might be an option as well.

On this transformation path, there is also the possibility of striving for consolidation in one niche market only and pursuing a different strategy for the remaining, less well-positioned, product families (or product lines) in that component cluster.

Obtaining a clear view of potential future profit pools and defining the overall product portfolio strategy accordingly are important tasks before determining cluster-specific transformation strategies for declining clusters.

Deloitte Automotive Supplier Financial Transformation Model

The Deloitte Supplier Financial Transformation Model supports suppliers in any reorientation required by making the essential decision criteria tangible and quantifying the financial effects of the options. On this basis, strategic options can be evaluated and decisions made regarding the transformation path to be pursued.



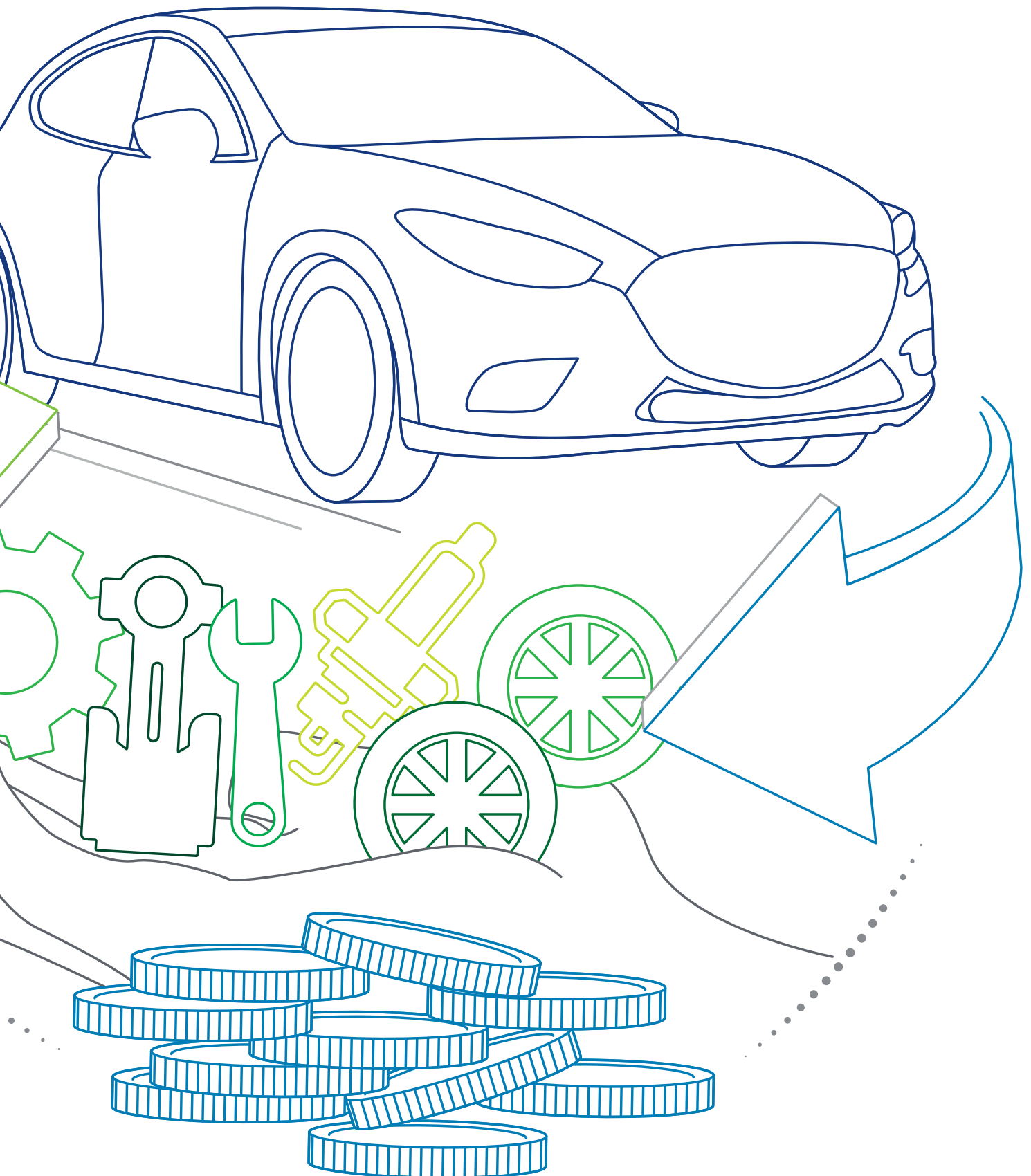
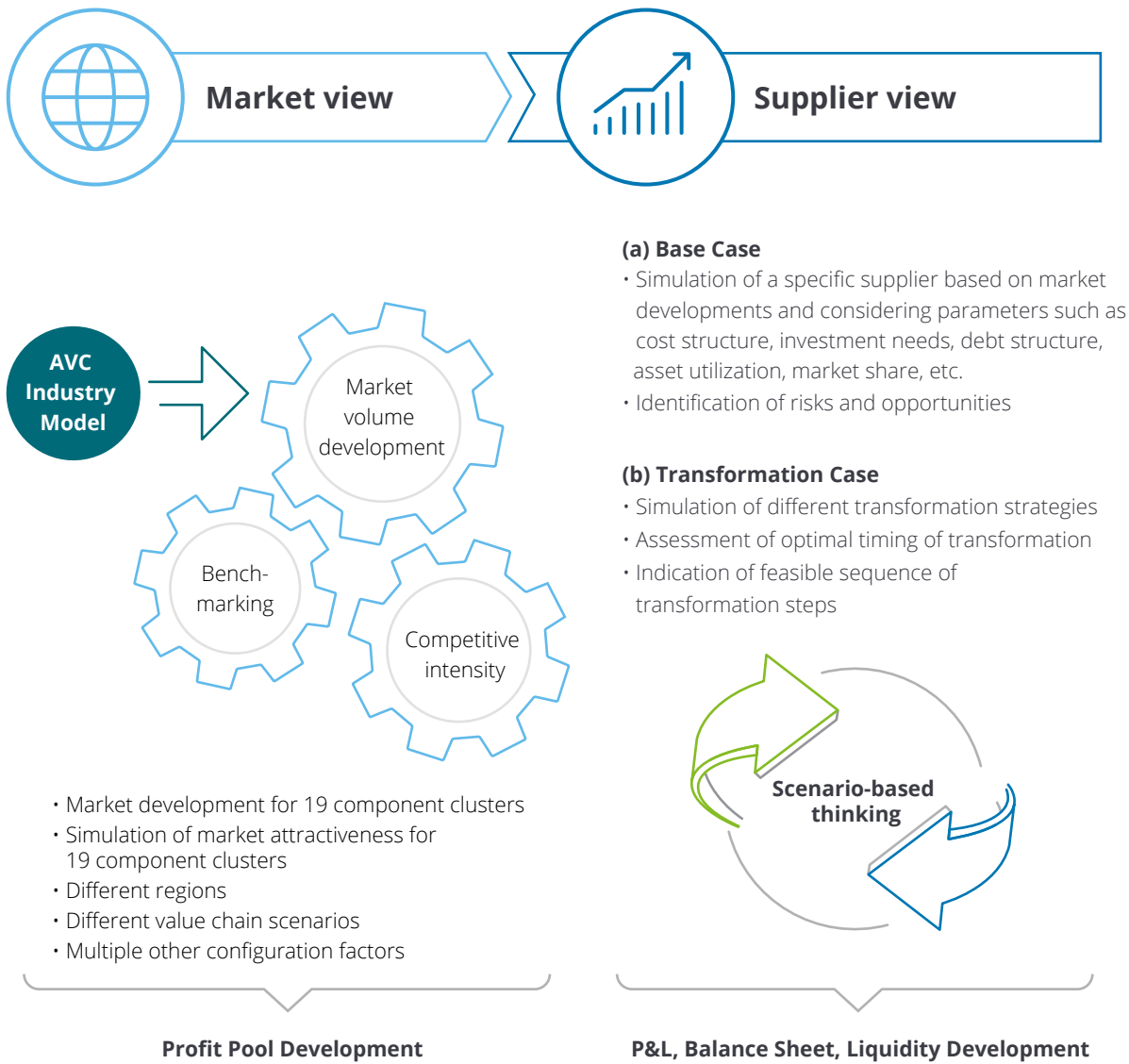


Fig. 4 – Scenario-based thinking – The Deloitte Financial Supplier Transformation Model



Our Supplier Financial Transformation Model shows what suppliers in different markets and competitive environments can do to proactively address disruption in the automotive industry. The model enables us to simulate different possible transformation strategies tailored to specific suppliers and evaluate these by their financial and strategic viability. The model results can be benchmarked to the peer group of the respective supplier.

Markt view

Our scenario tool is based on our view of market developments regarding current and future market development, competitive landscape and profitability for each component cluster.

Supplier view

To model the future development of suppliers in particular clusters, we start by modelling a base case, which shows how a specific supplier would develop if no transformational moves are conducted. This base case is then used to simulate different transformation strategies and options:

(a) Base Case

Based on extensive benchmarking data (see "Profit pool development across component clusters", p. 77) or the individual supplier's current profitability combined with predicted market developments in component clusters, we model expected earnings and liquidity developments, and thus the transformational need for specific suppliers, resulting in tangible decision criteria such as profitability, earnings structure, balance sheet structure and revenue development.

(b) Transformation Case

Our Supplier Financial Transformation Model can simulate different strategic options (e.g., transformation strategies presented on page 16 ff.), including their financial impact. This supports management's decision-making on the transformation of the current business model.

Model approach

We start with the breakdown of a conventional vehicle into 19 component clusters. Depending on the product portfolio of the simulated supplier, one of the 19 clusters, or any combination of them, can be used in the simulation.

The results of the automotive value chain Industry Model are used to simulate the market volume in each cluster. Taking the complexity of the markets into account, the AVC Industry Model distinguishes different configuration factors regarding regions, car segments, and market scenarios to project sales volume and price development until 2025. Three representative regions/ countries (Germany, NAFTA, China) and five individual vehicle segments (micro, compact, medium, premium, and luxury) are available for selection. Additionally, one of the four automotive value chain scenarios, Data & Mobility Manager, Stagnant Car Maker, The Fallen Giant, and Hardware Platform Provider, can be selected, or a new scenario can be created as input.

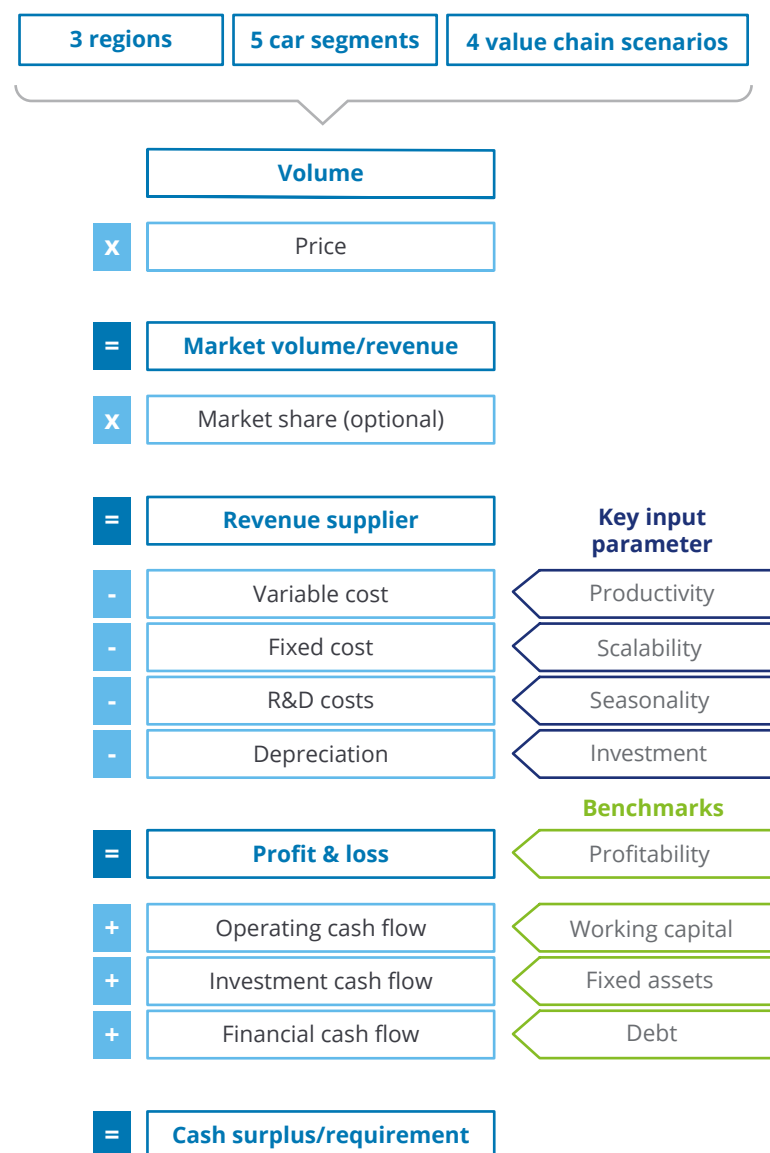
By multiplying the market volume by the market share of the supplier under consideration, we can customize the data to the specific supplier under review.

For the cost structure in the first planning year, we use the result of our benchmarking analysis (for a summary, see "Profit pool development across component clusters", p. 72) or the respective cost margins for a specific supplier. The resulting profit and loss statement represents the starting point of our simulation to first project the profitability and consequently the cash needs or cash surplus for the supplier.

The profitability development until 2025 depends firstly on the development of sales volumes and sales prices. Secondly, the expected development of major cost drivers for each component is assessed through detailed benchmarking analysis, interviews with experts from the automotive industry, and Deloitte expertise.

Fig. 5 – Modelling approach for the Supplier Financial Transformation Model

For 19 component clusters



Model also considers further levers

- Financing setup (interest, credit period, equity ratio, cash waterfalls)
- Tax
- Minimum cash
- Return on equity
- Plant utilization
- Debt repayment schedules

We differentiate the following cost categories:

- Variable cost development is mainly driven by the demand – and the capability – to achieve productivity gains and by decreasing (e.g., due to lower technological complexity) or increasing (e.g., due to technology leaps) material costs.
- The development of fixed costs depends on the current utilization of production capacities and future capacity expansions. Fixed-step costs are considered and can be adjusted as required.
- R&D costs depend to a large extent on the component cluster under consideration. More innovative products require higher R&D costs than established technologies, for which expenses will likely decrease. The model can reflect R&D cycles.
- Depreciation develops in line with investment activities for expansion and maintenance/replacement investments.

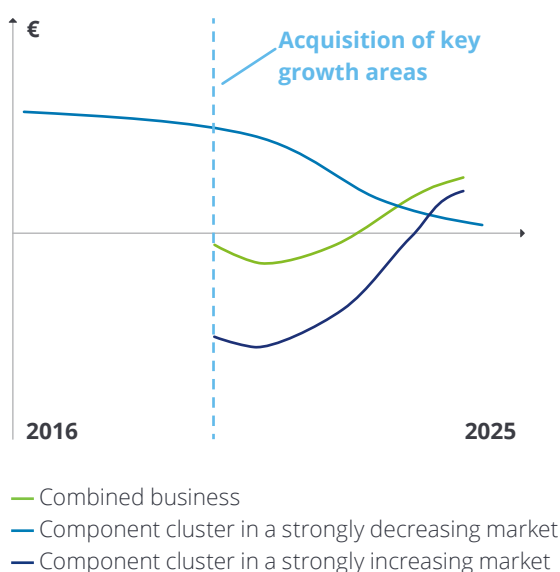
The cash position is deduced from working capital assumptions, cluster-specific strategies for maintenance, replacement and expansion investments (investment cash flow) and capital/debt structure (financial cash flow). The initial starting values of the planning period result from the benchmarking analysis for the specific supplier under review. Debt repayment schedules, interest rates (EURIBOR scenarios plus different margin assumptions), dividend payments required by the shareholders, and tax payments can be also considered in the model. Each input parameter can be adjusted to adapt the model quickly and easily to a specific automotive supplier.

Based on free cash flow, the model provides the opportunity to use the discounted cash flow valuation method to assess the potential purchase price of an investment opportunity on the fly. Inputs for the discounted cash flow calculations, such as Beta, WACC, market risk premium, etc. can be adapted to a specific supplier. Alternatively, EBIT multiples can be used to determine a specific enterprise value.

Allocation of cash flows to supplier, debt provider and shareholder is based on a cash waterfall. The default assumptions for the cash waterfall can easily be adapted.

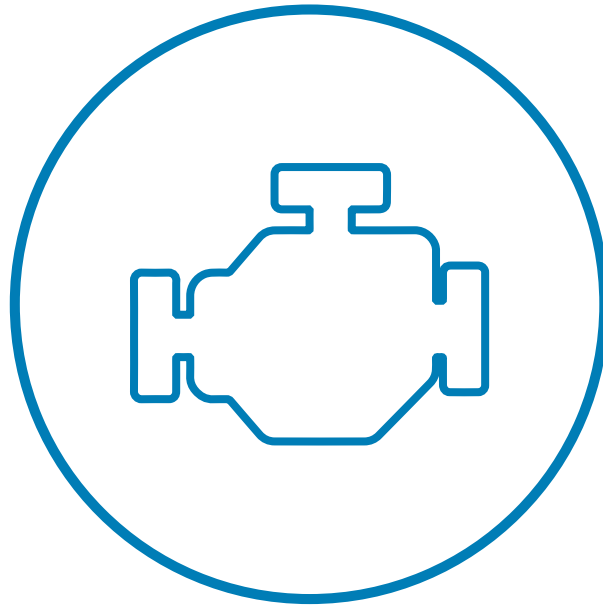
In addition to the described input parameters, our Supplier Financial Transformation Model can simulate the effect of concrete transformation measures (Transformation case) to model the previously introduced transformation strategies and portfolio investment decisions, e.g., acquisition or divestment of businesses, cost savings and synergy projects, realization of economies of scale, R&D or investment cuts, etc.

Fig. 6 – Profit & loss simulation of the acquisition of key growth areas cluster



Based on the information provided by the model (e.g., future profitability, cash requirements, dividend payments, compliance with bank covenants), the financial viability of a transformation path can be assessed. This can support the discussion to determine the optimal transformation path.

In the following chapter, we will use three generic suppliers, "Magic Engine", "Power Inc." and "Gear GmbH", to illustrate selected functionalities and capabilities of the model.



Deep Dive 1:

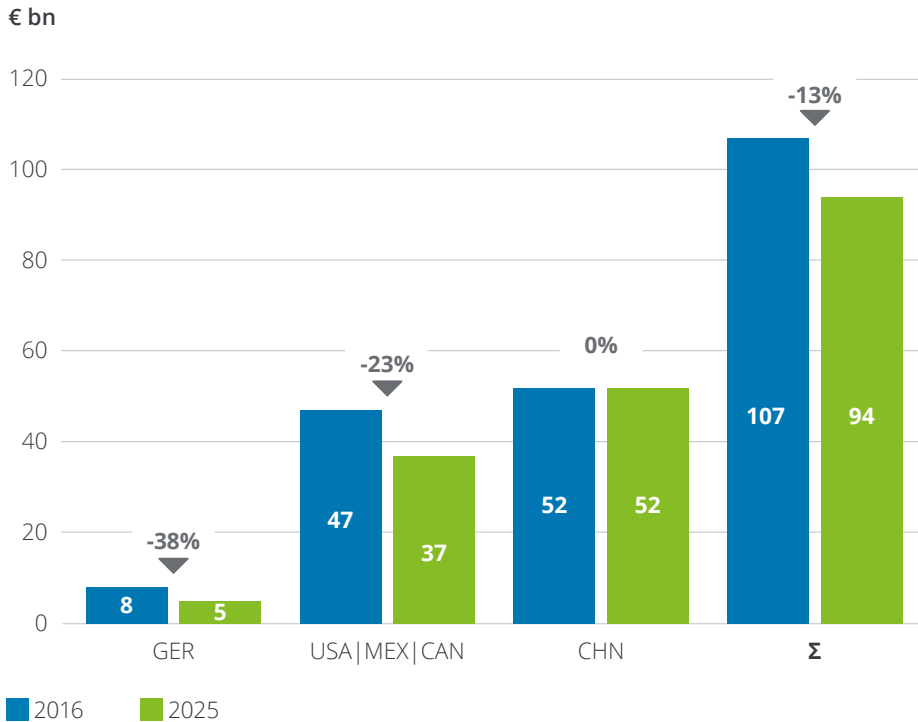
ICE component cluster

(1) Market View

The development of drivetrain technologies and projections regarding the right drivetrain mix required in the market is a popular discussion topic among automotive OEMs and suppliers. In particular, alternative powertrain technologies (e.g. battery electric vehicle, plug-in hybrid electric vehicle, fuel cell electric vehicle) are the focus of research activities, and a lot of money is spent on improving current technologies. In addition, conventional ICEs are increasingly impacted by a higher number of and more stringent environmental regulations. To respond to this situation in the near term, OEMs and suppliers are still working hard on incrementally optimizing gasoline and diesel engines and launching ICEs with alternative fuels (e.g., CNG, ethanol). Although there is usually a common understanding that the volume of ICEs will decrease in the future (the tipping point has not yet been reached; volumes are

currently still growing), no-one can predict with certainty when and by how much. The timing depends on how quickly and to what extent new technologies will materialize in the market. It is also clear that ICEs will not suddenly stop and that there is potential for providers in a consolidated market. However, the challenge is to make the right investment decisions in the ICE environment today while anticipating potential changes in the ICE market volume. Investments are typically significant, e.g., to meet OEM capacity requests, but it is not clear if or to what extent they will continue to benefit ICE suppliers, depending on when the volume decrease becomes apparent. This decrease will affect not only ICEs, but also all components linked to ICEs, e.g., transmissions, exhaust systems, etc. Therefore, it is no a surprise that OEMs will keep cost pressure high on ICE-related suppliers and linked component clusters.

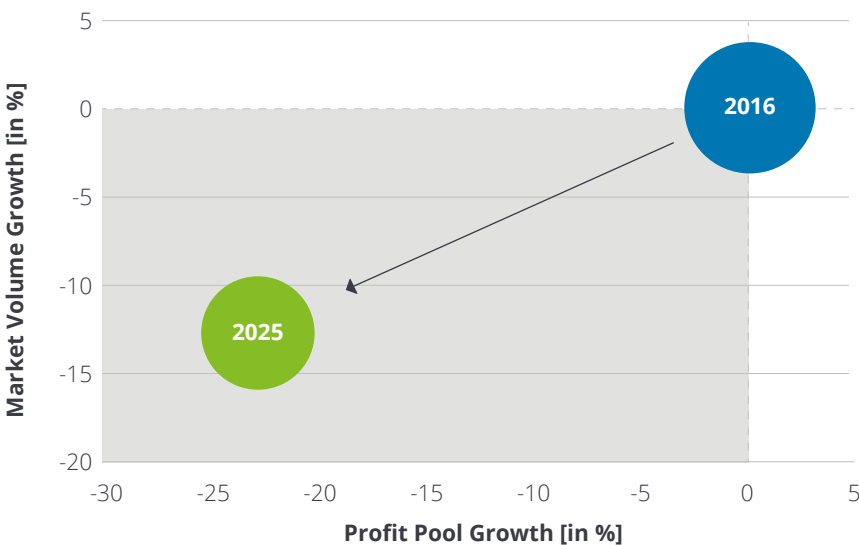
Fig. 7 – Market volume forecast 2025: ICE



Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook

The total market size for ICEs (Germany, China, USA/Mexico/Canada) was approx. EUR 107 bn in 2016 (see our study “The Future of The automotive value chain – Supplier Industry Outlook 2025”). Although volumes will increase slightly, we expect an overall market volume decrease of ~13% by 2025. This trend will be driven by an anticipated significant price reduction. Looking at our representative countries for each region, we can also see a shift in market volumes from Europe (Germany) and NAFTA (USA/Mexico/Canada) toward Asia (China). While Germany and USA/Mexico/Canada will face declining market volumes, we expect that China will maintain its market volume in absolute terms. This will also lead to a change in market volume distribution in relative terms, where China will gain weight, making up for ~56% of ICEs until 2025.

Fig. 8 – Profit pool development 2025: ICE



Source: Deloitte Supplier Financial Transformation Model

Bubble sizes indicate the profit pool size in 2016 and 2025 (Germany, NAFTA, China); excluding inflation and after-market

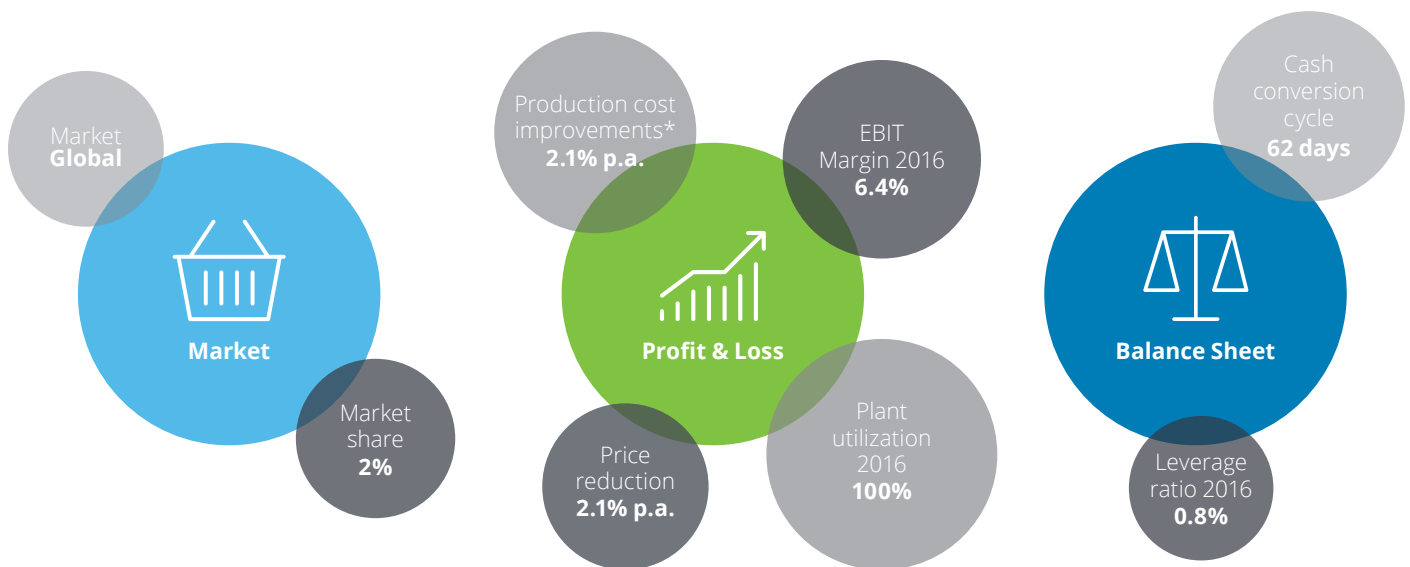
While the market size development already gives us an indication of the likely developments for ICEs, what that means for profit pool development is of specific interest. With an average EBIT margin of 6.4%, ICE is a solid business today. Considering the market size of approx. EUR 107 bn across the regions in scope, this results in an attractive profit pool of about EUR 6.7 bn, which is one of the largest across all component clusters. The question, however, is what this profit pool will look like in 2025. Due to volume and price reductions, we expect that the ICE profit pool will be significantly impacted. As mentioned previously, we are considering only the Stagnant Car Maker scenario. Nevertheless, it is worth mentioning that prices will go down across all scenarios, and volumes will go down in

three out of the four scenarios. Only in the Stagnant Car Maker scenario considered here will volumes increase slightly by 2025. However, the volume increase will be unable to compensate for the strong price reduction, leading to an overall decrease in market volumes and a correspondingly smaller absolute profit pool. This effect will be reinforced by the fact that the competitive intensity will increase in a smaller market and put additional pressure on margins. In our model, we envisage a reduction of 23% in the ICE profit pool by 2025, from roughly EUR 6.7 bn down to approx. EUR 5.3 bn. Nonetheless, ICE will continue to be one of the larger profit pools compared to other clusters, while its overall importance will decrease in favor of new profit pools. A key challenge will be to compensate for

this significant profit pool loss. We do not see a clear indication as to whether new profit pools can completely make up for this loss in the same period, as they are coming from a much smaller basis. If certain technological developments, especially electro mobility and shared mobility concepts, materialize fast in the market, this trend might be even stronger and faster.

Using a generic supplier competing in the ICE segment, we can model strategic options and discuss what strategies are available to successfully position it in the changing value chain. To make this simulation tangible, we will call this supplier 'Magic Engine' in the following.

Fig. 9 – Key model assumptions: Supplier "Magic Engine"



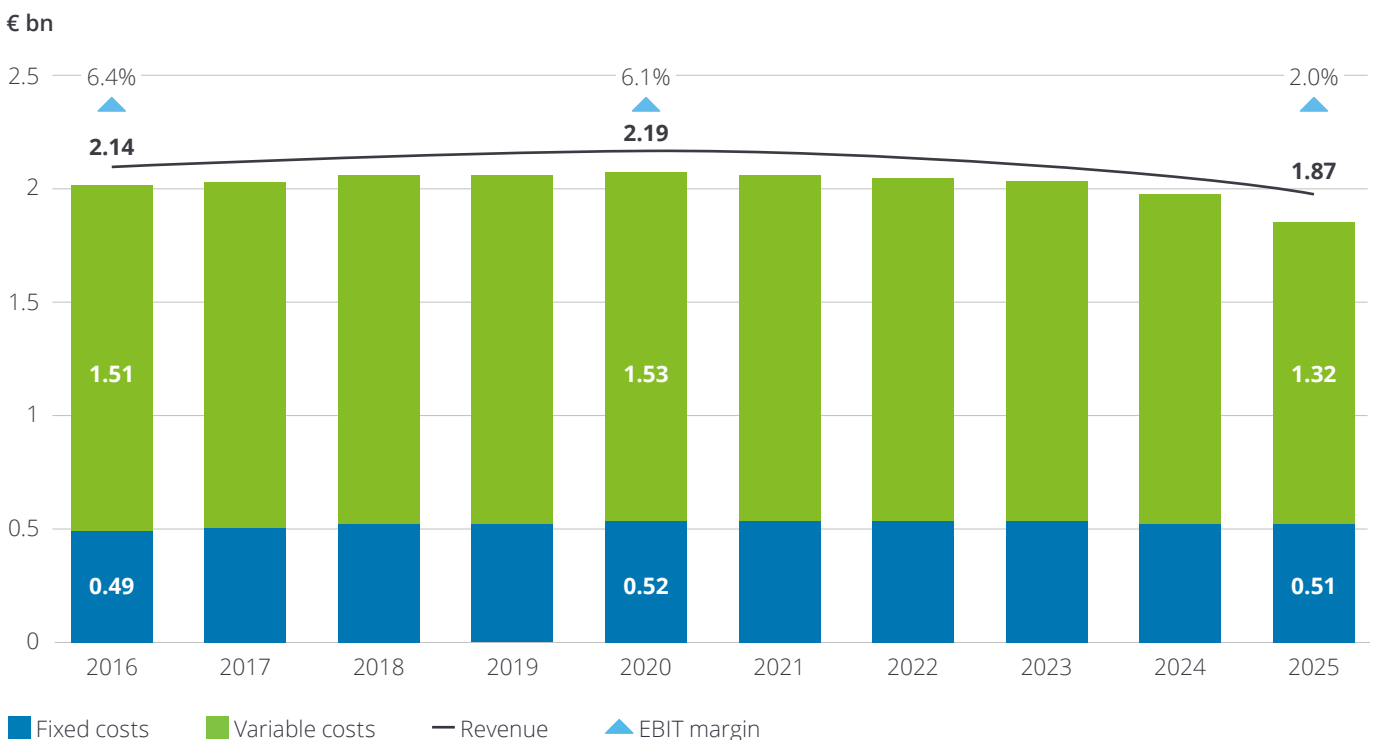
(2) Supplier View

The Magic Engine automotive supplier produces key components for ICE and is not active in any other component cluster. The company has global operations and is a strong player in its business segment with a 2% market share, equal to EUR 2.1 bn revenue, across Germany, China and NAFTA. The capacity of Magic Engine's production facilities is utilized in full and the company has an equity ratio of 20%. Its operations are healthy with an EBIT margin of 6.4% and investment of 3.6% of revenue in R&D year after year. Magic Engine is well established in the ICE business and always reaches the productivity improvements expected by OEMs of 2.1% year on year. Like most other suppliers in the ICE segment, board discussions often focus on the impact of expected market changes and disruptive trends for their ICE product portfolio. To gain more clarity about what these trends mean, the board discusses potential strategic options to manage the transformation of the value chain.

(a) Base Case

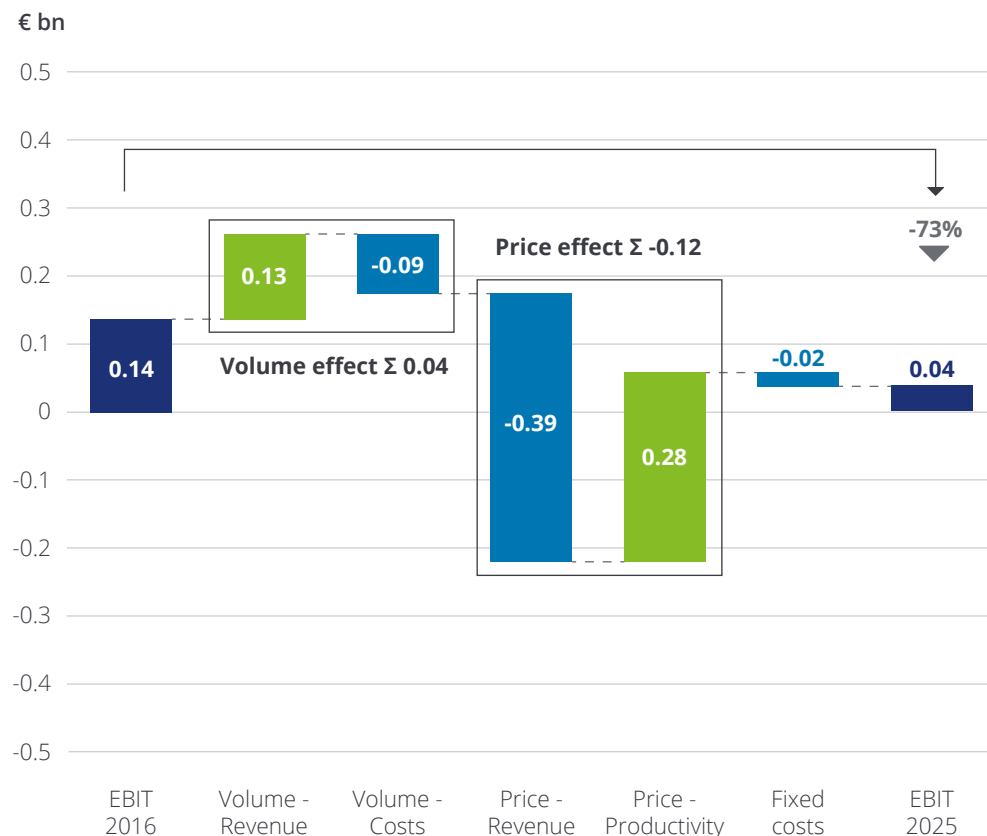
Looking at the base case for Magic Engine, it becomes obvious that the current business model is not sustainable in light of the expected market development. By realizing the expected annual productivity improvements, the company will be able to maintain profits at a fairly constant level of ~6.0% EBIT over the next couple of years. However, as soon as volumes start to drop and new technologies (electromobility, shared mobility) gain momentum, it will face difficulties.

Fig. 10 – Profitability development forecast "Magic Engine" – Base Case



Source: Deloitte Supplier Financial Transformation Model

Fig. 11 – EBIT bridge "Magic Engine" – Base Case



Source: Deloitte Supplier Financial Transformation Model

Without countermeasures Magic Engine's EBIT of 6.4% will start to erode significantly from 2022 and fall to ~2.0% by 2025. Although the slight volume increase will bring some additional margin of EUR 40 m over the period considered, this will be unable to compensate for the significant price decrease. Also, productivity gains at a level of the price decrease will be unable to prevent avoid the margin erosion (EUR -120 m). Significantly higher volume or productivity gains above the annual price decreases expected by OEMs may be an option to maintain the margin. However, this is not a long-term solution and will be a challenge to achieve as well.

Magic Engine needs to evaluate strategic options to prepare for the changing value chain, especially for the years after 2023. Consequently, this means careful consideration of OEMs' requests for investment in additional capacities for the next product lifecycles of 6-7 years. Even though volumes may increase slightly in the next couple of years, a significant volume drop can be expected once the latest technologies materialize and gain momentum. Strategic options need to be evaluated to define the right countermeasures and a way to transform the business into a sustainable model in the long term.

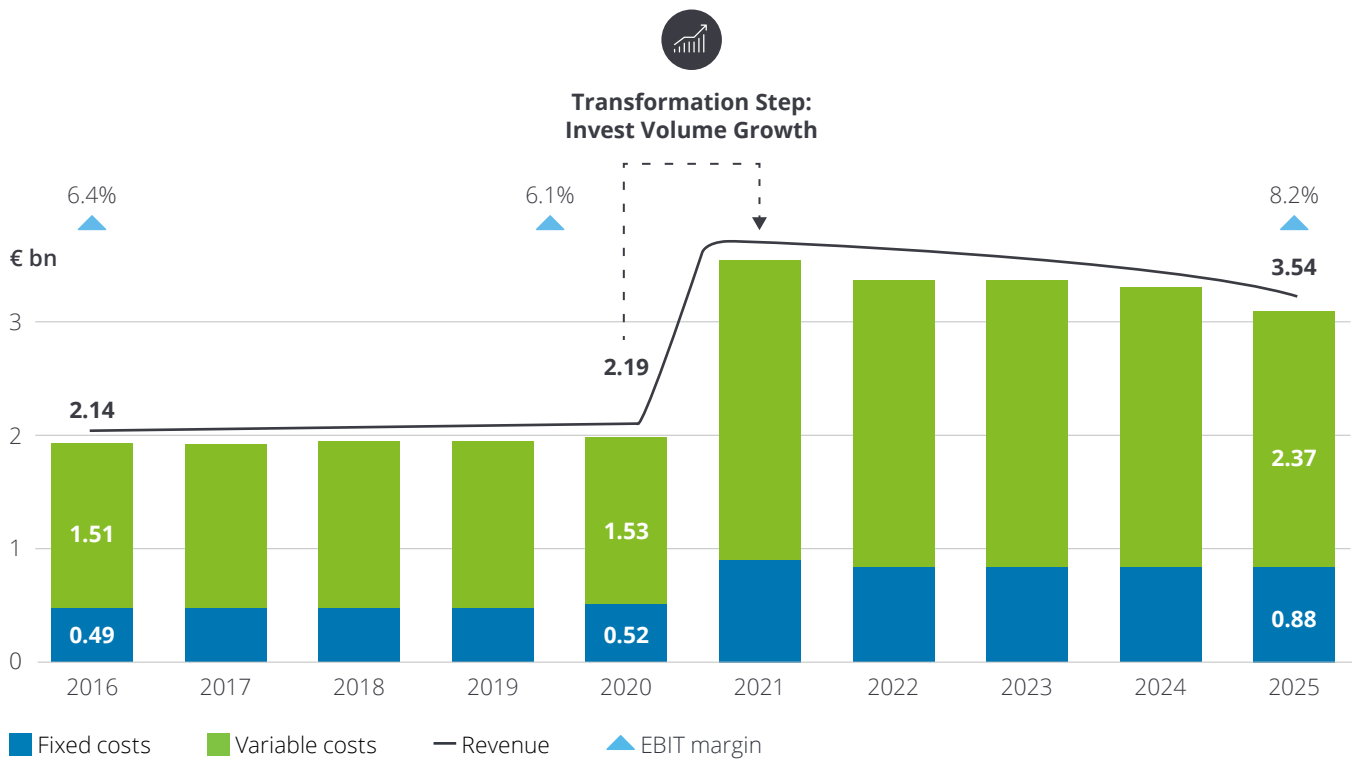
(b) Transformation Case: Consolidate

One option that Magic Engine discussed internally is to use its currently strong market position to aggressively gain additional volumes (improve fixed cost ratio), drive consolidation in its segment, and position itself as one of the few suppliers to offer its products for ICEs (last man standing). As ICEs will not disappear overnight, the company sees this as an opportunity to save the business

over the coming decades. To aggressively follow this strategy, Magic Engine plans to conduct a strategic acquisition in the ICE cluster to add additional volume to its organization and benefit from economies of scale. It will target an acquisition in China as the future key growth market for its products. After successful negotiations, Magic Engine will acquire a company in 2020 with the following general conditions:

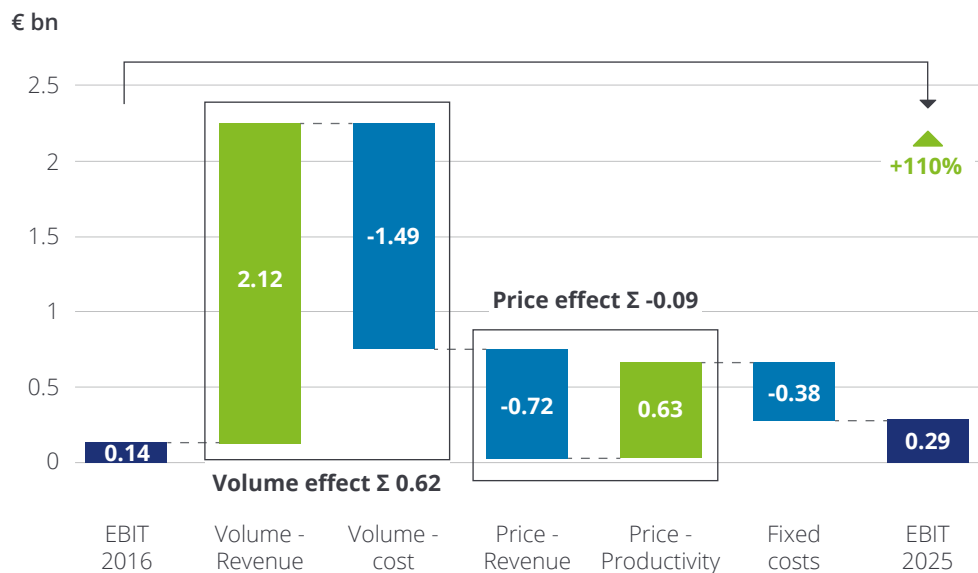
a) similar product portfolio, b) same profitability range, and c) market share of 3% in China. In addition, the company plans to realize sustainable cost synergies for the combined business of 10% fixed costs and 5% variable cost as of 2022.

Fig. 12 – Profitability development forecast "Magic Engine" – Transformation Case: Consolidate



Source: Deloitte Supplier Financial Transformation Model

Fig. 13 – EBIT bridge "Magic Engine" – Transformation Case: Consolidate



Source: Deloitte Supplier Financial Transformation Model

Magic Engine can increase its market share and EBIT in 2025 (in absolute and relative terms) due to the acquisition. The integrated company will contribute an EBIT of similar size, while realizing synergies which improve EBIT and compensate for the significant price decrease. The acquisition will clearly improve the company's strategic position and extend the time to operate the business profitably. However, growth alone will not save the business sustainably, since the decline in the market volume is expected to continue after 2025 and may even accelerate. If Magic Engine does not want to continuously "fight for volume" in a declining market and drive consolidation (power play) to level off the price decrease, other strategic options need to be considered as well.

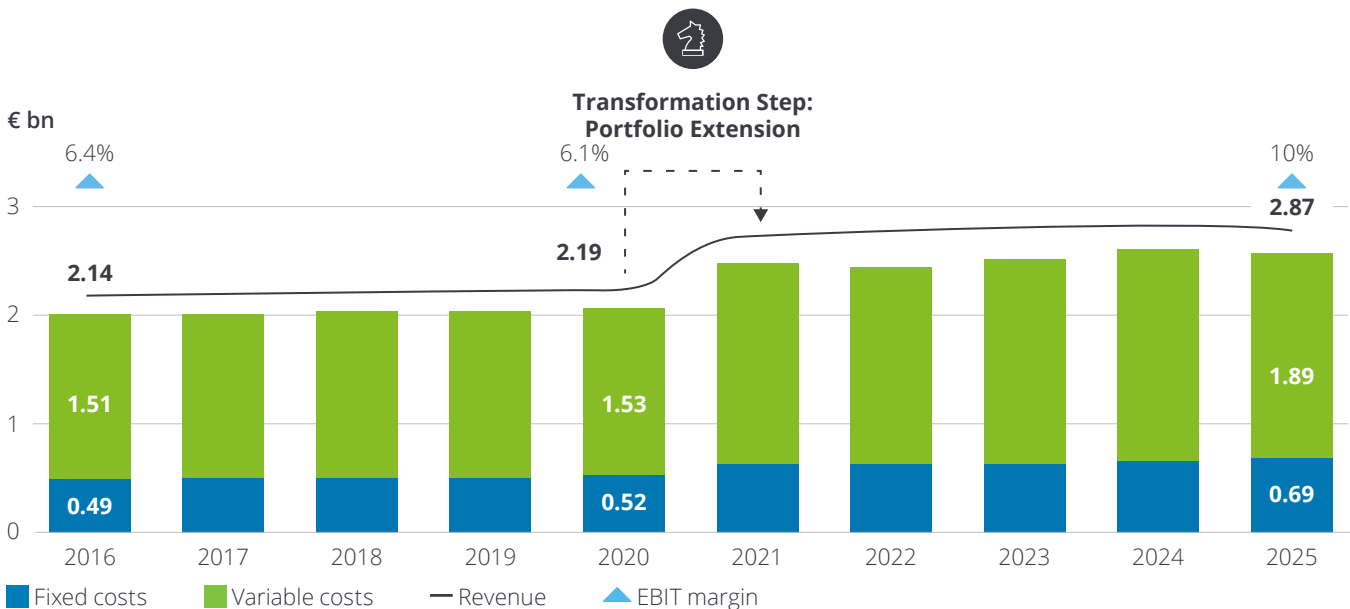
(b) Transformation Case: Portfolio decision

As a producer of ICE parts, Magic Engine is aware of the challenging situation with declining overall volumes and price pressure in the long term. The company generates good profits today, which means bandwidth for investment. Diversifying the product portfolio or even shifting the portfolio seems to be an interesting option. Magic Engine closely monitors major trends impacting the automotive value chain and watches out for product segments that are expected to remain or become relevant as a product segment in the future automotive world. Building up a new segment from scratch seems to be too challenging and cost-intensive, with a high risk of failure. The board decides to invest in the Electric Drivetrain cluster by acquiring a company and building a new business segment. The acquisition will take place at the beginning of 2020. The target has the following general conditions:

- a) global operations (China, Germany, NAFTA) with a market share of 10%,
- b) a solid profitability situation,
- c) asset utilization at 50% as new drivetrain technologies have not yet gained traction as expected,
- d) planned synergies of 5% of fixed costs and 5% of variable cost reductions as of 2022.

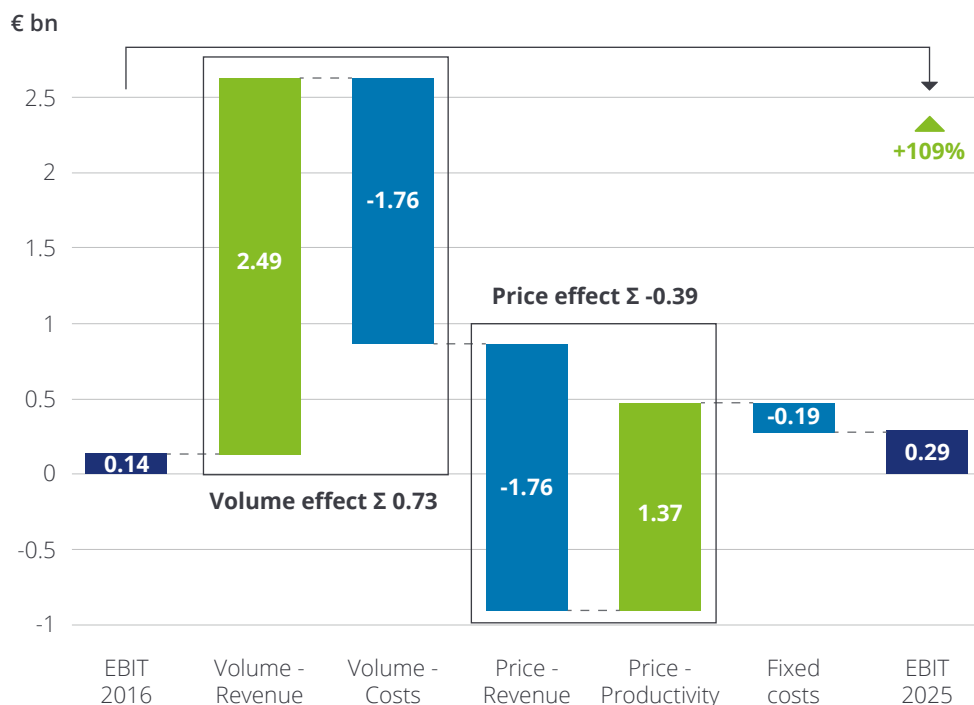
There is no plan to make any further portfolio changes, e.g., selling the current ICE business, as it continues to be profitable and the company is well established in the ICE cluster.

Fig. 14 – Profitability development forecast "Magic Engine" – Transformation Case: Portfolio decision



Source: Deloitte Supplier Financial Transformation Model

Fig. 15 – EBIT bridge "Magic Engine" – Transformation Case: Portfolio decision



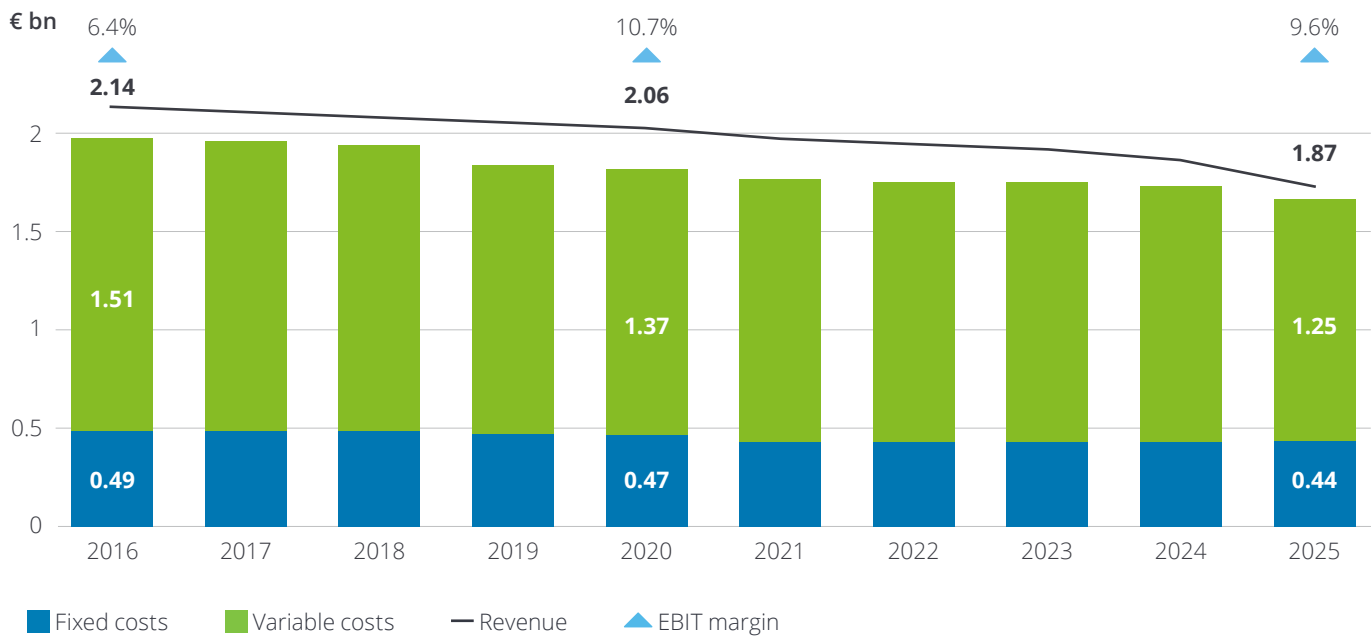
Source: Deloitte Supplier Financial Transformation Model

Diversifying the product portfolio toward products with high future relevance, e.g., drivetrains, will help to mitigate the downturn in ICEs from 2023. Profits from new business segments will be able to compensate for the margin erosion. The substantial volume increase in the Electric Drivetrain business will be very beneficial for Magic Engine, which can utilize its full capacity before needing to finance additional capacity investments. Although there is a sharp price decrease of ~28%, the enormous volume growth in combination with continuous annual production gains and realization of synergies will lead to a significantly better EBIT margin of 10%. From a strategic and financial viewpoint, this move appears to be very favorable.

(b) Transformation Case: Harvest

Due to the expected long-term decline of Magic Engine's ICE-related product portfolio, the majority shareholder is thinking about his options, with the clear objective of maximizing his return on equity in the short term. Against the known background that volumes are likely to decline in the next ~10 years, he communicates to the management of Magic Engine a position of running the ICE business for as long as possible. He asks management to trim the business for profitability and maximization of cash returns. Strict cost saving initiatives will be started to reduce fixed and variable costs by 5% p.a. starting 2019. In parallel, investment will be reduced to the bare minimum (50% as of 2019) and R&D costs will be cut in half from 2021.

Fig. 16 – Profitability development forecast "Magic Engine" – Transformation Case Harvest



Source: Deloitte Supplier Financial Transformation Model

Fig. 17 – EBIT bridge "Magic Engine" – Transformation Case: Harvest

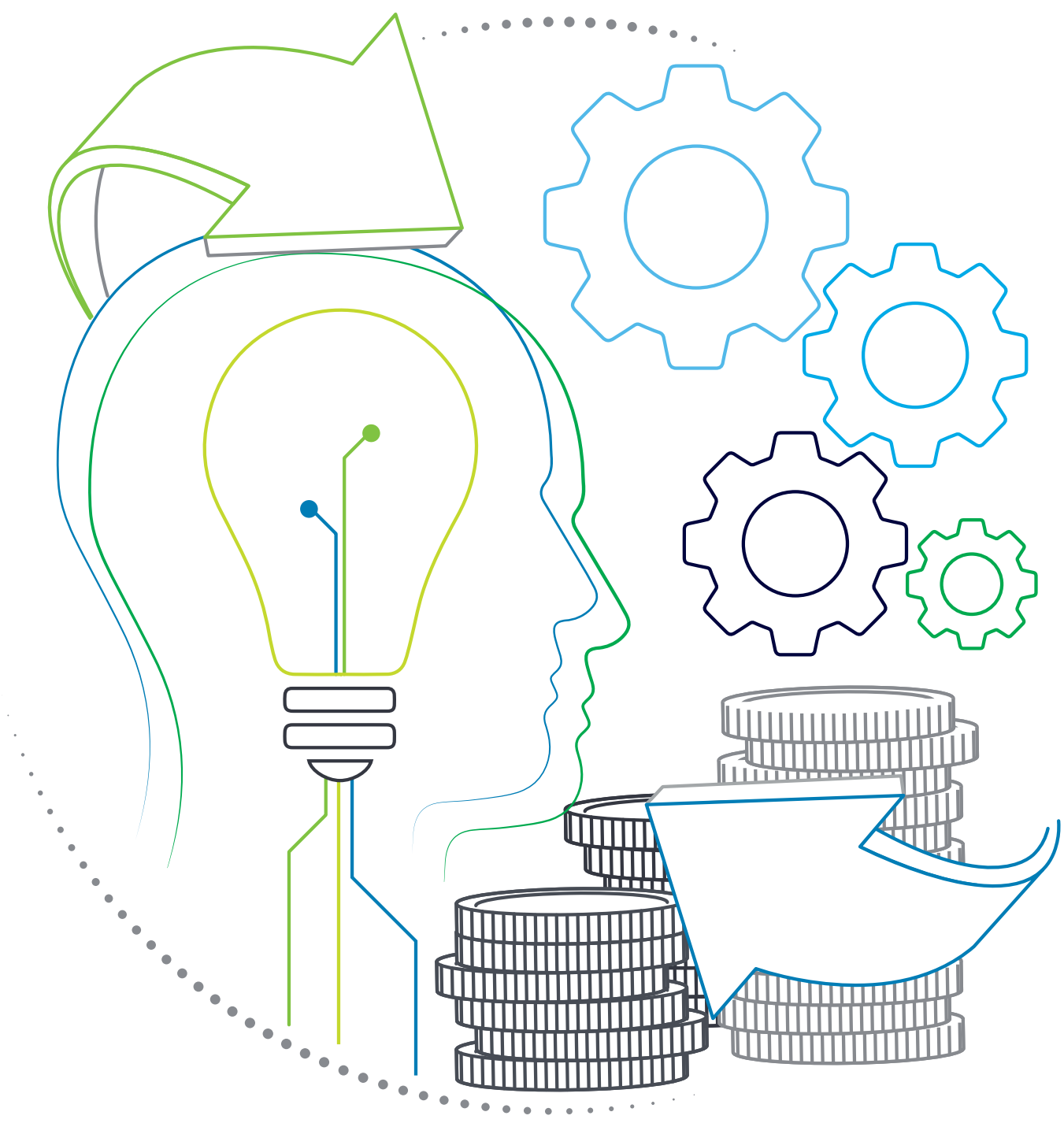


Source: Deloitte Supplier Financial Transformation Model

Based on strict cost savings and selected investments, Magic Engine will be able to maintain its margins despite declining market volumes. It will also successfully optimize cash returns. Productivity improvements and fixed cost reductions will compensate for the price decrease. Although this strategy will help to keep the business going for the next decade at similar margins, the final stage of this strategy is a business exit. There needs to be an overall strategy in place that clearly addresses how new revenue streams could be built up in parallel, or that there is a joint understanding to leave the market at some point. Although a harvest strategy might be expedient from a financial perspective, from a strategic perspective it seems to be questionable.

(3) Key takeaways

In conclusion, it is obvious that of the three transformation scenarios described, the proactive portfolio change (Transformation case: Portfolio Decision) is the most sustainable option from a strategic and financial perspective. If Magic Engine can afford it, it should follow that path.



Focus on ...

IPOs in the Automotive Supplier Sector

One thing is certain: transformation requires "deep pockets" from suppliers. One option is to raise liquidity for the transformation by carrying out an IPO or a capital increase. It is therefore not surprising that IPOs in the automotive supplier industry recorded an increase in IPO offer size in 2017.

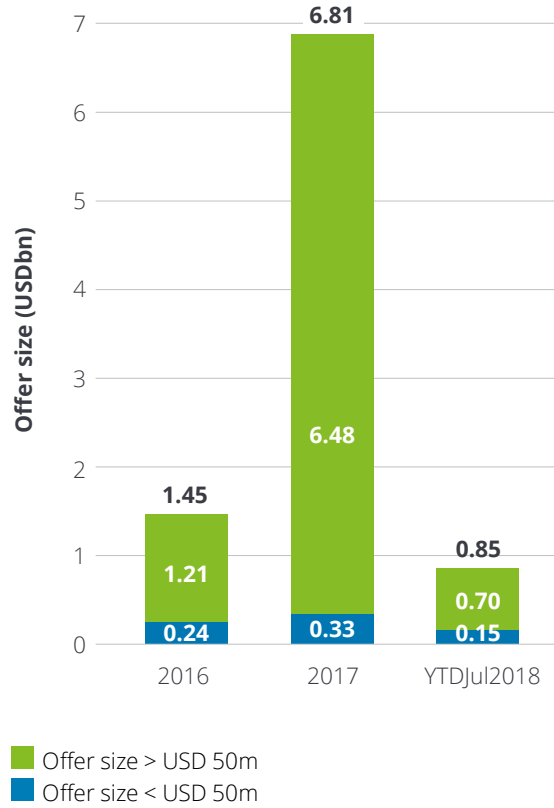
In the following, we have analyzed IPOs from the last two and a half years.

An initial public offering (IPO) process requires proper preparation. Therefore, the lead time for such a process is significant, which stands in contrast to volatile markets and IPO windows that can close at short notice. 2017 was a particularly dynamic year with regard to automotive supplier IPOs. Many automotive suppliers raised capital to finance their transformation and future growth through an IPO.

In 2017, the total IPO volume peaked at USD 6.8bn. In total, 37 automotive suppliers went public, compared with 19 in the previous year. Seven of the ten largest IPOs in the last two and a half years took place in 2017. The largest IPOs in 2017 were Pirelli & C. SpA (offer size: USD 2.6bn, Wheels & Tires), Gestamp Automocion SA (offer size: USD 0.9bn, Frame, Body and Suspension) and TI Fluid Systems plc (offer size: USD 0.7bn, Fuel System and Brakes).

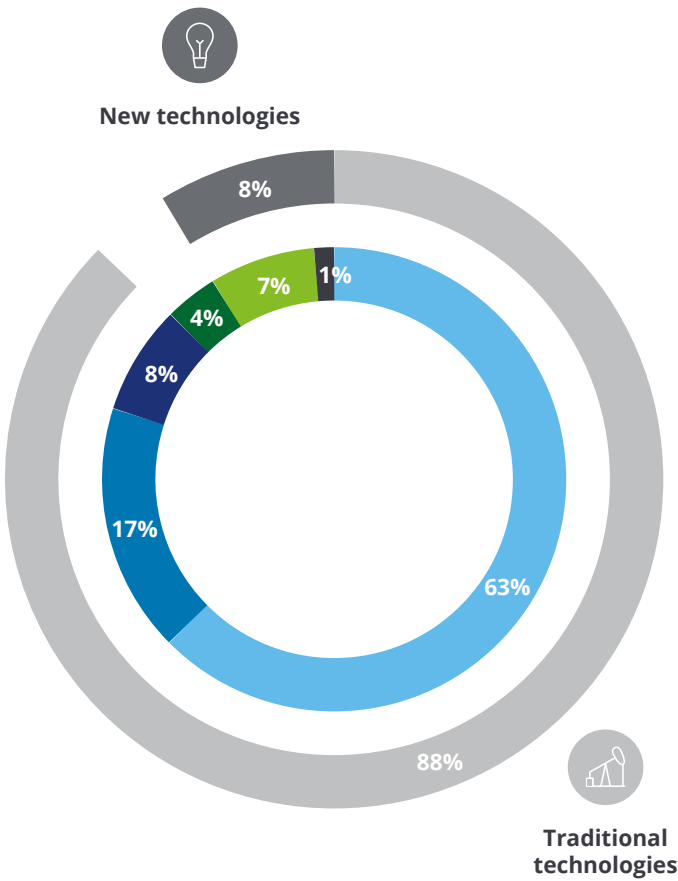
In 2018, however, the IPO market cooled off compared with 2017. In the first seven months of 2018, the total offer size of the 15 IPOs in the automotive supplier sector was USD 0.8bn, compared with a total offer size of USD 5.9bn in YTDJul2017 in 26 IPOs.

Fig. 18 – IPO annual offer size



Source: Bloomberg, Thomsen, Deloitte Analysis, includes primary and secondary tranches

Fig. 19 – IPOs per component cluster
(in % of IPO annual offer size, 2017, 2018, and YTDJul2018)



- Wheels, Steering, Frame, Body, Brakes, Suspension, Axles
- ICE, Transmission, Exhaust, Fuel System
- Body, Interior, Seats, Climate Control
- Other
- ADAS & Sensors, Electronics, Infotainment & Communications
- HV Battery, Fuel Cell, Electric Drivetrain

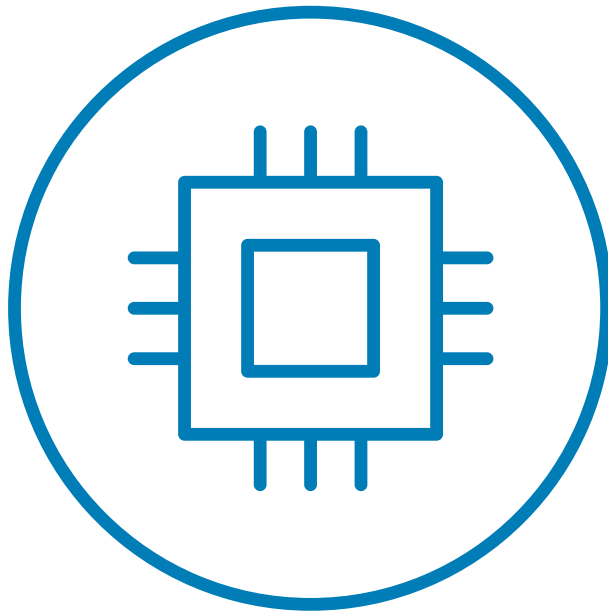
Source: Bloomberg, Thomsen, Deloitte Analysis,
includes primary and secondary tranches

In terms of offer size, 88% of the IPOs in the last two and a half years took place in traditional technologies, which were largely used to finance the upcoming transformation.

Clusters relating to new technologies were only of minor importance, with just 7% of IPOs relating to the ADAS & Sensors, Electronics, Infotainment & Communications cluster and 1% to the HV Battery / Fuel Cell, Electric Drivetrain component cluster.

An IPO requires comprehensive preparation and therefore a certain lead time. The right time frame for an IPO is also crucial for its success.

Particularly in volatile times, a stable business strategy is necessary to convince investors. It is important to show how the business model is exposed to the automotive megatrends and how the company plans to participate in the growth areas. A transformation strategy, backed up by various scenarios, is key.



Deep Dive 2:

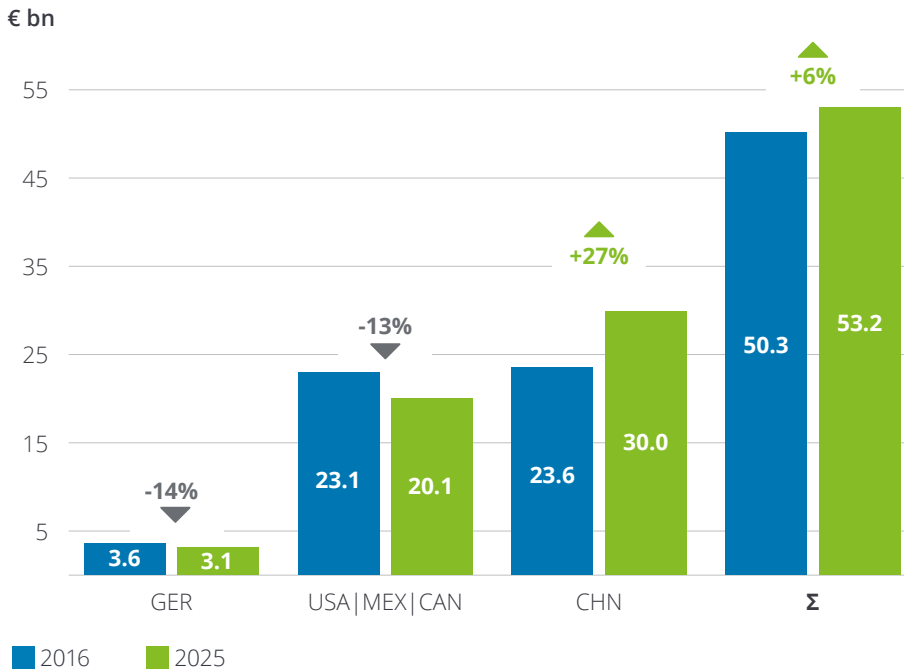
Electronics, Climate Control and ADAS & Sensors component cluster

(1) Market View

Electronics

The Electronics component cluster is comprised of the Power electronics, Cable harness, On-board power supply and Exterior lighting components. The major drivers of the future market development in the Electronics component cluster are E-mobility and autonomous driving. Both automotive megatrends are of fairly minor importance in the moderate market scenario (Stagnant Car Maker) considered here. HV Battery / Fuel Cell are growing much slower, while the ICE component cluster is seeing only a moderate decline. In addition, autonomous driving is assumed to be not widely accepted in the Stagnant Car Maker scenario. Consequently, only minor volume increases are forecast to take place in the electronics component cluster.

Fig. 20 – Market volume forecast 2025: Electronics



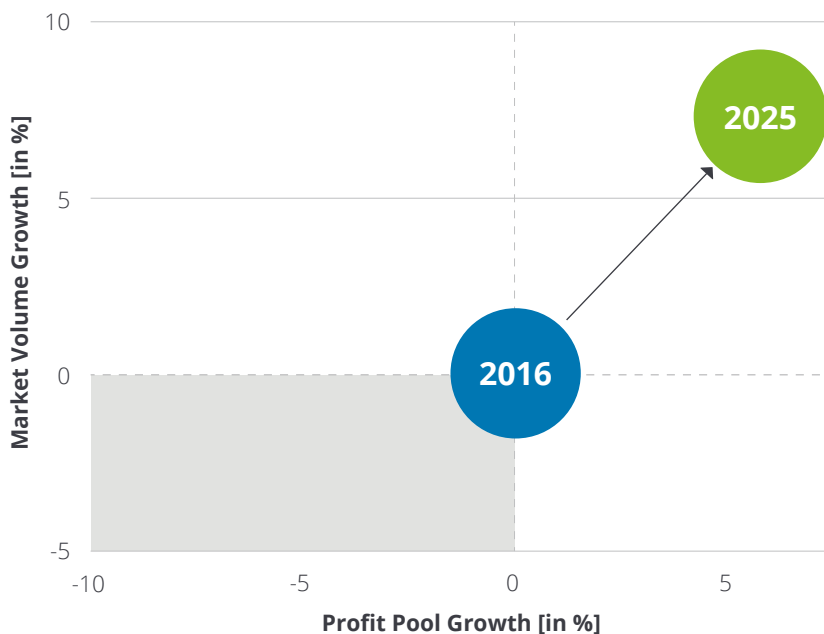
Multiple innovations expected to be launched in the near future, such as LED technology (Lights), smart junction boxes (SJB), 48V on-board power supply and a lightweight electrical distribution system, are in high demand from end customers and will lead to comparatively low average price decreases.

Total market volume is expected to increase, driven by expected positive market developments in China. Given the volume increase, moderate price decreases and average profit margins, competitive pressure in this segment is not expected to change significantly.

However, for a supplier active in this component cluster, a strong presence in emerging markets (e.g., China) is essential for participating in future volume increases and compensating for decreasing volumes in the classic markets.

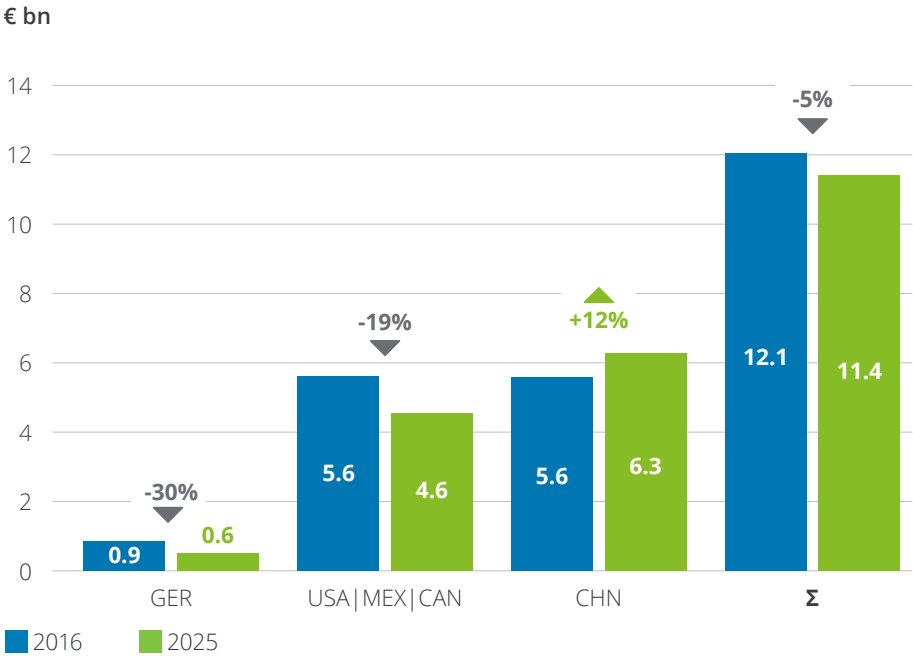
Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook

Fig. 21 – Profit pool development 2025: Electronics



Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicate the profit pool size in 2016 and 2025 (Germany, NAFTA, China); excluding inflation and after-market

Fig. 22 – Market volume forecast 2025: Climate Control



Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook

Climate Control

Climate Control volumes are expected to increase by 2025. However, given the low level of expected innovations, component commoditization will take place, leading to a forecast decrease in component prices. Overall, the effect of falling component prices will erode volume growth and consequently market volumes will decrease. Even if variable costs can be reduced to the same extent, contribution margins per part will diminish. Decreasing contribution margins will heavily impact the organizational structures of some suppliers. Market volumes and profit pools for suppliers with a global footprint are also expected to decrease only slightly by 2025 (5%). Volume growth (drive consolidation) is therefore key to stabilizing revenues.

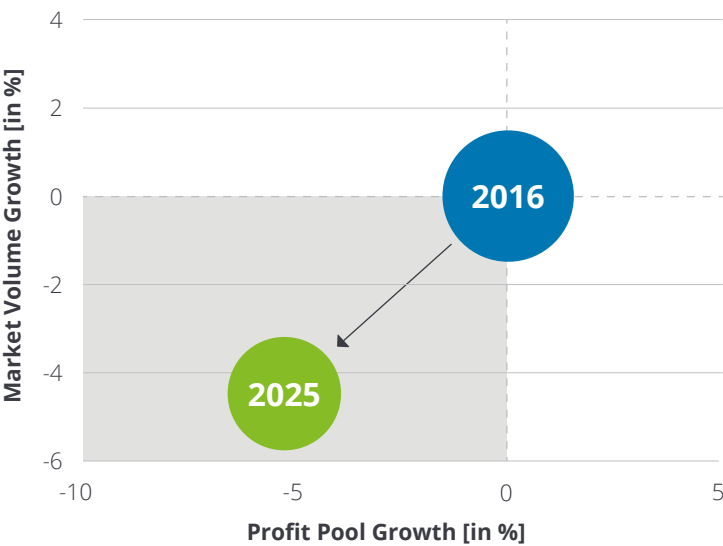
ADAS & Sensors

As mentioned before, future development in a large number of the 19 component clusters is subject to great uncertainty, but in no other component cluster is the bandwidth of uncertainty as wide as in the ADAS & Sensors segment. Future market volume and profit pool development will depend to a large extent on how fast certain technologies will materialize in the market.

This is mainly due to the large bandwidth between the levels of autonomous driving, which range from 'Level 0 - No automation' (with the driver completely in charge) to 'Level 5 - Fully automatic', where no human intervention is required at all. Which level can be achieved in the regions under review (Germany, NAFTA and China) depends on whether the required technologies can be brought to series maturity at a price level customers are willing to pay and whether legal requirements can be fulfilled.

In the Stagnant Car Maker scenario considered here, the breakthrough of autonomous driving would not be achieved before 2025. On average, drivers will still be in charge of longitudinal or lateral controls, so it is assumed that volumes for ADAS & Sensor components will increase only slightly. Innovations will be introduced to the market rather slowly, leading to fast product commoditization. The increases in volumes are consequently expected to be eroded by decreasing prices.

Fig. 22 – Profit pool development 2025: Climate Control



Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicate the profit pool size in 2016 and 2025 (Germany, NAFTA, China); excluding inflation and after-market)

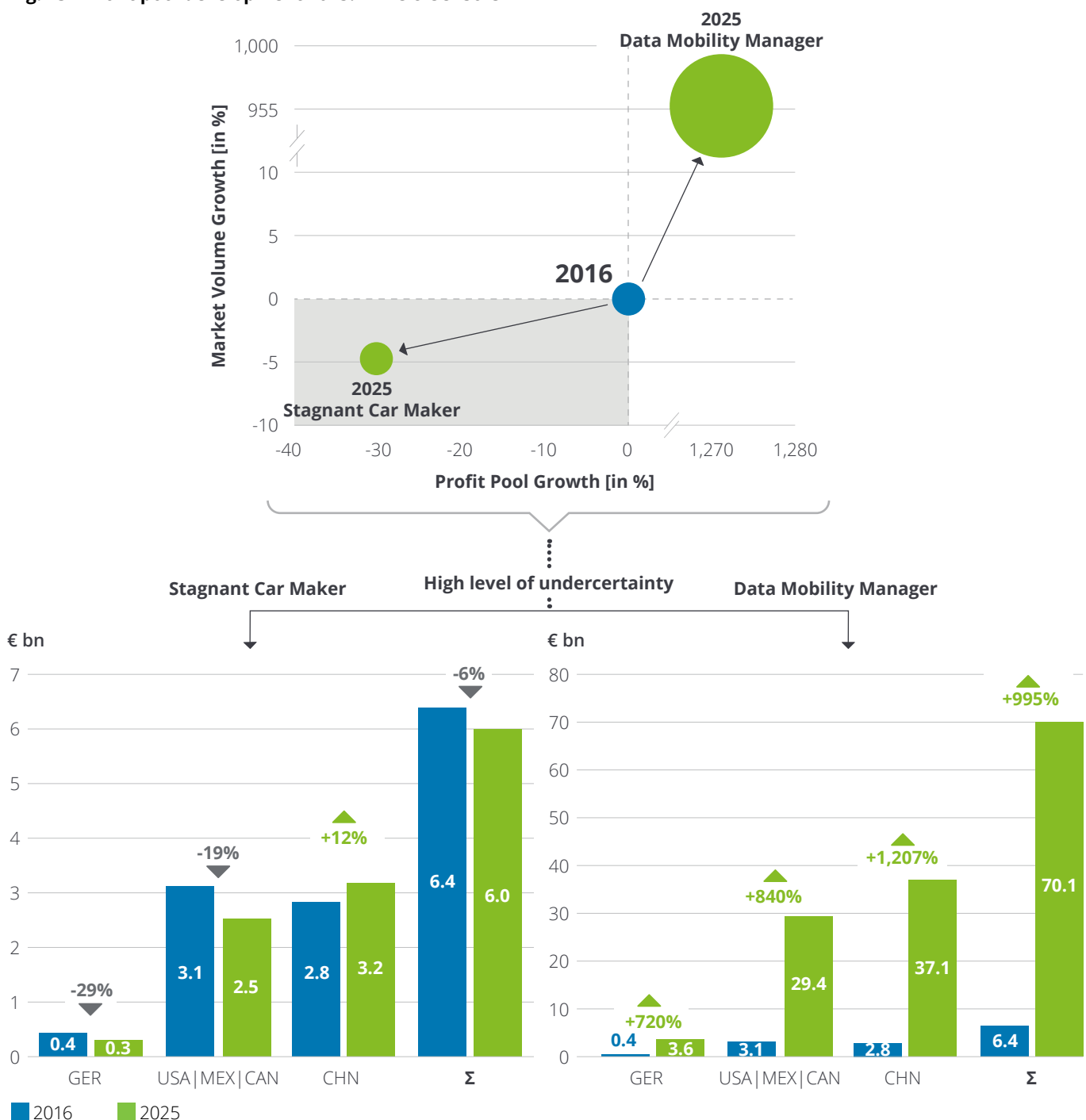
Initially high margins and gradually decreasing entry barriers, due to a low level of required innovation, will attract competitors to the market, so that competition intensifies and profit margins come under pressure, leading to a sharp decrease in profit pools.

By contrast, the Data and Mobility Manager market scenario forecasts a massive

increase in integrated ADAS, leading to high market volume increases in all regions under review and accompanied by innovations for which the driver (or the OEM) is willing to pay high prices. This environment will create high market entry barriers, which will protect the currently high profitability in this segment, sharply increasing volumes for each supplier already operating in the market.

Although we focus on the Stagnant Car Maker scenario here, we would like to point out that three out of four scenarios predict sharply increasing market volumes and profit pools by 2025 in the ADAS & Sensors component cluster. Entering this cluster early can therefore also be a bet on increasing volumes and profit pools.

Fig. 23 – Profit pool development 2025: ADAS & Sensors



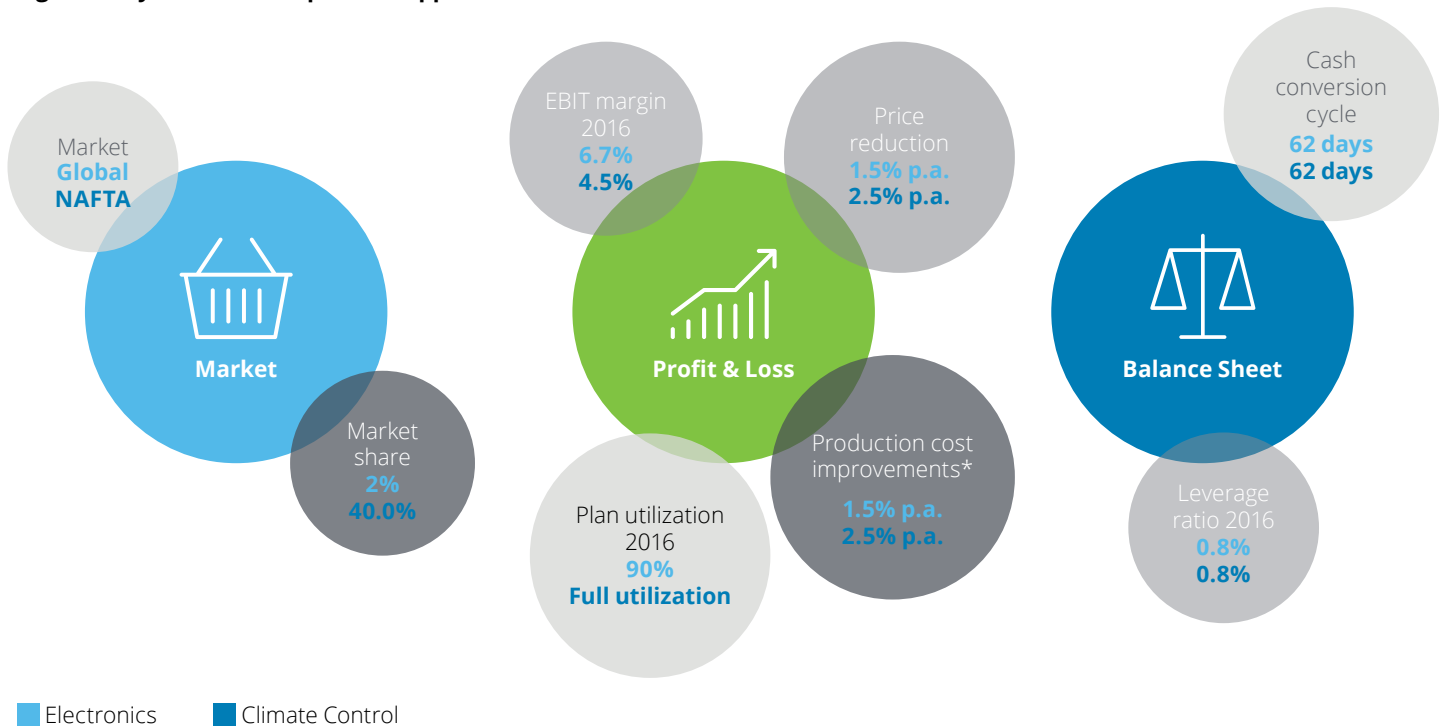
Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicate the profit pool size in 2025 (Germany, NAFTA, China); excluding inflation and AM

(2) Supplier View

In our second deep dive, the supplier, Power Inc., has two business units:

1. **Electronics** has a global footprint and accounts for approx. 60% of Power Inc. revenues.
2. The **Climate Control** business unit is largely focused on the North American market, where Power Inc. is the market leader for climate control with a market share of 40% in this region.

Fig. 24 – Key model assumptions: Supplier "Power Inc."



Profitability is significantly higher in the Electronics business (6.2% EBIT margin) than in Climate Control (4.5% EBIT margin). Despite the improvement measures already initiated, the EBIT margin of this business unit has not yet improved significantly. Given this situation, and in the light of expected future market developments, Power Inc. management is planning further measures to improve the profitability of the group.

The competitiveness of both business units is comparatively high, so Power Inc. has been able to compensate for the requested price reductions with productivity gains and expects to do so again in the future. Further optimization levers have already been identified for the Electronics business, e.g., relocation to low-cost countries and digitalization of production facilities.

The company expects a further increase in market volume in the electronics sector. Accordingly, production capacities were recently expanded, but production is already running at 90% capacity again. Production facilities for the Climate Control segment are fully utilized. No further expansion of production capacities is planned in the medium term.

The level of debt is comparatively low and sufficient cash reserves have been built up in the past. Power Inc.'s management is prepared to invest these cash reserves in the acquisition of competitors in the electronics segment or other suppliers with a strong focus on segments that have an expected high future relevance.

As many transformation paths have been identified and discussed internally, management would like to have a clearer view of which strategy will increase the future viability of the company.

(a) Base Case

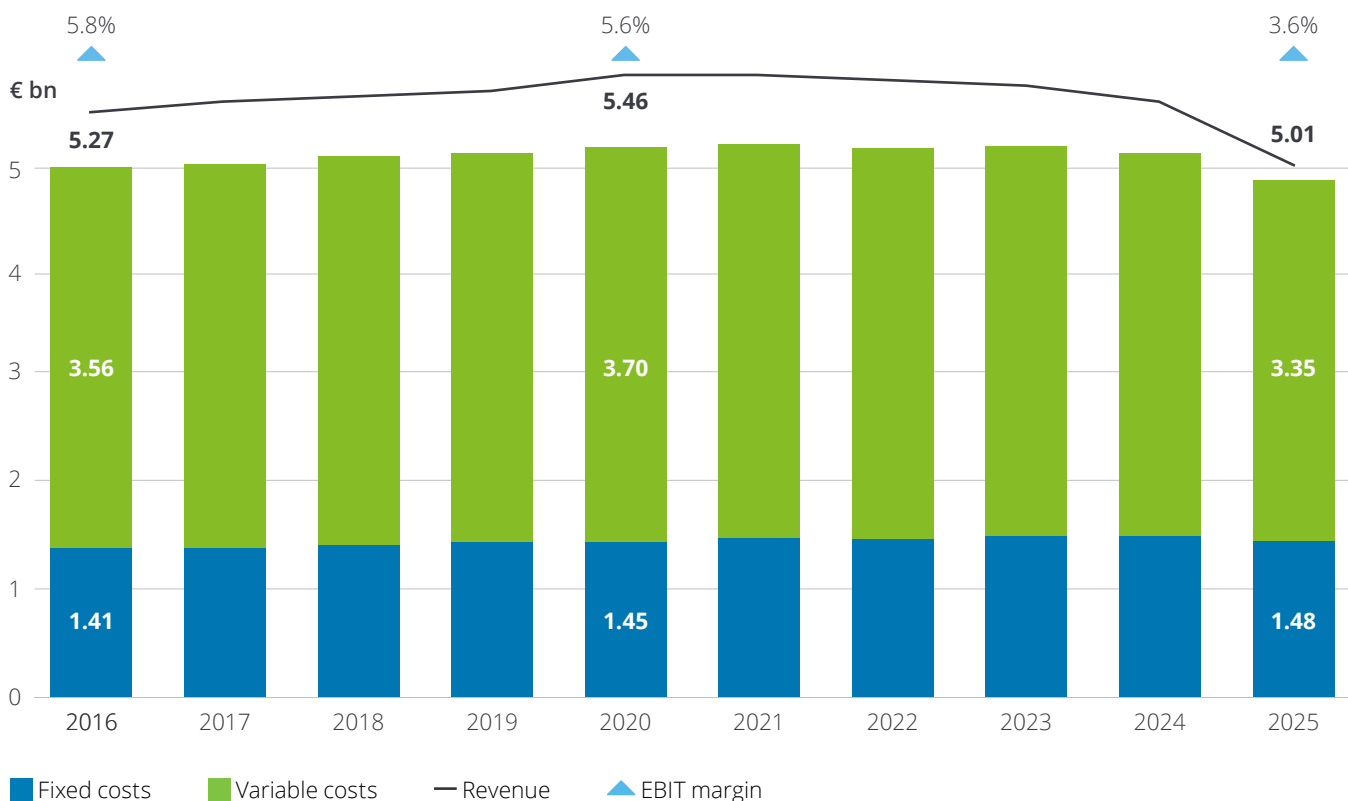
Although revenues will remain relatively stable, Power Inc.'s EBIT margin is forecast to decrease from 5.8% in 2016 to 3.6% in 2025. High volume increases in the Electronics business unit (CAGR +2.1%) will be eroded by sharply decreasing prices in the Climate Control business unit.

Given stable volume developments in the North American Climate Control business, management will be unable to compensate for decreasing contribution margins through capacity expansion.

Whereas revenues and profitability are presumed to remain stable in the Electronics business unit, profitability in Climate Control will consequently diminish gradually. Eventually, management expects that the Climate Control business unit will most likely generate negative earnings from 2025 onwards (EBIT in 2025 of EUR-0.01bn). Productivity gains are already forecast at 2.5% p.a. and management expects that there will be little potential for further improvement in that area. Additional reduction of structural costs might be an option; in particular, a reduction in R&D expenditure was considered, since further

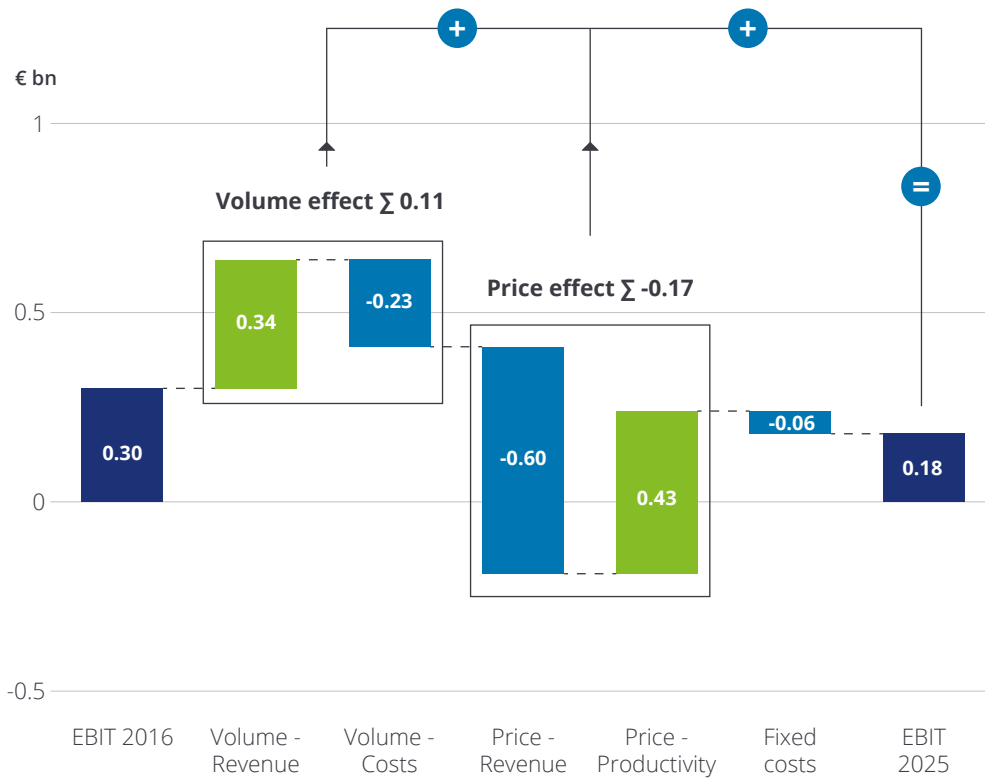
major innovations are not expected. However, the ability to innovate has always been a distinguishing feature for the company, and without intensive innovation activity prices are expected to fall even more sharply. An initial analysis of processes and spending reveals that there might be potential to reduce SG&A costs by 5% to 10%. However, due to the anticipated negative market development in North America and the fierce competition, management assumes that the business cannot be operated profitably in the long term. Climate Control is therefore no longer classified as a core business.

Fig. 25 – Profitability development forecast "Power Inc." – Base Case



Source: Deloitte Supplier Financial Transformation Model

Fig. 26 – EBIT Bridge "Power Inc." – Base Case



Source: Deloitte Supplier Financial Transformation Model

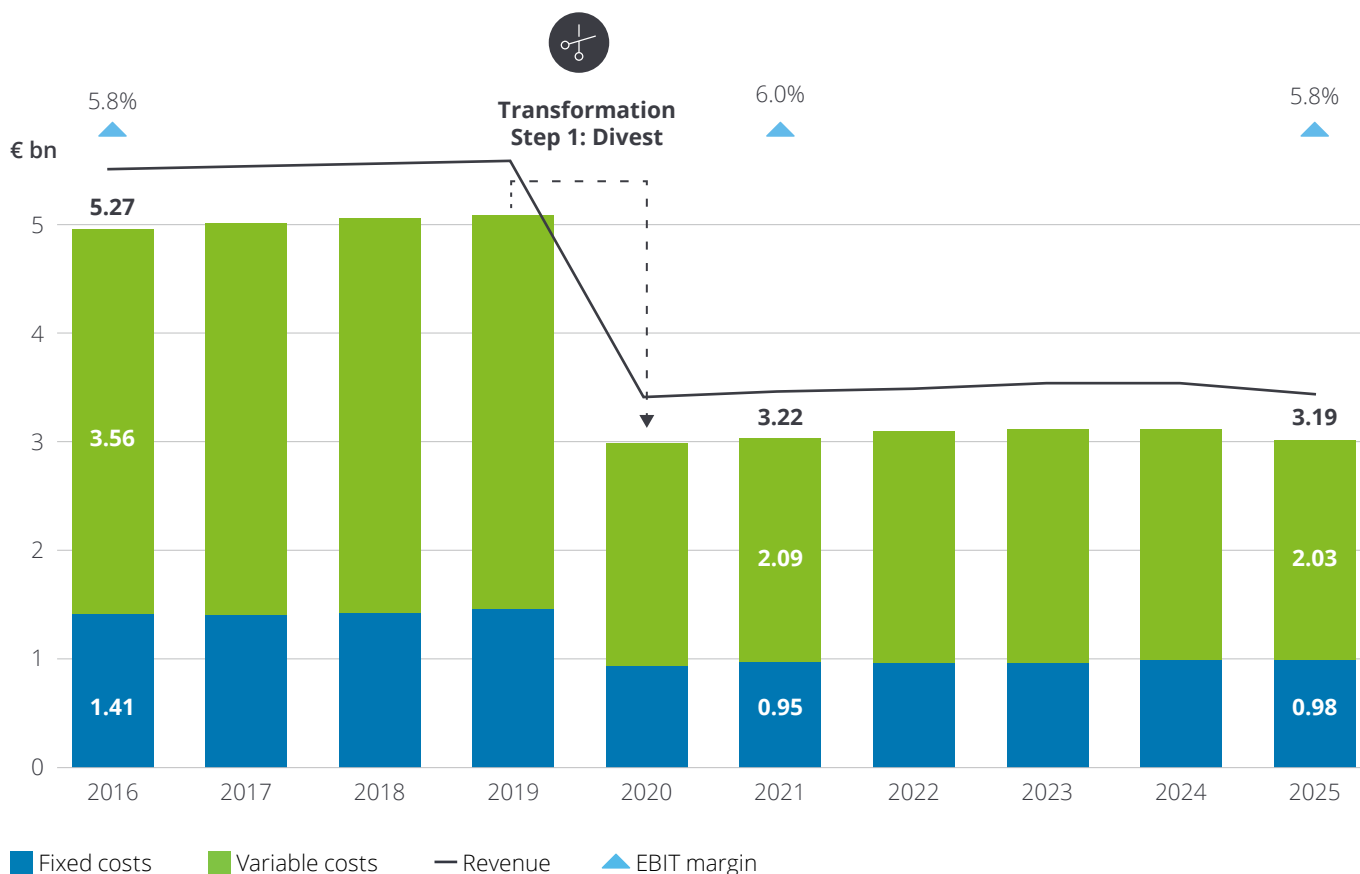
(b) Transformation Case: Portfolio Decision – Step 1

In 2018, Power Inc. management kick-started an M&A process. At this time the Climate Control business was still profitable (EBIT margin of 4.5%). After solid market sounding, a potential strategic investor was found who would like to extend its market presence to the North American market. Negotiations took place in late 2018, the contract was signed in mid-2019, and the transaction was closed at the end of 2019. Given the already poor cash flows in the North American Climate Control business unit, an EBIT multiple of just 4.0 was achieved in the M&A process (purchase price of EUR 0.5bn). Nevertheless, the purchase price was positive, and now funding for further acquisitions is available.

Management has prepared an updated business plan, which only includes the Electronics business and now shows expected stable margins (5.8% in 2025). However, management expects only a stable development in the electronics market, and profitable growth is one of the major strategic goals. Furthermore, the level of new innovations is expected to be low, giving Power Inc. little room to differentiate itself from the competition.

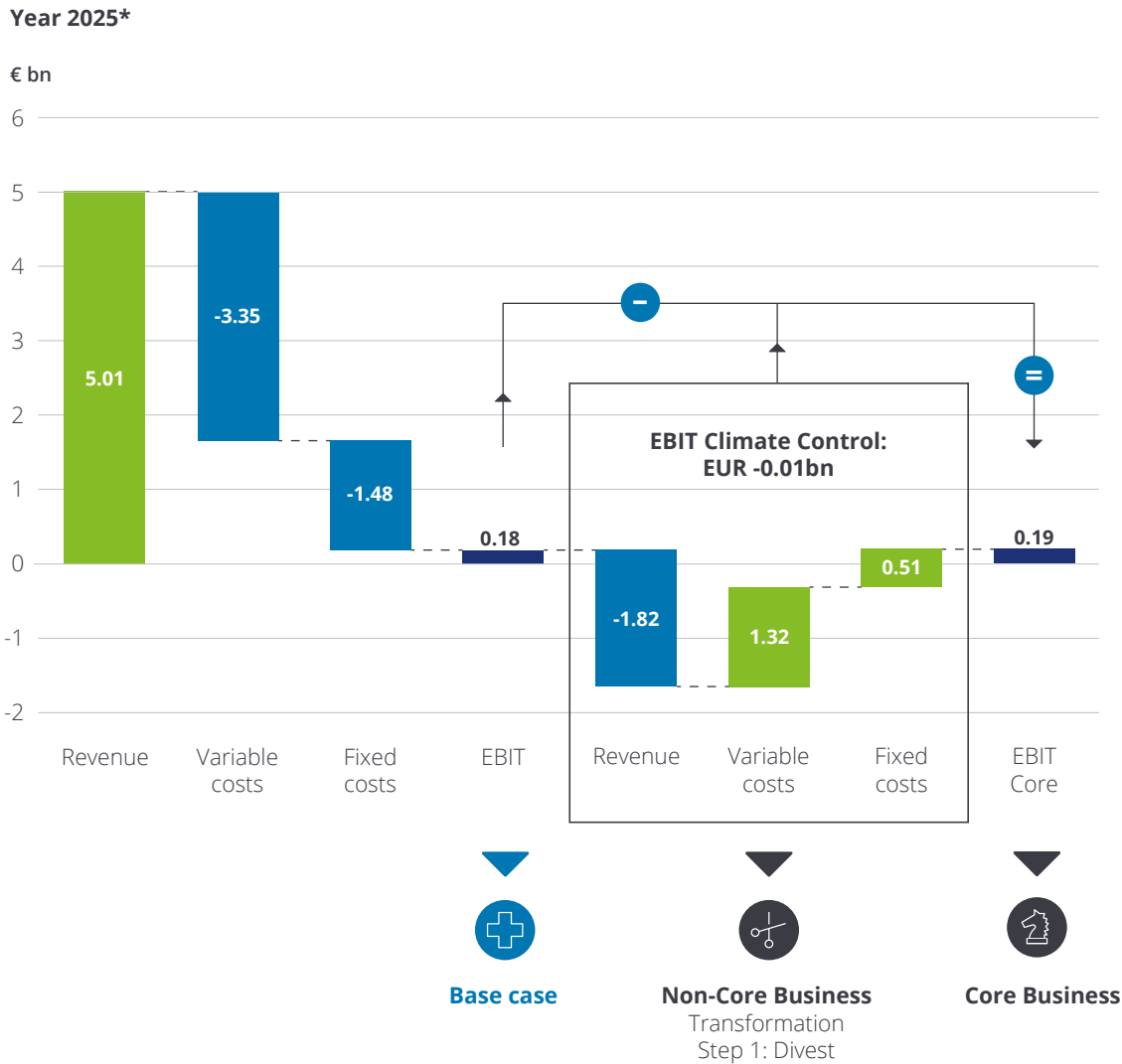
Management is now looking for new growth markets in which differentiation is possible through a high level of innovation.

Fig. 27 – Profitability development forecast "Power Inc." – Transformation Case: Portfolio Decision – Step 1



Source: Deloitte Supplier Financial Transformation Model

Fig. 28 – EBIT bridge "Power Inc." – Transformation Case: Portfolio Decision – Step 1



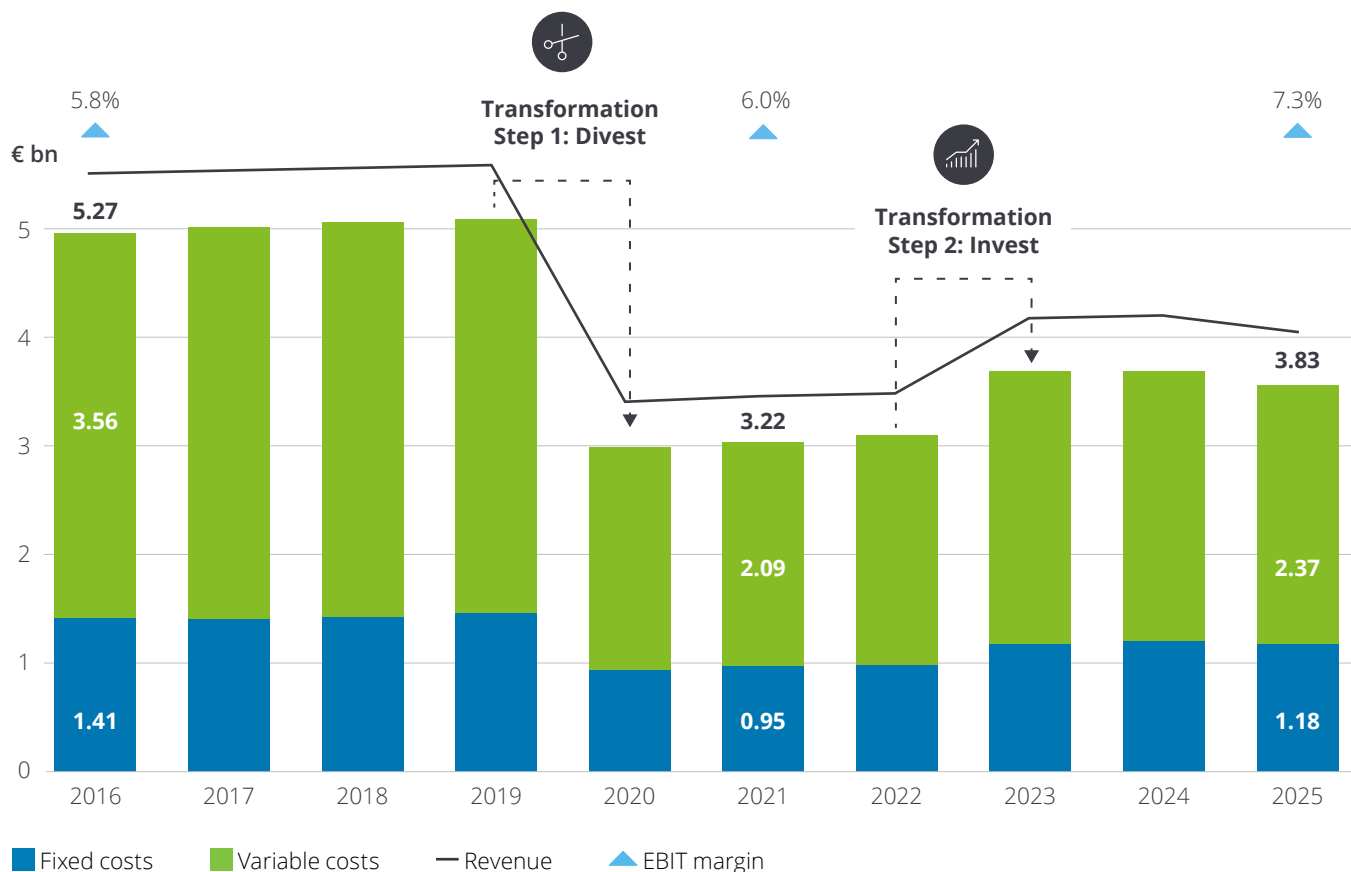
Source: Deloitte Supplier Financial Transformation Model; *) Figures relate to year 2025

**(b) Transformation Case:
Portfolio Decision – Step 2**

Management has identified the ADAS & Sensors market as a major growth area, and it has conducted several market scenario calculations which show that even in the most conservative market scenario (Stagnant Car Maker) global market volume is expected to remain stable. All other market scenarios foresee a sharp increase in market volume.

Driven by significant volume increases, the emerging markets in particular are expected to grow.

Fig. 29 – Profitability development forecast "Power Inc." – Transformation Case: Portfolio Decision – Step 2



Source: Deloitte Supplier Financial Transformation Model

A transformation plan has been prepared by management. Although Power Inc. sees itself as an innovation leader in the field of electronics and climate control, the development of its own competencies in the new area (ADAS & Sensors) was deemed to involve considerable effort and risk. The barriers to entry are already high in the ADAS & sensors market due to the level of innovation. Consequently, the purchase of an already established competitor is considered.

Based on the transformation plan, Power Inc.'s management has concluded that the current cash position (including the proceeds from the Climate Control business unit divestment) is too low to finance the transformation of the business. An IPO has been identified as a means of gaining

access to fresh capital. After extensive preparation, the IPO took place in 2022. A total of EUR 400 m in capital was raised on the capital market.

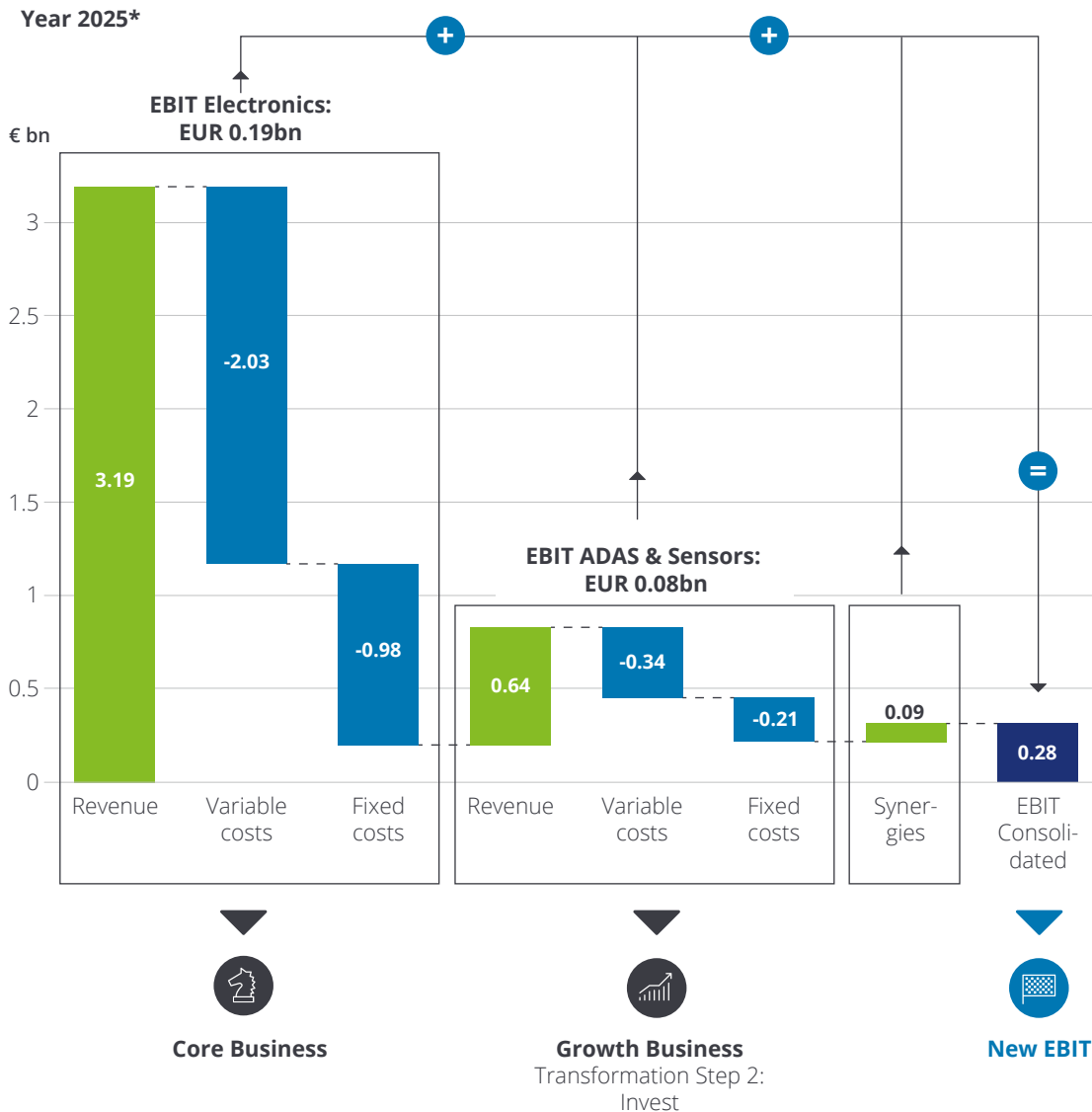
In 2021, a potential target, operating in the ADAS & Sensors business, with a strong footprint in the Chinese market was found. It is highly profitable (EBIT margin: 13.5%) and has a share in the Chinese market of 20% (EUR 0.6m). During the management presentations and the due diligence phase, the target's management was able to plausibly present a growth story for the next five years.

Power Inc.'s management sees high synergies. It is estimated that at least 10% of the target's fixed costs can be saved after the acquisition.

Due to the favorable competitive and financial situation of the target and intense competition in the M&A process, an EBIT multiple of 18 was finally called for the target (EUR 1.6bn). After extensive due diligence, this purchase price was also deemed appropriate by Power Inc. management. The financing concept provides for 50% of the M&A investment to be financed through debt (EUR 0.8bn), with the remainder financed by the proceeds from the Climate Control divestment (2020) and the IPO (2022).

The new ADAS & Sensors business unit is expected to generate EBIT of EUR 80m in 2025 (EBIT margin: 14.8%). In 2025, the new business unit will account for 16% of the group's revenue (EUR 0.64bn). However, 33% of profit (EBIT) is still generated in the new ADAS & Sensors business unit.

Fig. 30 – EBIT Bridge "Power Inc." – Transformation Case: Portfolio Decision – Step 2



Source: Deloitte Supplier Financial Transformation Model, *) figures relate to year 2025

(3) Key takeaways

Divesting the non-core business and investing in technologies with high future relevance at the same time is a challenging task for Power Inc.:

- Timing is key for the divestment of the non-core business: On the one hand, positive free cash flow will fund the transformation of the whole business. However, in order to maximize enterprise value, divestment should take place as long as cash flows are positive and stable.
- Another option for Power Inc.: is to raise liquidity for the forthcoming transformation by carrying out an IPO or a capital increase. However, one thing is clear: An IPO requires comprehensive preparation and thus also a certain lead time. The right time frame for an IPO is also crucial for its success.
- Thorough preparation so that the company looks attractive from the outside is one of the essential prerequisites for both an IPO and a successful M&A

process. Early initialization of such a performance improvement program is necessary to ensure that the expected effects exist not only on paper, but are also reflected in the results.

Focus on ...

EBIT Multiples

The sale of a business unit provides another opportunity to finance the transformation. The M&A market for suppliers has recently been very active, not only in component clusters with high future relevance, but also in market segments whose long-term development is not assessed as positive.

"Size matters" continues to be one of the imperatives of the automotive supplier industry. And acquisitions are the fastest way to grow. Consequently, there will also be investors for businesses with a core focus on segments in which the market is expected to decline. However, once free cash flows become negative or the project pipeline thins out, attractive purchase prices will be very difficult to achieve.

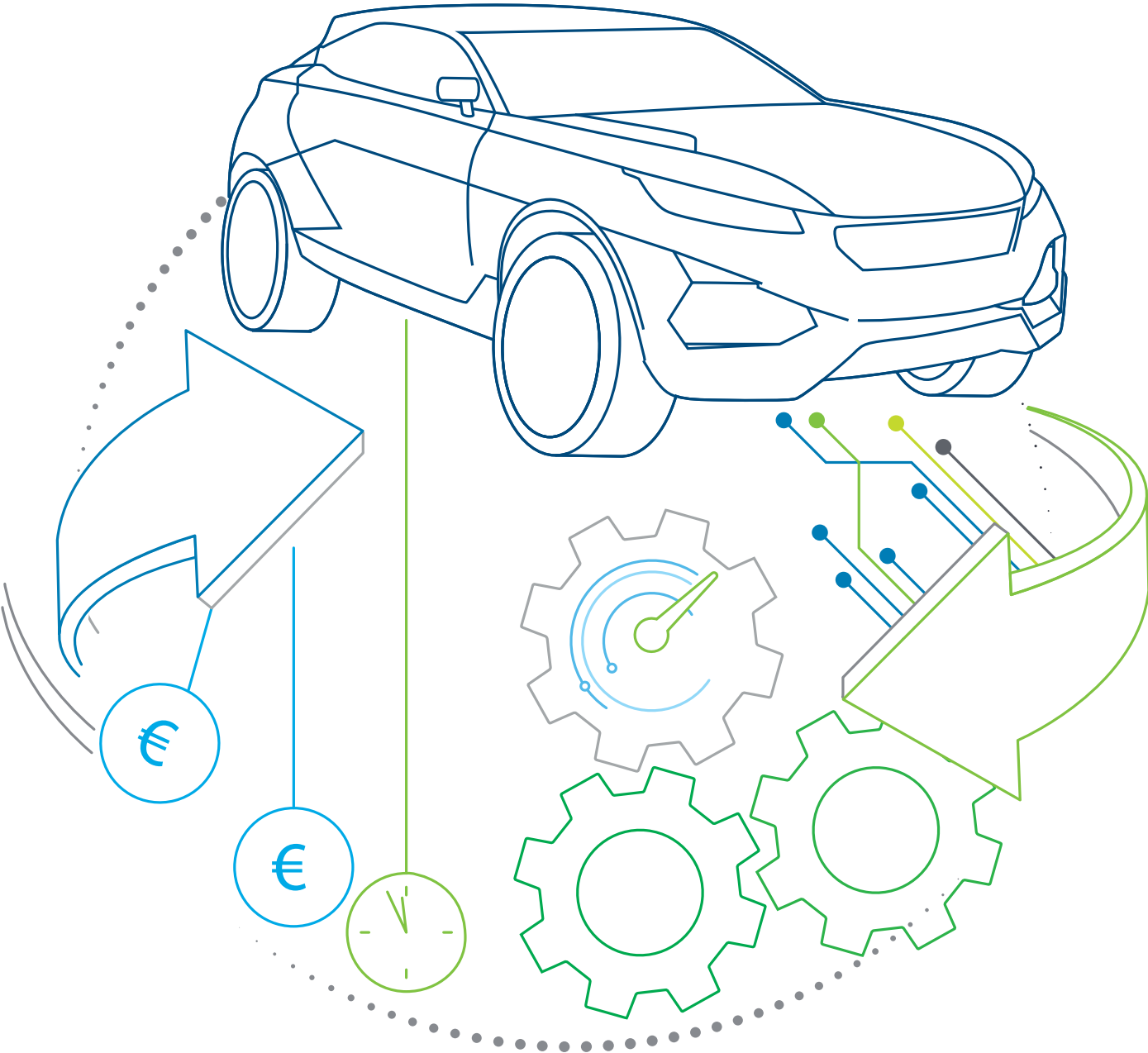
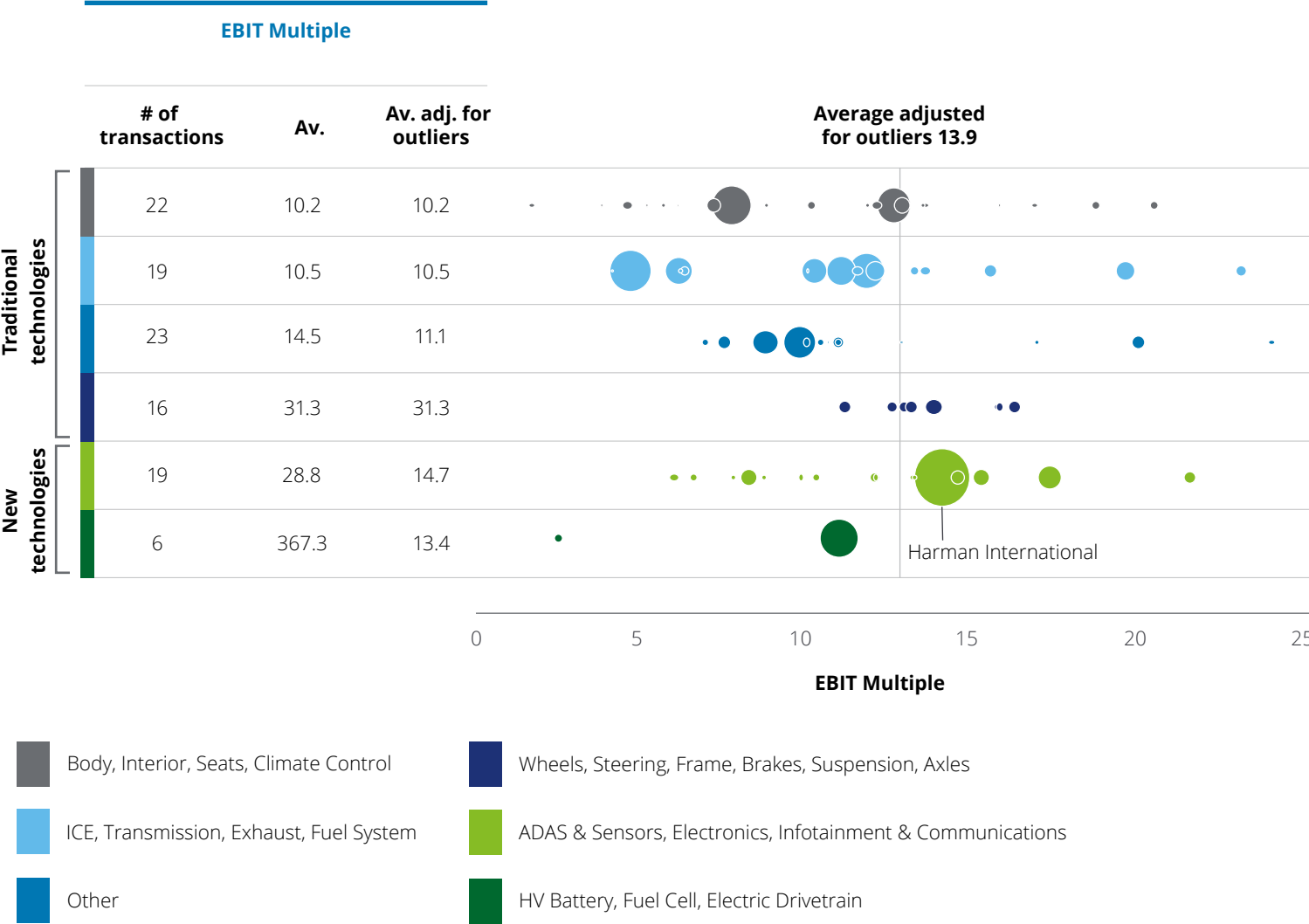
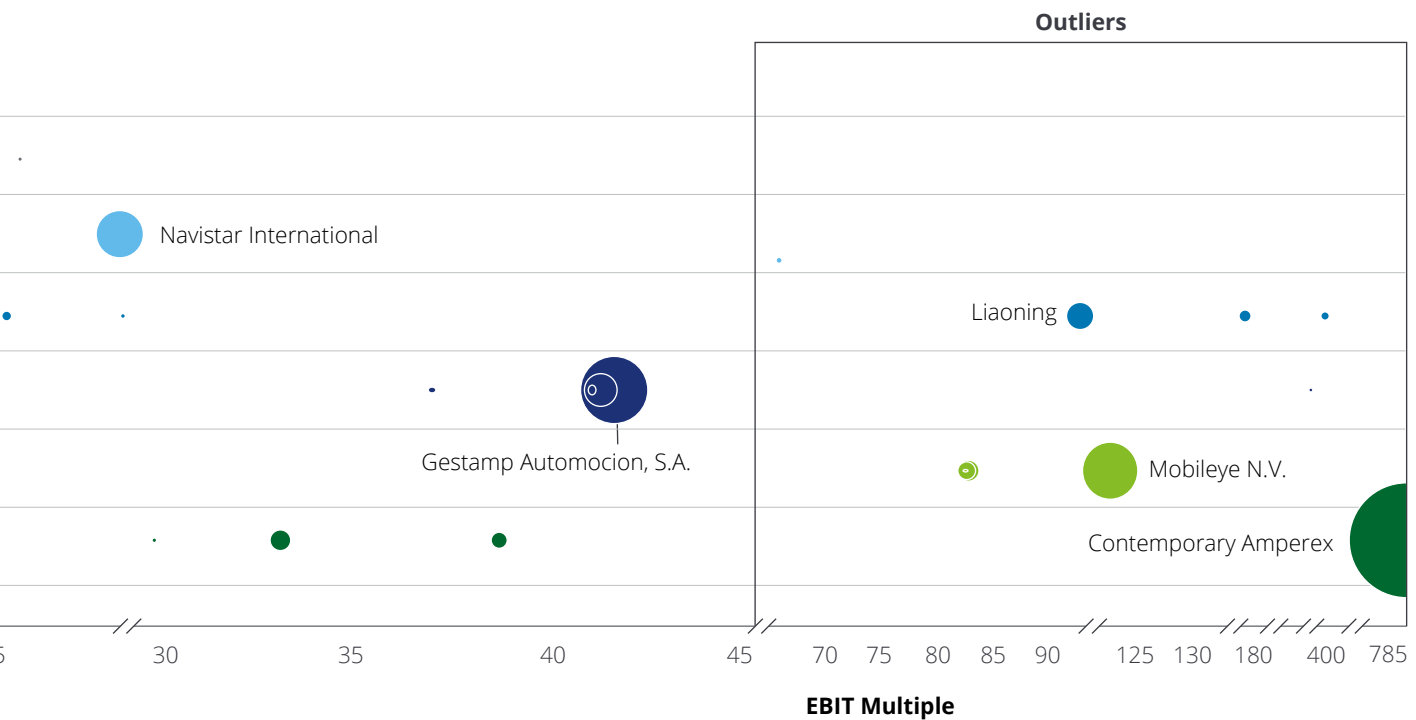


Fig. 31 – EBIT multiples in the automotive supplier industry





At present, the achievable proceeds from M&A transactions in the automotive supplier sector are at a comparatively high level. This is also evident from our analysis of M&A transactions over the last two and a half years.

We have analyzed 105 M&A transactions from 2016 to July 2018 for which EBIT multiples were published. The average EBIT multiple amounts to 64.2, a figure which is influenced in particular by transactions with targets from component clusters with expected higher future relevance, such as ADAS & Sensors, Electronics, Infotainment & Communications, HV Battery, Fuel Cell and Electric Drivetrain. The analysis shows that the EBIT multiples achieved in these segments were widely spread: Adjusted for outliers, the average EBIT multiple is 13.9.

The wide range of multiples in these segments also reflects the importance of access to future technologies. Vendors who have gained a technological advantage over the competition will find good arguments for reflecting this in the purchase price.

Two of the three largest transactions, Amperex and Mobileye, also relate to the previously mentioned component cluster with high future relevance.

- Amperex, which is active in the development, manufacturing and aftersales services of lithium-ion battery solutions, was the transaction with by far the highest multiple. The EBIT multiple of over 700, paid by Changzhou Qide Equity Investment Fund Center for this transaction, provides a strong signal for the potential seen in this component cluster.

- Another large multiple was paid in the Mobileye transaction, a designer and developer of camera-based advanced driving assistance systems (ADAS). The bidder in this transaction was Intel, whose management obviously sees a lot of potential in the vehicle systems, data, and services market due to the trend toward highly or fully autonomous driving and wants to establish itself as a leading technology provider in this market.

Excluding the M&A transactions on targets focused on component clusters with high future relevance, the remaining 80 transactions generated an average EBIT multiple of 14.3 (not adjusted for outliers). Although the EBIT multiples achieved are average, the classic segments were of great importance for the M&A market solely due to the size of the M&A deals. In 17 of the 25 largest transactions, the target had a focus on the aforementioned traditional segments.

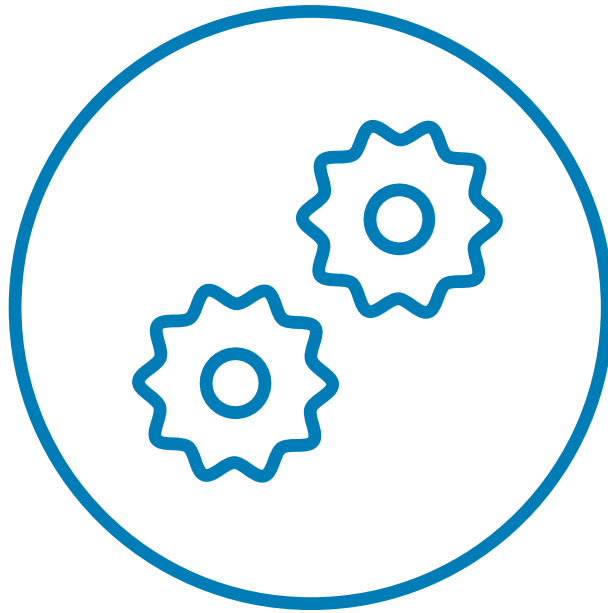
We expect that future valuations will deviate significantly from the prices currently achievable.

A change in future interest rates (see page 68) will lead to reduced investment pressure on private equity funds and consequently reduce future valuations of automotive suppliers. On the other hand, the expected future development of the automotive industry will also be reflected in achievable EBIT multiples. Based on expected future volume and/or profit development, we can assign all component clusters to the three categories of Likely Winners, Uncertain Component Clusters, and Likely Losers (see page 72).

- **Likely Winners** among automotive suppliers (e.g., HV Battery/Fuel Cell or Electric Drivetrain) will continue to achieve high EBIT multiples in the event of an M&A transaction. A key driver of the high purchase price will be the fact that automotive suppliers will have to be represented in attractive areas in the future to ensure a sustainable long-term business model.
- In the case of **Uncertain Component Clusters** (Interior, Seats and Infotainment & Communications), we assume that uncertain market developments will already be included in the price paid by investors and that correspondingly lower EBIT multiples are achievable.
- All our market scenarios assume a declining market volume and declining profit pools for **Likely Losers** (e.g., Fuel System, Exhaust System, ICE and Transmission). Accordingly, we expect the number of potential buyers for automotive suppliers from these areas to decline in the long term, which will be reflected strongly in achievable EBIT multiples. The major driver of future M&A activity will be the ongoing consolidation process in the automotive supplier industry:
 - The trend toward global platforms and single sourcing leads to a bundling of OEM purchasing volumes and thus to increased volume pressure on automotive suppliers. Only those with a correspondingly global production footprint will continue to play a role in the awarding of large orders by OEMs in the future. Company takeovers may be an option here.
 - Local sourcing regulations and OEM just-in-time/just-in-sequence production require immediate proximity to OEM production sites. This may also further drive M&A activity and the consolidation process in the industry.
 - For a buyer who is exposed to sharply falling prices and volumes, for example in the ICE component cluster, the purchase of a competitor may be an opportunity to gain market volume in the future, thus achieving better utilization of fixed costs and improving its positioning in the market. Given expected declining market volumes, vendors should consider the right time for a sale in order to achieve the highest possible enterprise value.
 - In most component clusters, market volumes in Europe and NAFTA are expected to remain stable or even decline. At the same time, market volumes in the emerging economies are expected to increase. For example the acquisition of an ICE supplier with a strong presence in the Chinese market can be an opportunity to reduce dependence on the most probably declining European ICE market. This will also be reflected in the achievable purchase prices for automotive suppliers with a strong footprint in the emerging markets.

The basic requirements for a successful M&A transaction: a clear transformation strategy and an operational health check.

Operational optimization goes well beyond the cosmetic improvement of profitability. Comprehensive optimization of business processes and structural measures are often necessary to improve the attractiveness of a company. Even though few other industries have such a high degree of process maturity, professional performance improvement programs bring comprehensive optimization potential to light.



Deep Dive 3:

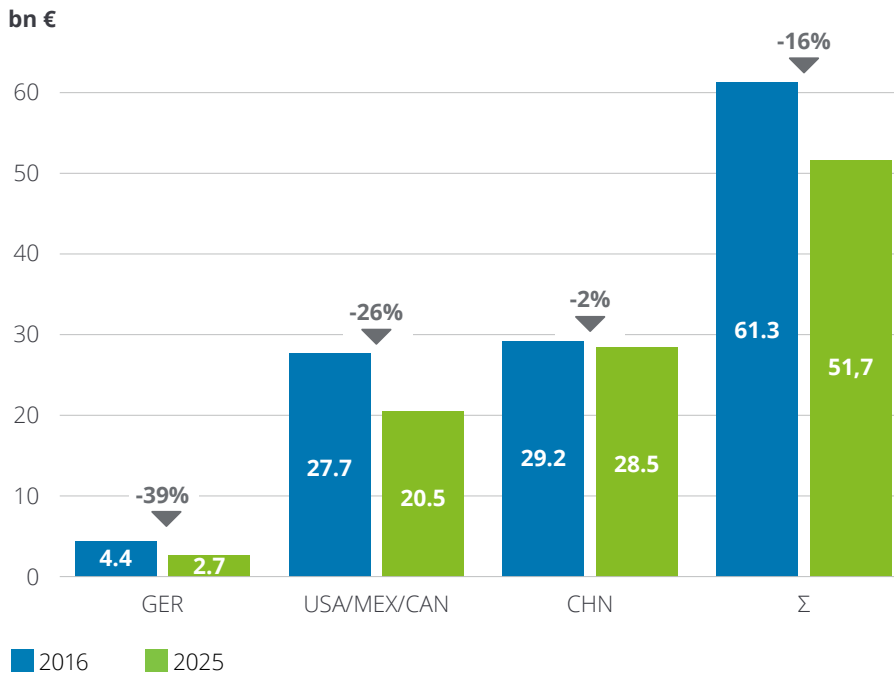
Transmission component cluster

(1) Market View

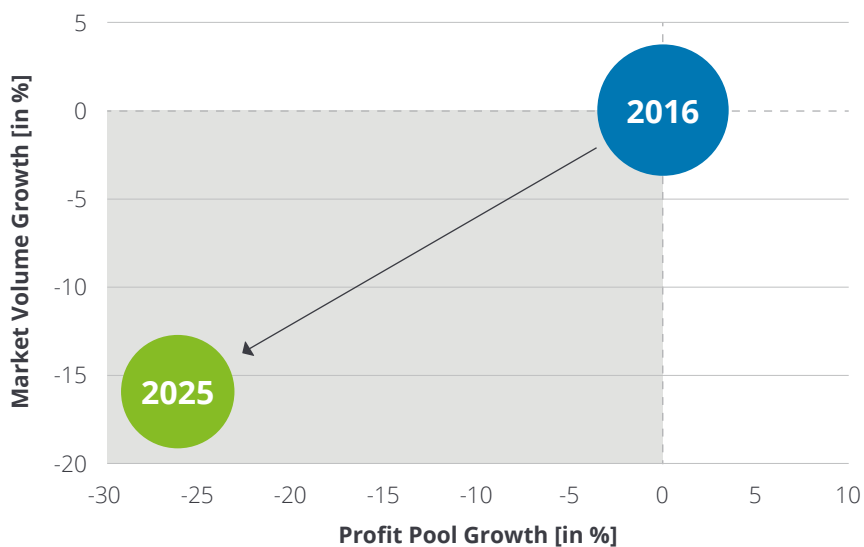
The Transmission component cluster comprises gearboxes and power transmission components. Since these components are required in both ICEs and alternative powertrain technologies (e.g., BEV, PHEV, RE, FC), volumes are expected to increase in line with the total expected car sales volume. However, E-mobility will lower technological complexity. For example, continuously variable transmissions (CVT) with stepless transmission will significantly reduce the complexity of transmissions. Consequently, components will commoditize, which is why the highest price reductions are expected here, as compared with other component clusters. Increasing sales volumes, accompanied by sharply decreasing prices, will put the competitive environment under extensive pressure

as massive investments are required in market with a decreasing market volume. Covering falling contribution margins with increasing sales volumes might be key to maintaining profitability in this segment. Especially for suppliers with a strong focus on the contracting European and North American markets, this strategy will no longer work, which puts their business model under additional pressure.

In total, we expect that the competitive pressure in this segment will increase sharply and the profit pool will decrease significantly.

Fig. 32 – Market volume forecast 2025: Transmission

Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook

Fig. 33 – Profit pool development 2025: Transmission

Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook
 Bubble sizes indicate the profit pool size in 2016 and 2025 (Germany, NAFTA, China); excluding inflation and after-market)

(2) Supplier View

Gear GmbH is a medium-sized German enterprise with annual revenues of approx. EUR 200m. The company is strongly focused on the development and production of transmission modules, and its customers include the major German OEMs. In the past, Gear GmbH was able to position itself as an innovator, with numerous innovations differentiating the company from the competition. Accordingly, an adequate EBIT margin (6.9%) has been achieved to date. For the future, the company expects end customers of the OEM to demand

fewer innovations and the complexity of transmission units to decrease significantly, e.g., due to the forthcoming electro-mobility. Both will be reflected in significant price reductions demanded by the OEMs.

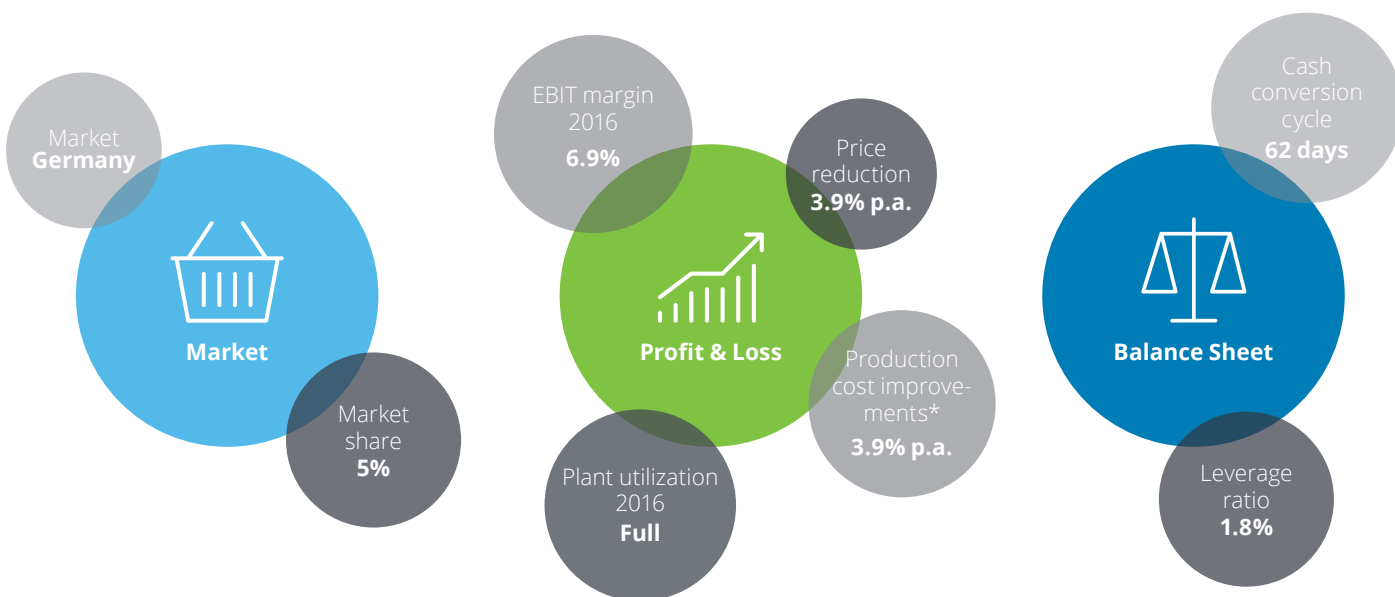
Given the lower complexity of components, Gear GmbH will be able to reduce production costs accordingly. However, the total contribution margin per module will diminish. Furthermore, market volumes in the German market are expected to decrease. Consequently, the coverage of fixed costs (including high depreciation and still high

R&D costs) is expected to be reduced dramatically.

Production capacities are all located in Germany and are currently fully utilized. Production expansions and the increase of R&D capabilities have been largely financed through debt, and the company is therefore highly leveraged.

Fortunately, the owner family has sufficient cash reserves and is now contemplating whether a capital increase makes sense to finance the transformation of the company.

Fig. 34 – Key model assumptions: Supplier "Gear GmbH"



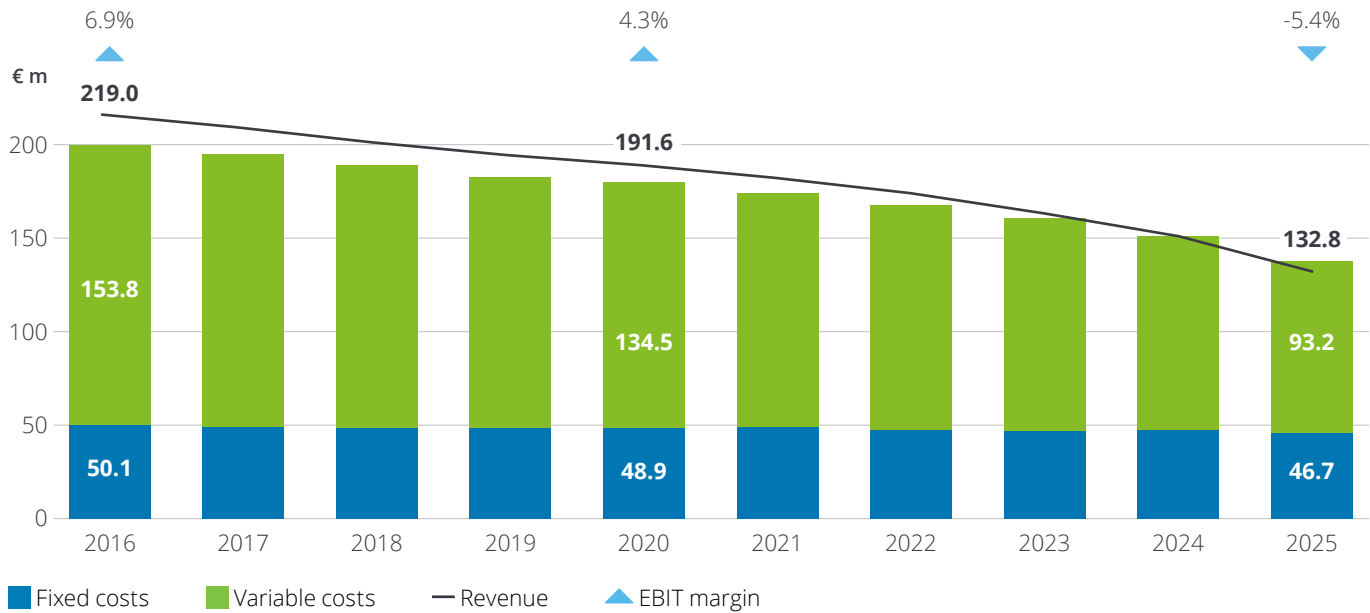
(a) Base Case

Given the anticipated decrease in volume in the German transmission market (CAGR -1.6%) and the massively decreasing prices (CAGR -3.8%), revenues are expected to decline year on year. Due to the expected lower complexity of transmission modules in the future, management will be able to reduce material costs. Additionally, the productivity of Gear GmbH is expected to increase in line with the OEM's price reduction requirements. However, the decline in volumes is massive and the price reductions are expected to lead to a deterioration of contribution margins per piece. Hence, fixed costs cannot be covered in

the long term and consequently losses are expected from 2024 onwards.

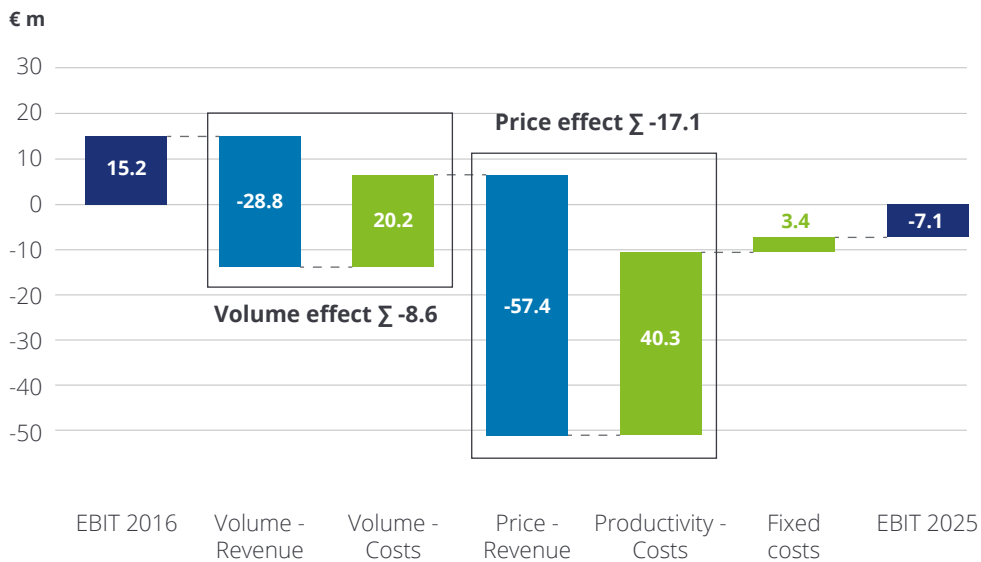
Furthermore, from 2022, Gear GmbH will not be able to repay debt as agreed in the amortization schedules and it will not be able to pay dividends either after 2020. Based on an analysis of its competitive position, Gear GmbH's management sees itself in a position to react to falling volumes by actively driving the consolidation of the market and pushing competitors out. In this scenario lower contribution margins per piece can be overcompensated by an increase in sales volume. Different scenarios and their impact on the company's profitability and liquidity have been examined.

Fig. 35 – Profitability development forecast "Gear GmbH" – Base Case



Source: Deloitte Supplier Financial Transformation Model

Fig. 36 – EBIT bridge "Gear GmbH" – Base Case



Source: Deloitte Supplier Financial Transformation Model

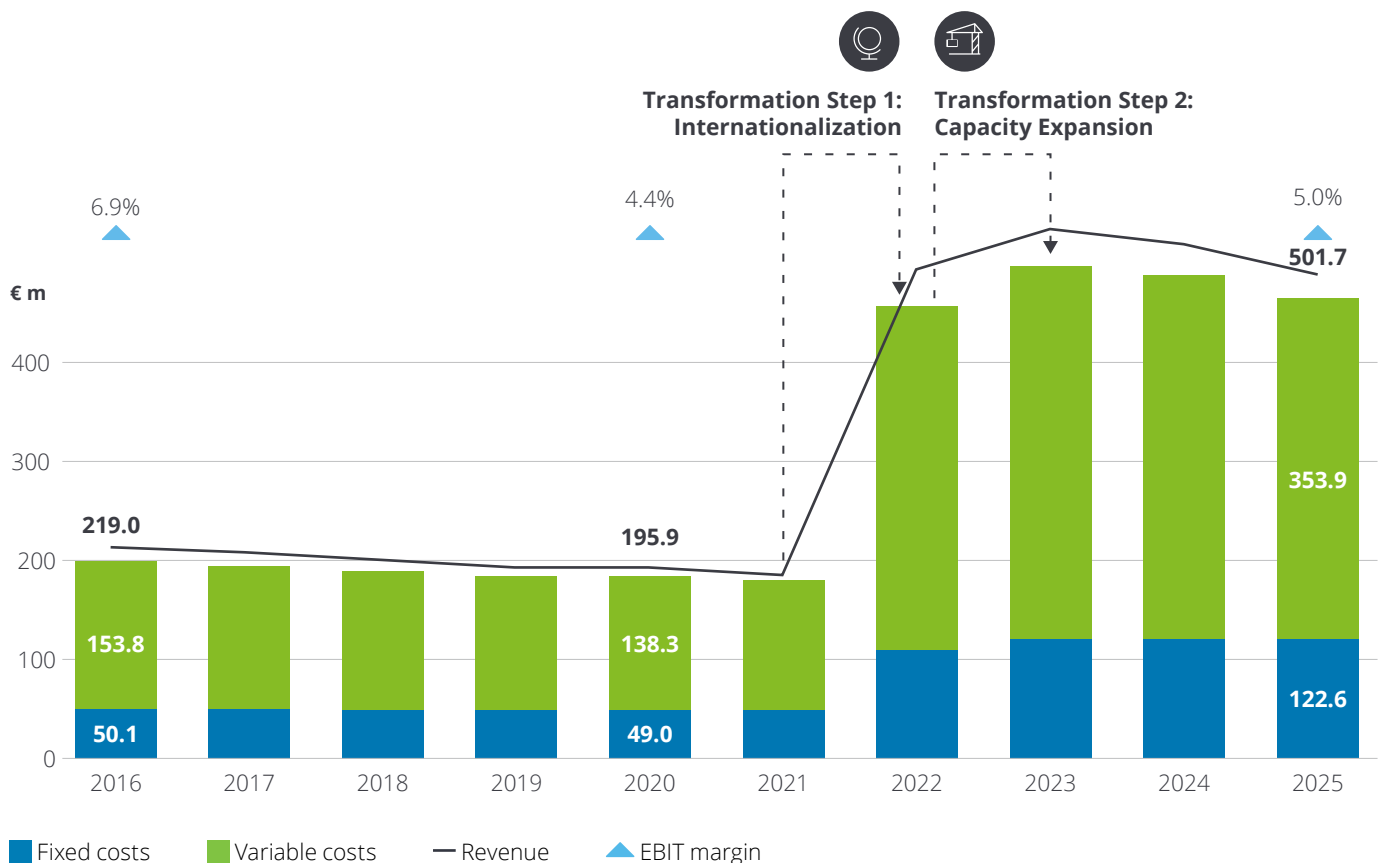
(b) Transformation Case: Consolidate

Given the sharp decrease in market volume, the production site utilization will be reduced by 17 percentage points until 2025 if Gear GmbH maintains its current market share of 5%. In line with its consolidation strategy, management will cut prices from 2020 onwards, which means it will "buy" market share in order to maintain the production plant's utilization at a high level. However, although volumes remain at least stable, price reductions lead to steadily decreasing contribution margins. To cover fixed costs, further volume growth

is required. In 2023, a tender for a large project was won against the competition, although further significant price concessions were necessary to do so. In addition, production capacity has to be extended by 50%. Banks financed 80% of the investments. The remainder was paid from its own funds.

This growth is expected to generate a positive earnings contribution of EUR 8.0m. Furthermore, given low innovations in this component cluster, management plans to cut R&D expenses from 3.4% to 2.4% of revenues (EUR 2.0m).

Fig. 37 – Profitability development forecast "Gear GmbH" – Transformation Case: Consolidate

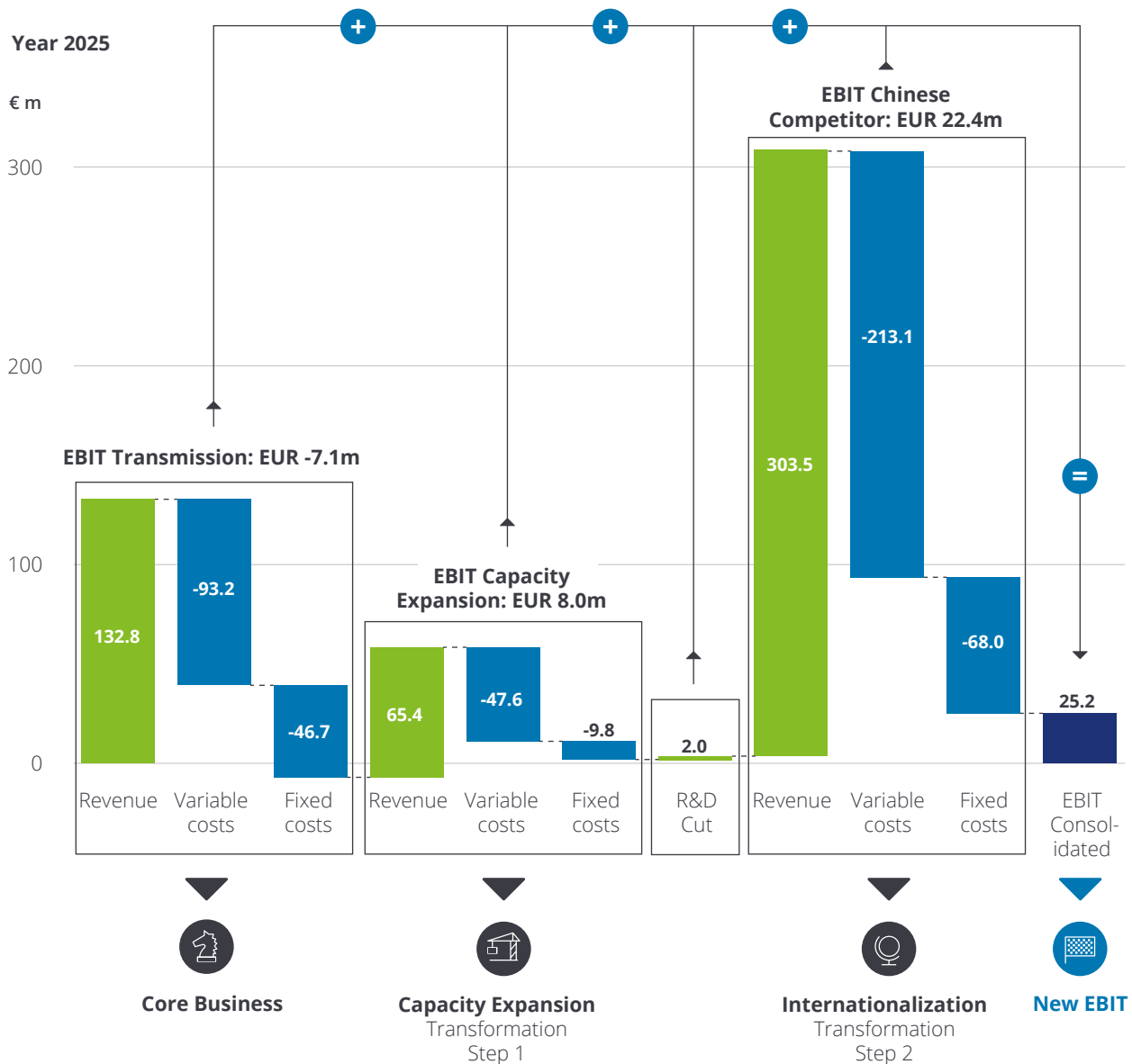


Source: Deloitte Supplier Financial Transformation Model

Management now seeks a further opportunity to diversify its business. The growing Chinese market provides opportunities for volume expansion. In 2019, management identified a transmission supplier with a strong focus on the Chinese market and annual turnover of approx. EUR 300m. Given low production costs and above-average market development, the supplier generates a strong EBIT margin of 9.1% (EUR 22.4m). After extensive negotiations, a purchase price of approx. EUR 300m (14.5x

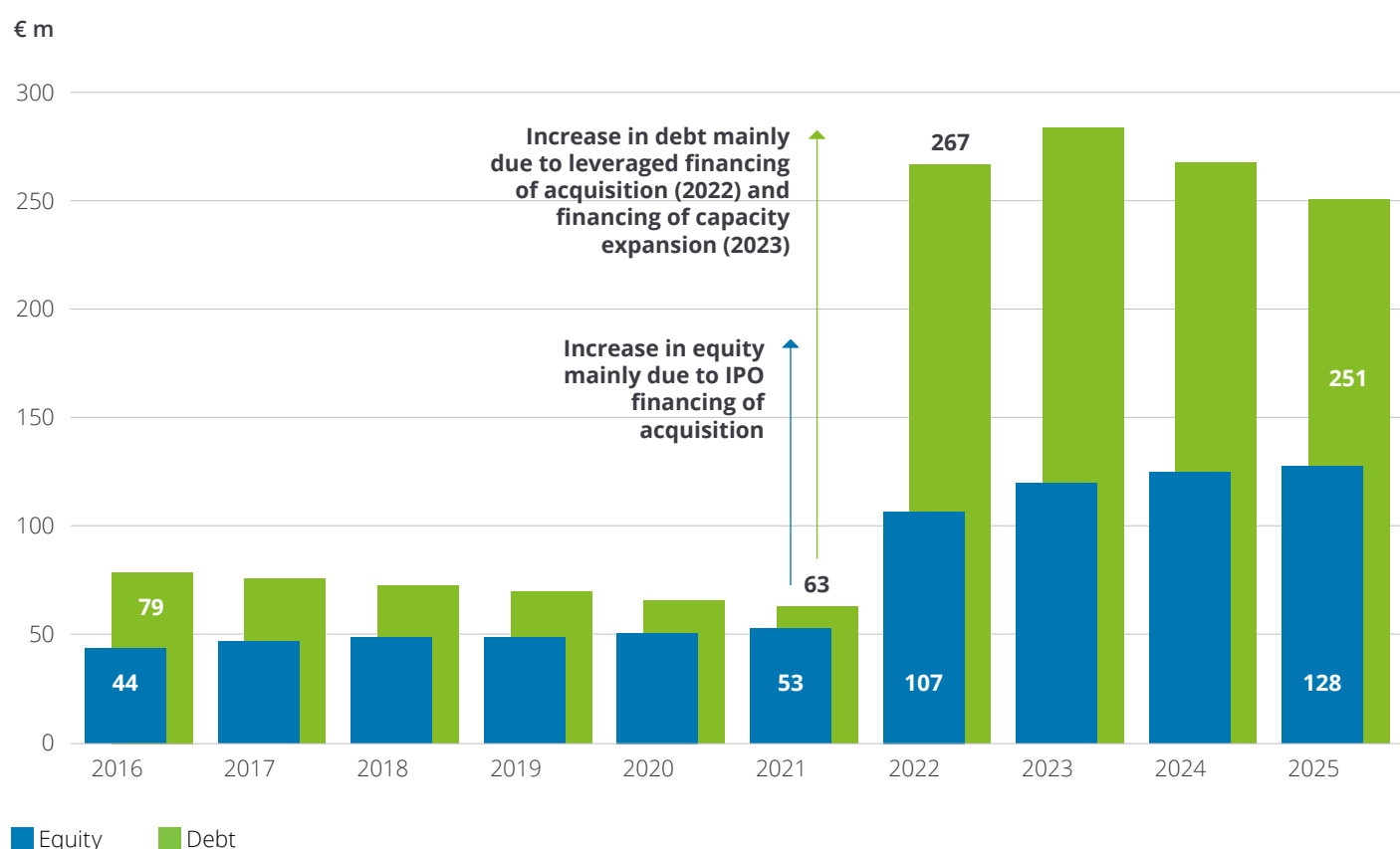
EBIT) was agreed. Gear GmbH's management spoke with lenders who were willing to finance part of the transaction and EUR 200m was raised from outside financiers. However, requested interest margins (446 bps) to finance the M&A transaction were comparatively high. In addition to bank financing, about EUR 100m of funding had already been raised via an IPO, which took place in 2022 and is now available to finance the planned transformation steps.

Fig. 38 – EBIT Bridge "Gear GmbH" – Transformation Case: Consolidate



After the transaction, a transformation program was set up and synergies of EUR 10.1m were identified. Given that the level of innovation has decreased somewhat, management decided to partially close the R&D center in China, which reduced the fixed cost basis significantly. After the successful transformation, a stable EBIT margin of 5.0% was achieved.

Fig. 39 – Equity and debt forecast "Gear GmbH" – Transformation Case: Consolidate



Source: Deloitte Supplier Financial Transformation Model

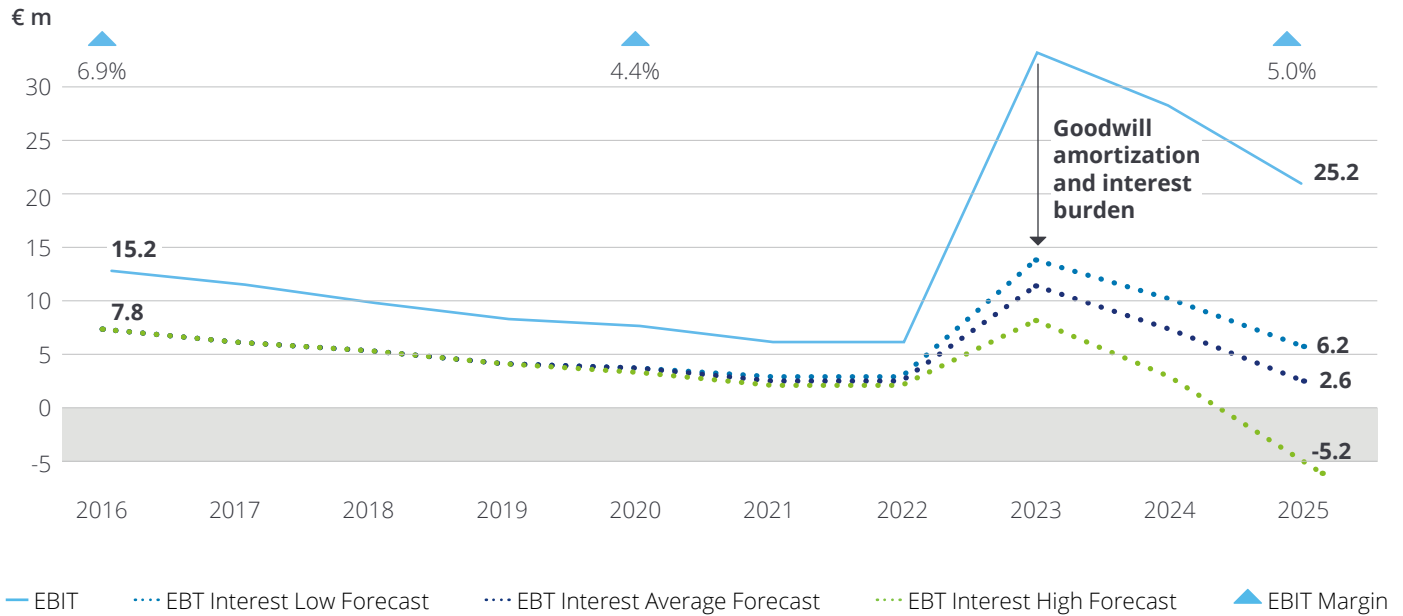
Driven by the continuous production expansion and the acquisition of the Chinese competitor, which were both largely financed with debt, the leverage ratio increases significantly during the period under review (1.8 in 2016 vs. 2.5 in 2022 and 2.0 in 2025). However, free cash flow is sufficient to cover regular bank debt repayments, interest payments (assuming an average interest scenario, please refer to page 68 ff.), and dividend payments to shareholders (RoE of 8%).

Nevertheless, if interest rates increase, the funding of growth strategies with a high portion of debt will become difficult or the EBIT of the already highly leveraged companies will not be sufficient to cover interest expenses.

Despite increasing leverage, Gear GmbH EBIT remains positive during the entire period under review despite high goodwill amortization after the M&A transaction (EUR 6.6m p.a.). If interest rates rise to a

peak of 5.4% (last seen in fall 2008, see page 69), Gear GmbH will generate losses in 2025. Furthermore, Gear GmbH will neither be able to regularly repay debt nor to pay dividends to its shareholders.

Fig. 40 – Impact of interest scenarios on "Gear GmbH" profit development – Transformation Case: Consolidate



Source: Deloitte Supplier Financial Transformation Model, interest forecasts relate to the forecasts presented on page 69

(3) Key takeaways

The transformation of the business and especially growth strategies is in some cases mainly financed with debt, leading to highly leveraged suppliers. As long as interest rates are low and cash flows from operating activities are stable, high debt is not a problem for "Gear GmbH", but if one of these two parameters changes, the future viability of the company is at risk. Traditional forms of debt financing by banks are furthermore available or suitable for transformation strategies only to a limited extent due to the lack of predictable success and the impossibility of non-validation by the past and current order backlog.

On the other hand, there is growing interest from alternative financing partners, e.g., private equity funds including debt funds in the automotive supply industry. They are focusing on above-average growth opportunities in new product areas due to the megatrends described above, are more willing to take risks, and are able to support medium-sized companies in the transformation process, including through their networks and industrial partnerships. As well as bank financing, divestment of non-core businesses and IPOs, alternative financing strategies should also be considered to finance the transformation.

Consequently, "Gear GmbH" should consider the full range of forms of funding to finance its transformation strategy. "Gear GmbH" should follow a basic strategy for funding: "Make the bride pretty (sustainable!)" In addition to optimizing current profitability, a stable business strategy is required, even in volatile times, to convince prospective buyers or investors of the value of the business up for sale. It is crucial to show how the business model is exposed to the development of automotive megatrends and how the business plans to participate in the relevant growth areas. Therefore, a transformation strategy, backed by different scenarios as shown in this deep dive, is essential for "Gear GmbH".

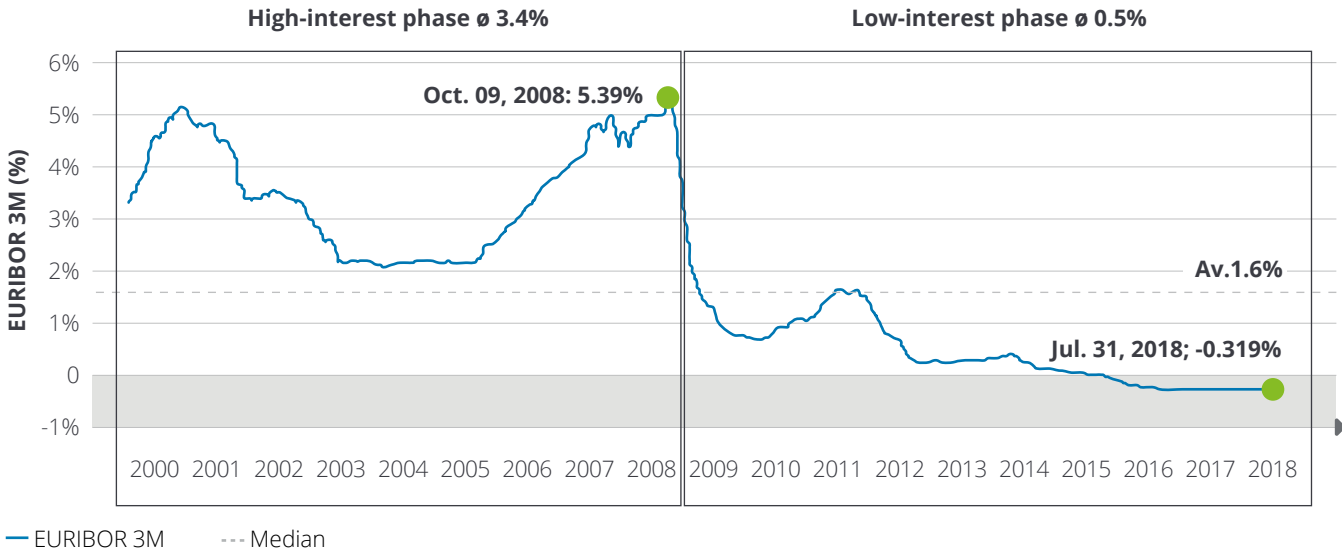
Focus on ...

Future Financing Terms

According to our benchmarking study (see page 95), the leverage ratio in the automotive industry amounts to 0.8. Due to the high cash requirements to cope with the upcoming transformation, the leverage ratio of some suppliers will increase significantly in the coming years, especially for those who are not able to achieve funding through equity capital markets (IPO / SPO). Despite currently low interest rates, access to debt capital financing and interest rate developments will increasingly come into focus.

Especially in the last two years, financing conditions were at a historically advantageous level due to negative interest rates. At the end of February 2018, the 3-month EURIBOR was at an all-time low level of -0.3%. Since the turn of the millennium, the key interest rate peaked at 5.4% in the fall of 2008, and the 3-month EURIBOR has fallen almost continuously since then.

Fig. 41 – Euribor 3M development – Year 2000 to date



Source: Bloomberg

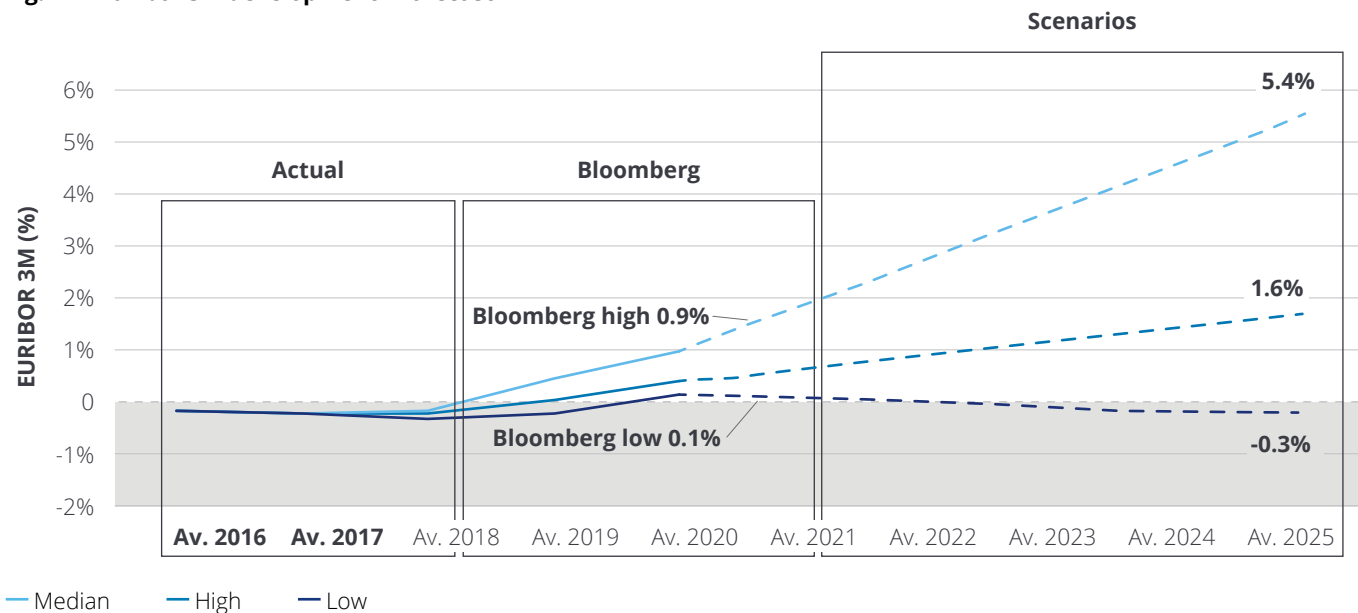
A significant rise in interest rates is not foreseeable, at least in the medium term. It is estimated that interest rates will range between 0.9% (Bloomberg Low and EIU) and 1.0% (Bloomberg High) in 2020.

To illustrate the effects of rising interest rates, we can model three scenarios in our

Supplier Transformation Model. Until 2020 these scenarios are based on the available Bloomberg forecasts. In subsequent years, it was assumed that selected historical interest rate levels will be reached by 2025 (Scenario):

1. **Low:** This forecast assumes that interest rates will remain at historically low levels until 2025.
2. **Median:** Interest rates gradually rise to the historical median (1.6%).
3. **High:** Interest rates are expected to reach 5.4% by 2025 (historical high in fall 2008).

Fig. 42 – Euribor 3M development – forecast



Source: Bloomberg, Economist Intelligence Unit (EIU), Deloitte Analysis

To determine interest rate spreads in the automotive sector, we analyzed 370 debt transactions for which an interest rate spread was published. The period of analysis was the last two years.

Compared to other sectors, the median interest rate spread that borrowers from

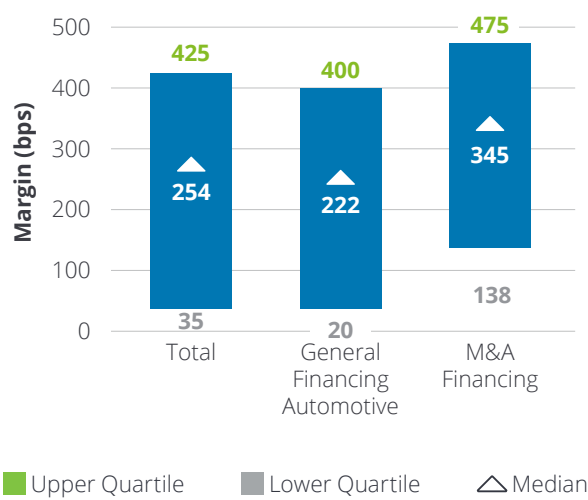
the automotive industry have to pay is comparatively high at 296 bps.

In connection with the refinancing of M&A transactions, the median interest rate spread to be paid in the automotive sector of 302 bps is significantly higher than other debt capital transactions (200 bps), which

comprise mainly working capital financing and investment financing.

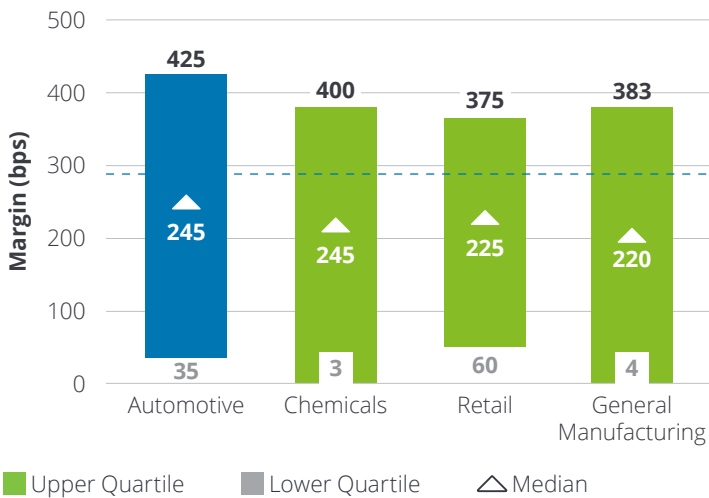
In the Automotive Supplier Transformation Model, we used the average interest spread of 296 bps.

Fig. 43 – Interest spreads in the automotive supplier industry



Source: Loanconnector, Deloitte Analysis

Fig. 44 – Interest spread comparison



Source: Loanconnector, Deloitte Analysis

We expect that lenders will take expected developments in the automotive supplier market into account when granting loans and may only allow lending through a risk premium.

An automotive supplier with a focus on a component cluster in which market volume is likely to decline, or in which future market development is subject to uncertainty, will pay significantly higher interest spreads. This represents an additional challenge to financing the forthcoming transformation of the automotive supplier industry.

The credit spread in the automotive industry is markedly higher than for example in the chemical, retail or manufacturing industries. Uncertainty regarding the market development, the substantial need for transformation in the automotive industry or the already high indebtedness of many suppliers are possible reasons for this.

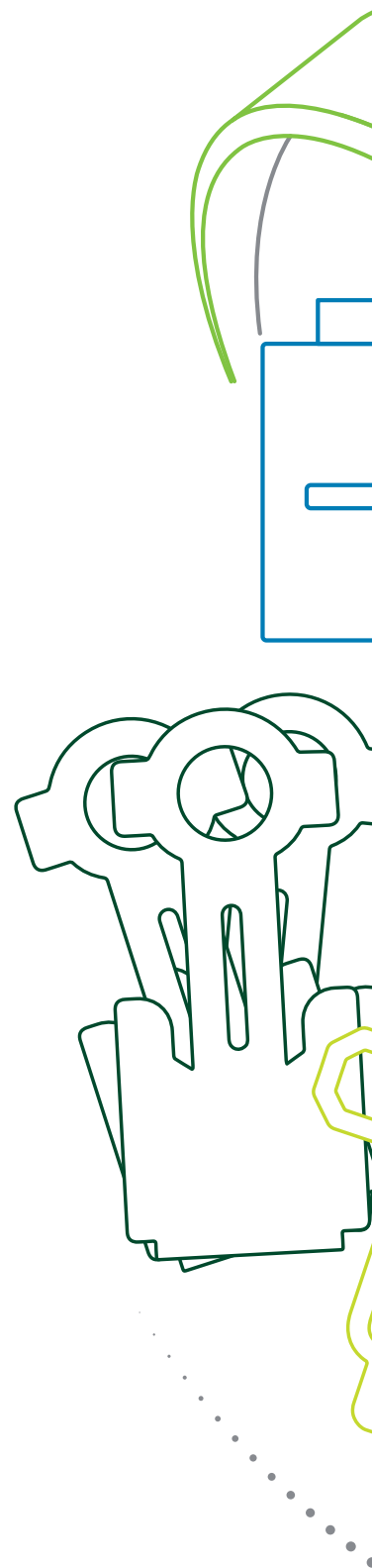
A detailed transformation strategy backed by different scenarios helps to convince financiers in uncertain times. However, since the success of transformation strategies cannot be predicted, classic bank financing is sometimes available only to a limited extent.

Despite the uncertainty in the market, alternative financing partners, e.g., private equity funds or debt funds, are showing increasing interest in the automotive supplier industry. They focus on above-average growth opportunities in new product areas, or high yields in turnaround case, are more willing to take risks, and can support suppliers during their transformation.

Profit pool development across component cluster markets

As demonstrated in our Component Cluster Deep Dives, we augmented the Deloitte AVC Industry Model with detailed financial simulation capabilities to support suppliers' decision-making in the current market situation. The basis for these simulations is a view of the overall market development and the related profitability across component clusters. In addition to volume development, we examined two other factors influencing profitability development:

- (1) the current financial performance of each component cluster (equals supplier markets) as an initial input and
- (2) future competitive intensity, which shapes future financial performance.



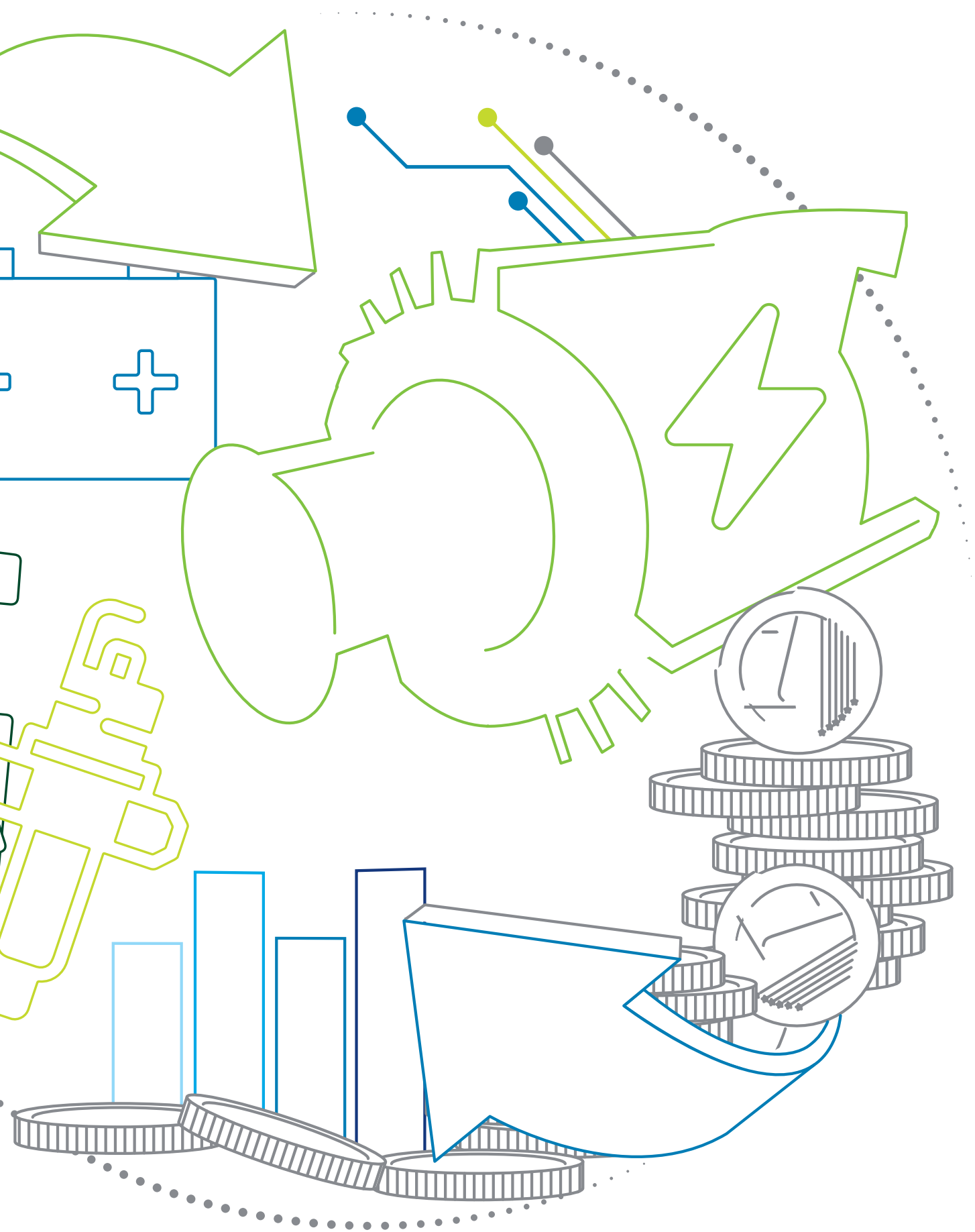
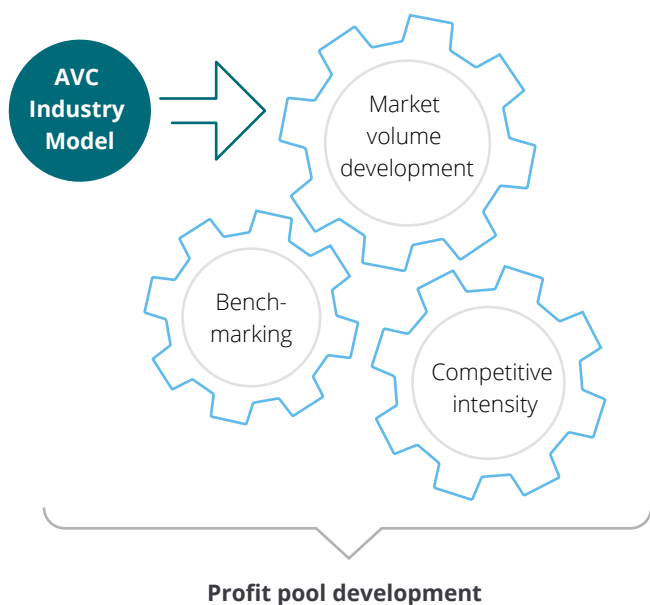


Fig. 45 – Market view

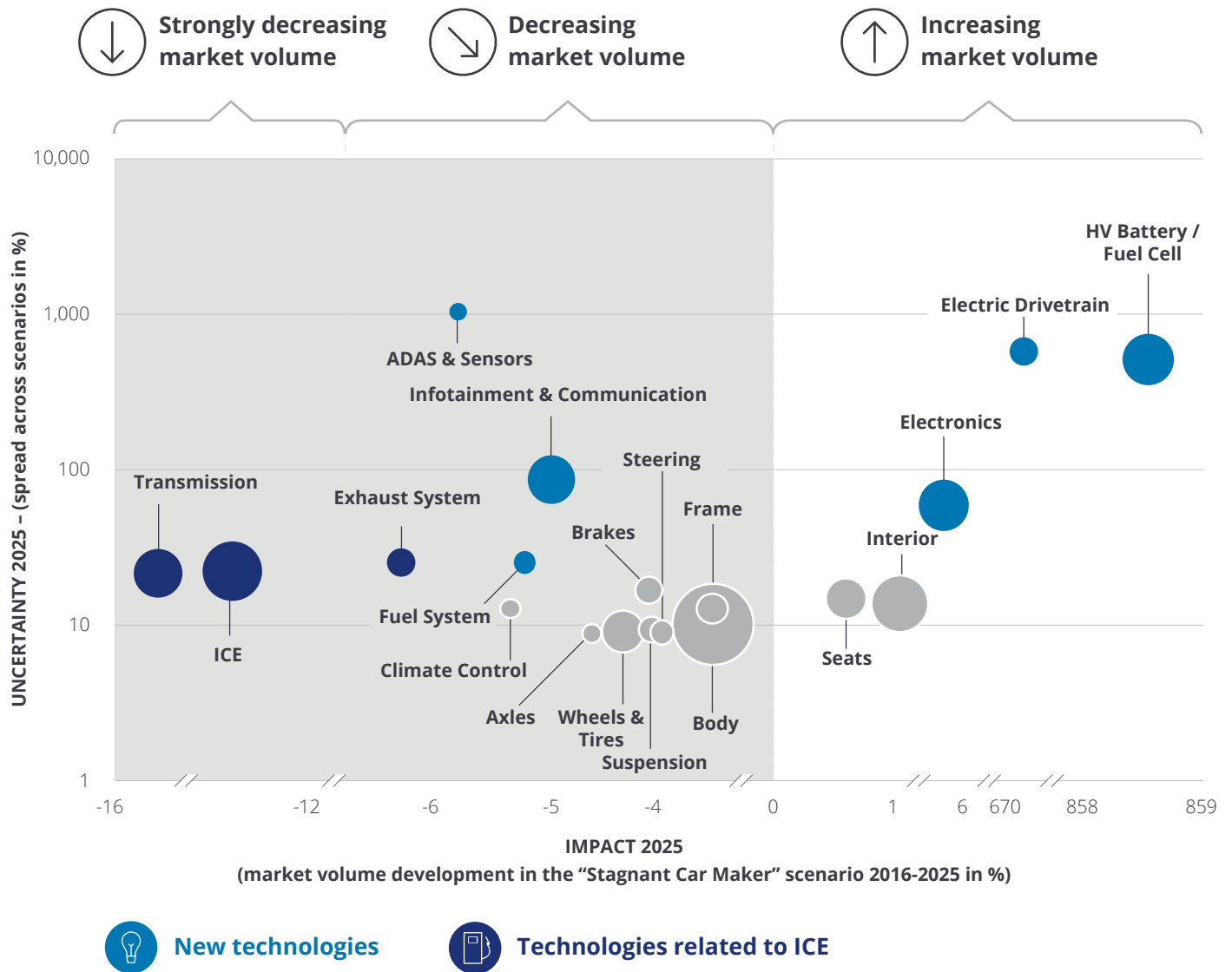


Market volume development

Market volume development is very diverse across component clusters. The following figure highlights the market volume development until 2025 for the moderate Stagnant Car Maker scenario. "Uncertainty" describes the average market volume spread within each vehicle component cluster related to the Stagnant Car Maker scenario. It is hardly surprising that a strong volume decrease is expected in the conventional powertrain component cluster (transmission, ICE). Conversely, a significant volume increase is projected for emerging

technologies related to E-mobility (e.g., HV battery, electric drivetrain). However, volumes cannot completely compensate for the loss in ICE-related component clusters. Other component clusters that are closely related to new technologies like autonomous driving (e.g., ADAS & Sensors) do not show a significant volume increase due to the selected moderate scenario in which these technologies do not materialize before 2025. In other market scenarios, this would be significantly different, as indicated by the high uncertainty value.

Fig. 46 – Market volume development (Stagnant Car Maker scenario)

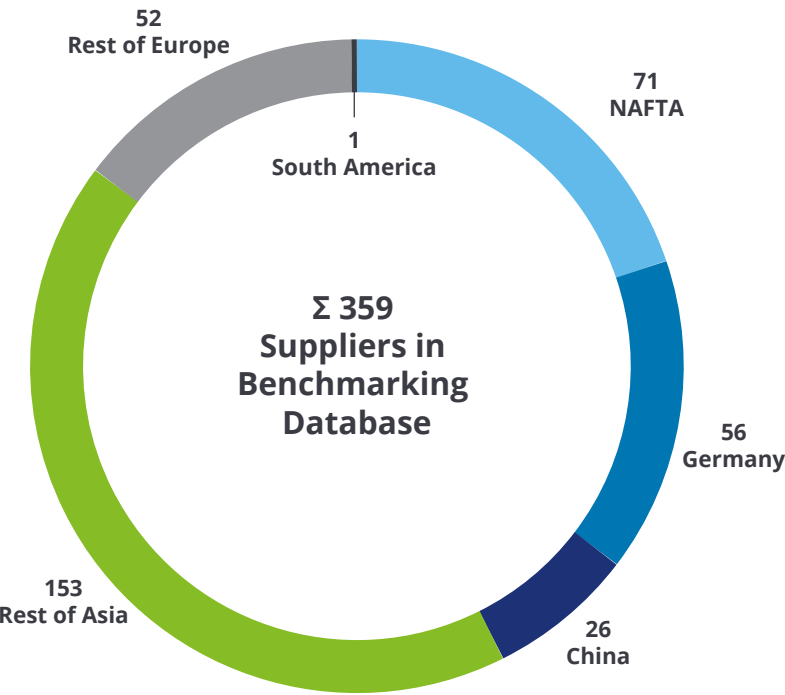


Source: Deloitte – The Future of the automotive value chain – Supplier Industry Outlook
 Bubble sizes indicate the market volume in 2025 (Germany, NAFTA, China); excluding inflation and after-market

Benchmarking

To assess the current financial performance in each component cluster, we conducted a benchmarking analysis across more than 450 automotive suppliers. Eliminating non-representative data sets, we identified a global selection of 359 suppliers.

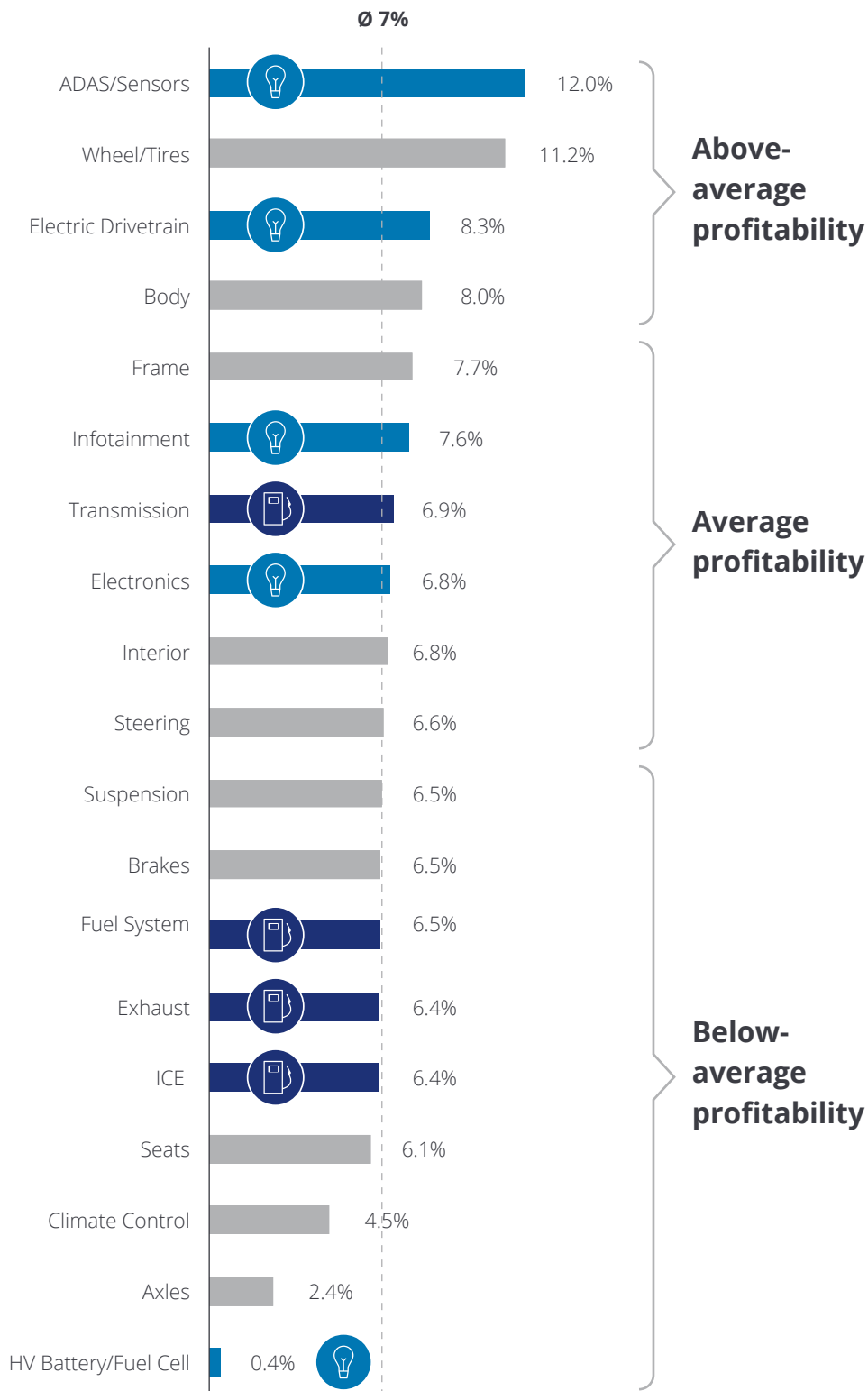
Fig. 47 – Benchmarking – Overview of suppliers by location of headquarters



Source: Deloitte Analysis

The final database includes 71 suppliers based in NAFTA, 56 in Germany and 26 in China. Headquarters of the remaining suppliers are spread across Asia and Europe. The selection captures the entire spectrum from smaller companies to large corporations with revenues ranging from EUR 8m to over EUR 30bn. The majority of the suppliers analyzed generated revenues of between EUR 1bn and EUR 5bn.

We classified the selection according to their product portfolio into the 19 component clusters and analyzed financial information that recently became publicly available. The current average EBIT margin of the component cluster is one, perhaps the most important, starting point for financial development in our model.

Fig. 48 – Benchmarking – Overview of average EBIT margins

New technologies



Technologies related to ICE

With an average EBIT margin of approx. 7%, profitability varies between the different component clusters. While more innovative areas tend to achieve average or above-average EBIT margins, traditional ICE-related areas seem to be under pressure already.

Variations in profitability among more innovative components are mainly driven by two characteristics: the state of the art and competitive pressure in the component cluster market. Further observations:

- R&D-intensive, highly innovative components, i.e., ADAS & Sensors and Electric Drivetrain: High differentiation potential while currently facing weak competitive pressure. Consequently, these companies can set their own prices and generate above-average margins. Until now, ADAS technologies have mainly been used in premium (and some medium) car segments where high margins can be achieved in general.
- Mature technologies like Electronics and Infotainment are becoming more and more commodified. Generally, low entry barriers attract competitors, leading to intense competition and average profitability. However, innovations or innovative concepts can still be a differentiating factor (e.g., the innovative MBUX control concept in the recently launched A-class) that may lead to above-average margins.
- Technologies that are in an earlier stage of development, such as HV Batteries / Fuel Cell, face tough competition with very low market volumes on the one hand and already comparatively high production capacities on the other. With overcapacity and very high R&D expenditures, only low margins can currently be achieved.

The spread in profitability between traditional component clusters related to ICEs is not as large as between more innovative components. Above all, ICEs and Exhaust, as well as Fuel Systems and Transmissions, are already under pressure due to the competitiveness of the market, high innovation costs in the past and the rise of electric vehicles.

The profitability of other traditional hardware component suppliers is either average or below. Only the manufacturers of wheels and tires can achieve comparatively good margins, as they benefit from a fairly high share of after-market sales with attractive margins.

Competitive intensity

While the benchmarking analysis represents the starting point for both supplier and current average profitability in the 19 component cluster markets, the assessment of competitive pressures determines expected future development. For each component cluster, we have analyzed the development of competitive intensity incorporating expert opinions, entry and exit barriers, and price and volume developments in the respective market.

A decrease in competitive intensity is expected in component clusters with high future relevance. This will be mainly driven by the increase in market volume. In the short and medium term, market entry barriers will provide protection from new competitors.

Traditional segments, by contrast, will likely face increasing competitive pressure as market volumes decline. Furthermore, the lower complexity of components/modules in some component clusters will lead to lower unit costs, despite stable volumes. Consequently, it will no longer be possible to cover fixed costs if volume expansion is impossible. Due to high exit barriers, this will first be reflected in lower margins and, second, will lead to market exits (consolidation). Only in the medium term, after the market exits have taken place, may the margin return to a normal or above-average level.

Tab. 1 – Deloitte view of the development of competitive intensity until 2025

	Hardware Platform Provider	Data and Mobility Manager	The Fallen Giant	Stagnant Car Maker
ICE, Transmission, Exhaust, Fuel System	↑	↑	↑	↗
Wheels, Steering, Frame, Brakes, Suspension, Axles, Body, Climate Control	↗	↗	↗	→
Interior, Seats	→	↗	→	→
Infotainment & Communications	→	↘	↑	→
Electronics	↘	↘	→	→
ADAS & Sensors	↓	↓	↓	↗
HV Battery, Fuel Cell, Electric Drivetrain	↓	↓	↓	↓

↑ Strong increase

↗ Increase

→ Stable

↘ Decrease

↓ Strong decrease

Profit pool development

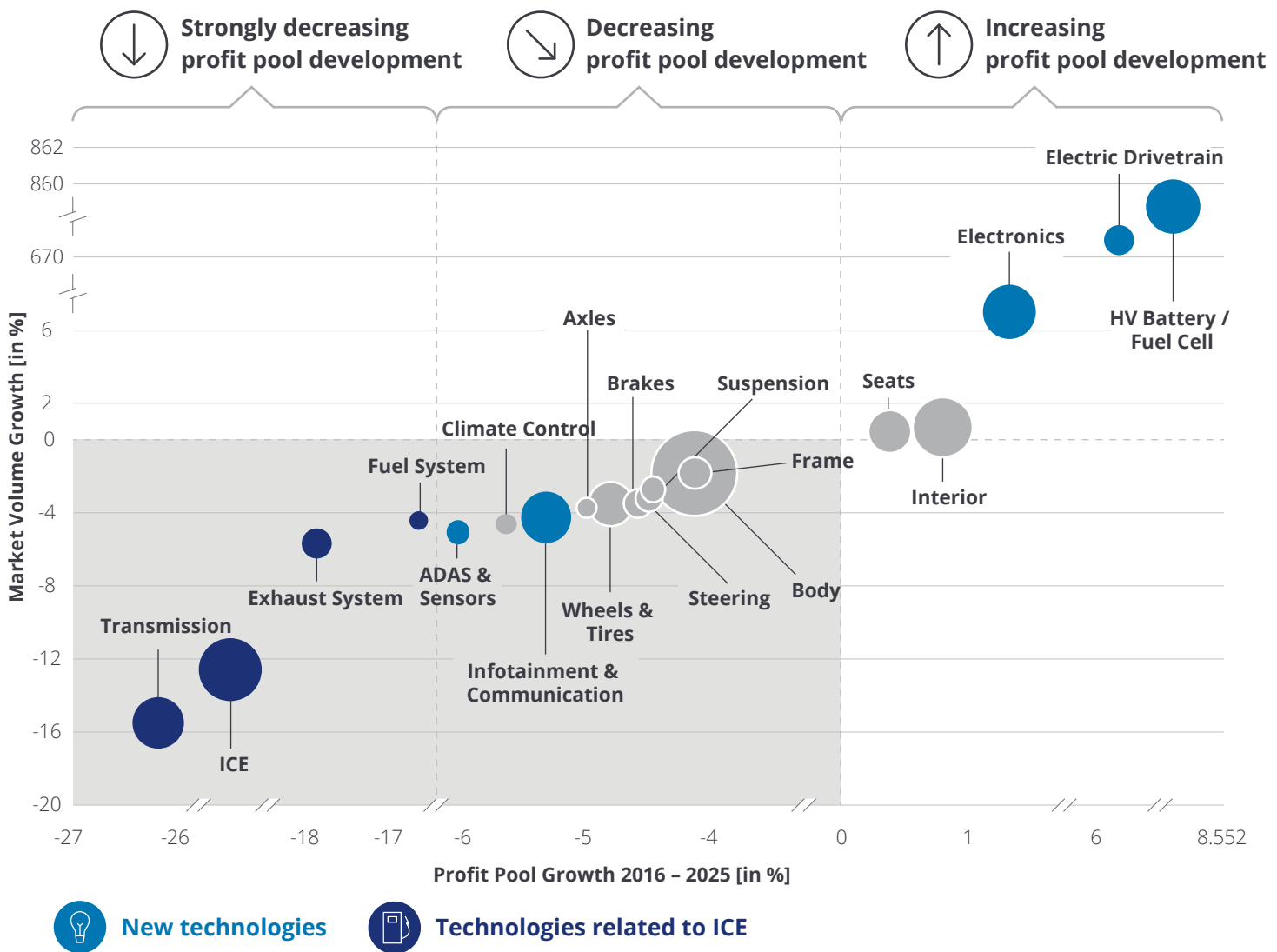
The resulting simulation of the profit pool development is illustrated in the chart below for our example market scenario, Stagnant Car Maker. It shows the two dimensions of market volume growth (based on the AVC Industry Model) and profit pool development for each component cluster in relation to each other. The bubble size indicates overall profit pool volumes in 2025. Please also note that all figures exclude inflation effects within the given period.

Component clusters related to the classic combustion engine vehicle, above all Transmission and ICE itself, will face the biggest challenges. Here consolidation will take place and market participants in a weak competitive position who are not able to transform their business model will be forced to exit the market. Vehicle modules related to electric drivetrain technologies will see increasing profit pools as market volumes are expected to rise significantly and competitive pressure is expected to

decrease, due to high barriers to market entry.

Even though the Stagnant Car Maker is a scenario with rather moderate development in automotive megatrends, the impact of volume changes and competitive pressure changes on component clusters and supplier markets, respectively, is obvious.

Fig. 49 – Profit pool development (Stagnant Car Maker scenario)



Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicate the profit pool size in 2025 (Germany, NAFTA, China); excluding inflation and after-market

**Strongly decreasing profit pools:**

The market outlook for conventional powertrain technologies is declining. The profit pool is expected to decrease at a faster pace than the market volume as sales losses heavily impact suppliers' organizational structure. Nonetheless, conventional powertrain clusters are still the largest profit pool contributors in absolute terms.

**Decreasing profit pools:**

The decrease in profit pools for these component clusters is predominantly linked to the expected decline in market volume. Profit pools are expected to decrease between ~0.5% and ~6%.

**Increasing profit pools:**

The expected volume increase in emerging powertrain technologies may (partially) compensate for the decline in conventional power train profit pools. The main drivers of the strongly increasing profit pools are improved plant utilization, improved operations, economies of scale and pure market volume growth. Despite the expected volume increase in Electronics, Interior and Seats profit pools will grow only slightly as margin pressure is expected due to price declines.

Prerequisites for surviving in declining component clusters

For some of the 19 component clusters, all four market scenarios show a decline in the market volume and profit pool by 2025. However, that does not mean that every supplier in this segment will be hit by this upcoming disruption to the same extent.

To what extent sharply declining markets threaten suppliers' business models depends on the competitive position of the suppliers and how dependent OEMs are on their suppliers in the medium and long term.

The dependence of OEMs on their suppliers has increased steadily in recent years. Regardless of the competitive position of the supplier, the OEMs' dependence on their suppliers is quite high in the short and medium term. Production downtimes at a supplier have an immediate impact on the supply chain of the OEM. Once long-term supply contracts have been awarded, suppliers can in most cases not be delisted until the end of series production due to the close operational interdependence between suppliers and OEMs. This can give a supplier with a poor competitive position time to plan and implement the transformation roadmap for their business.

In the long term, most suppliers can be replaced, but some suppliers in strong competitive positions may be indispensable to OEMs even in the long run. A strong competitive position and a high long-term dependence of the OEM are the best prerequisites for surviving in a declining market. These suppliers can decouple their revenue development from the overall market and actively push market consolidation or safeguard their current market position.

A strong competitive position gives suppliers the opportunity to become one of a small number of competitors in a declining component cluster. However, even these suppliers will eventually withdraw from a declining market for strategic reasons, although such exit planning is likely to be more long term and can be prepared accordingly. Furthermore, investments in alternative sustainable business models can be financed with cash flows from the declining component cluster.

Prerequisites for surviving in declining component clusters:

- **Cost leadership:** Every supplier needs to constantly strive for ongoing cost optimization in order to cope with increasing competitive pressure and survive in the declining market. In this context, the entire internal and external value chain must be reviewed for optimization and cost-saving potential on an ongoing basis. Examples of activities that each supplier needs to analyze are:
 - Collaboration and platform strategies
 - Location strategy review
 - Digitalization for cost leadership

These signature priorities are described in detail in our previous study, “The Future of the Automotive Value Chain – Supplier Industry Outlook 2025”.

- **Size matters – sufficient production capacities and financial strength:** OEMs are increasingly following platform or module strategies. As part of these strategies, identical parts are installed in all OEM vehicle segments (luxury, premium, medium, small and micro). The increasing share of common parts in the last years has led to an increase in the order quantities of identical components and thus to further bundling of purchasing volumes with selected suppliers. This effect is intensified by pursuing single sourcing strategies. Maintaining sufficient production capacities or the financial strength to extend production capacities is therefore crucial and increases the competitive position of the supplier. On the other hand, there is increasing pressure on suppliers to accept orders that do not cover all costs just to utilize the available production capacities – and there are already examples of this. By reducing the total number of orders to be awarded, the loss of an order weighs even more heavily, which intensifies price competition. Financial strength is therefore crucial.

- **International footprint:** As OEMs increasingly relocate production capacities to emerging markets, suppliers are confronted more and more with the question of whether they need to follow OEMs into the new growth markets. Suppliers who already have a global footprint or are in a position to invest in their international expansion can thus strengthen their competitive position, at least in the short term. An international footprint also protects the supplier against regional economic fluctuations.
- **Technology leader:** As more and more production and R&D expertise has been transferred to suppliers, the market position of the technology leaders among the suppliers has been strengthened in recent years. This trend will intensify even in some declining component clusters. Especially in the years of transition, were OEMs to need to invest into ICE and alternative powertrain technologies, for example, the technology leaders among the suppliers might be preferred. Their R&D expertise will be in high demand among OEMs in order to be able to offer end customers innovations even in component clusters with declining market volumes. The result may be increased outsourcing of parts of the added value. Technology leaders will be the winners.
- **Niche player:** The majority of suppliers cannot afford to expand production capacity, increase their international footprint or invest heavily in R&D for a broad product portfolio. However, if these suppliers identify a small segment in the overall declining market where market volume will remain stable or deteriorate only slowly, they might be able to temporarily decouple their revenue development from the overall market trend. Barriers to market entry and a strong competitive position (e.g., innovative products or exclusive customer relationships) are important for defending suppliers' advantageous market position against imitators who would otherwise enter the attractive niche. If the market volume also declines sharply in the niche market, a good competitive position is important to drive competitors out of the niche market.

Drivers of short-term OEM dependence on their suppliers:

- **JIT or JIS production:** Reduced stocks and the associated working capital optimization is both an advantage and a risk for OEMs. Any production downtime in the upstream stages of the value chain will inevitably directly impact the OEM's value chain. Furthermore, JIT or JIS production requires close integration between OEM and supplier, e.g., through integrated IT systems along the supply chain. The time required for reorganization is considerable and makes it difficult to switch to an alternative supplier. Due to the wide range of variants, it is almost impossible to build up a bank production to prevent production downtimes at the OEM.
- **Specialized production capacities:** Tools for making components are usually customized and project-specific. In addition, these tools may be the property of the supplier. Designing a new tool is time-consuming and will therefore lead to production downtimes at the OEM in the event of a delivery stop by the previous supplier.
- **Volume bundling:** Platform, module and single sourcing strategies lead to a high concentration of production volumes at specific suppliers. This makes it virtually impossible to change a supplier in the short or medium term.

Financing the transformation

As mentioned before, mastering the transformation requires significant financial strength. Investments must be made into growing profit pools. Decreasing profit pools must be wound down. Which sources of financing are available?

Traditional banks have a low risk appetite and fresh money will not be easy to collect if the future is uncertain. Given the high uncertainty in the market, especially bullet loans will only be granted in exceptional cases. The refinancing of already existing credit facilities might also be at risk, when market volumes and profit pools, especially in ICE related component cluster, are expected to diminish.

- **Lenders:** External financiers may finance the transformation, provided that a sound transformation plan can be presented and the supplier subsequently has a solid competitive position. In addition, suppliers whose order book covers the entire credit period have an advantage. Only in rare cases are external lenders willing to finance the wind-down of non-core businesses. This is where all eyes are on the company and its shareholders. A clear view of the timing and the financial requirements to wind down the business is essential so as to finance wind-down activities with cash flows from viable component clusters. Alternatively, business needs to be divested at the right time to maximize the purchase price.
- **IPO:** An IPO is one of the preferred options to collect 'fresh money' from investors to finance (above all) the company's expected growth. An IPO requires extensive preparation and thus a certain lead-time. Once again, a transformation plan and resilient growth opportunities

are basic prerequisites. As markets are volatile, the right time frame for an IPO is also crucial to its success.

- **Divestment of (future) non-core business:** An M&A process should be considered before the operating cash flows of the future non-core business become negative. Proceeds from the divestment can be used to subsidize the development of future profit pools. Especially in volatile times, a stable business strategy is required to convince prospective investors of the business up for sale. It is crucial to show how the business model is exposed to the development of automotive mega-trends and how the supplier plans to participate in the respective growth areas. Therefore, a transformation strategy, backed by different scenarios, is essential.
- **OEM support:** Given the short-term dependence on suppliers (see page 83), OEMs might be willing to temporarily grant restructuring contributions to ensure that the supply chain is not interrupted. Examples of restructuring contributions are reduction of payment terms or advance payments, early settlement of development or tool costs, material provision or granting of loans. However, OEMs will not finance a transformation. The support is only granted in very exceptional cases in order to bridge liquidity shortages and to prevent production losses which might occur if the supplier becomes insolvent.





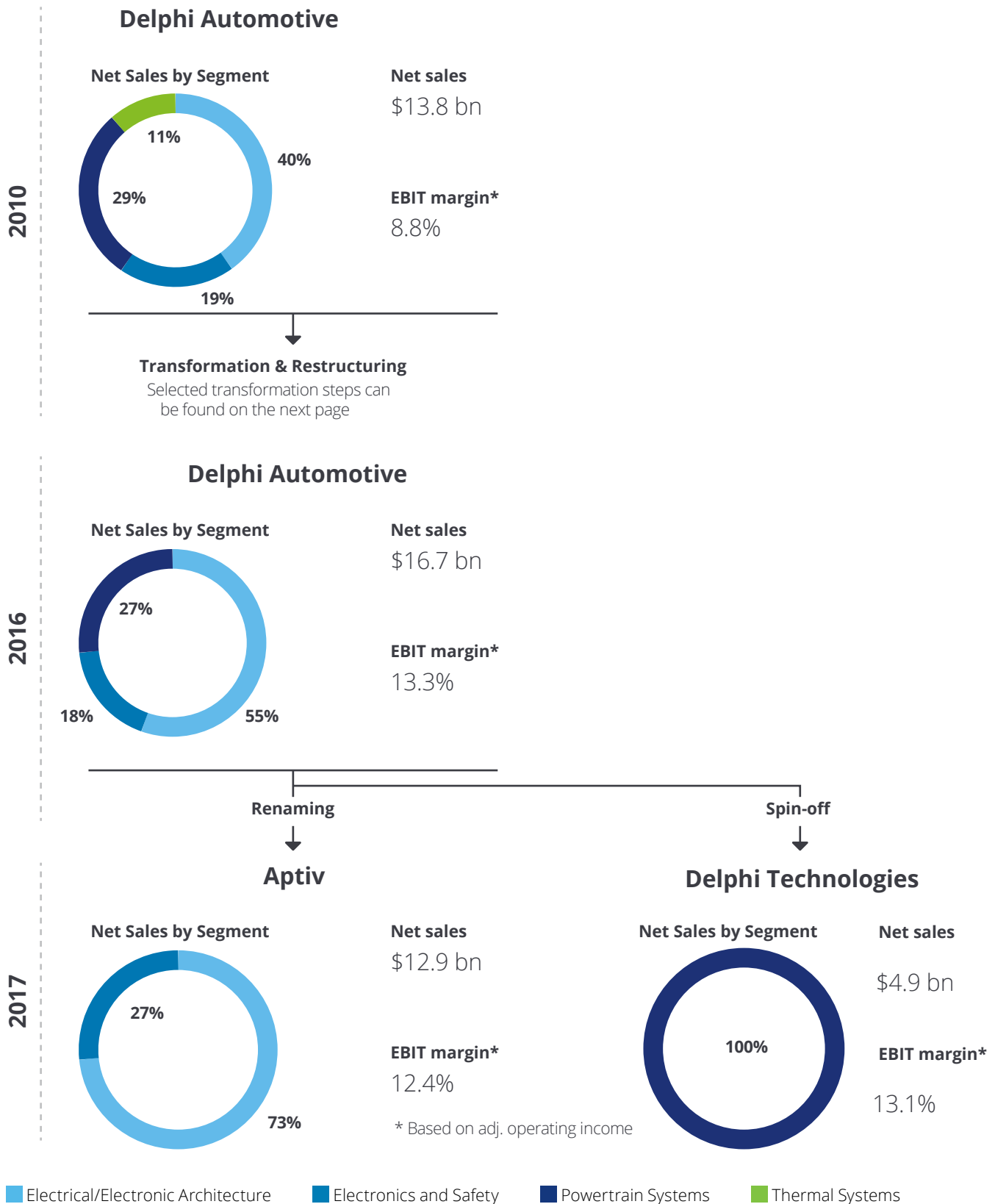
Case study:

The transformation is already ongoing

Suppliers have already recognized the need for transformation, and some have taken comprehensive action to position their business sustainably. One example is Delphi Automotive: Since recovering from insolvency, Delphi has continuously updated its product portfolio. Areas that do not fit identified future trends have consistently been reduced or divested entirely. In late 2017, the company spun off its entire powertrain business to focus its distinct product portfolios and gain flexibility. In addition to its reduction and disinvestment efforts, Delphi has invested in areas in which it sees potential. Combined with an ongoing restructuring program to refine its cost structure and optimize its manufacturing footprint, Delphi's transformation efforts are having a visible effect on its product portfolio and margin development.

The transformation steps listed are only a sample of the steps actually being performed. However, it is obvious that sustainable transformation requires a large number of decisions, some of them radical. Commitment and dedication on top of the day-to-day business are necessary to master this challenge.

Fig. 50 – The transformation of Delphi Automotive



Source: Company website, Deloitte Analysis

Tab. 2 – Transformation steps at Delphi Automotive

Date	Seller/Buyer	Segment
Acquisitions		
Oct. 2012	FCI Group (motorized vehicles division)	Electrical/ Electronic Architecture
Oct. 2014	Unwired Technology	Electrical/ Electronic Architecture
Oct. 2014	Antaya Technologies	Electrical/ Electronic Architecture
July 2015	Ottomatika	Electronics & Safety
Nov. 2015	Control-Tec	Electronics & Safety
Dec. 2015	HellermannTyton Group	Electrical/ Electronic Architecture
Mar. 2016	PureDepth	Electronics & Safety
Jan. 2017	Movimento	Electronics & Safety
Nov. 2017	Nutonomy	Electronics & Safety
Divestitures		
Apr. 2015	Exit (Argentina business)	Electrical/ Electronic Architecture
June 2015	Mahle GmbH	Thermal Systems
July 2015	Northeast Industries Group	Electronics & Safety
Dec. 2016	n/a (mechatronic business)	Electronics & Safety
Dec. 2017	Spin-off Delphi Technologies	Powertrain
Joint Ventures		
Jan. 2017	AT&T, Ford	Electronics & Safety
Apr. 2017	Rosenberger	Electrical/ Electronic Architecture
May. 2017	BMW, Intel & Mobileye	Electronics & Safety
Oct. 2017	AutoNavi	Electronics & Safety
Investments		
Q1 2017	Otonomo Technologies	Electronics & Safety
Q2 2017	Valens Semiconductor	Electrical/ Electronic Architecture
Q3 2017	Innoviz Technologies	Electronics & Safety
Q3 2017	LeddarTech	Electronics & Safety

● Electrical/ Electronic Architecture
 ● Electronics & Safety
 ● Powertrain
 ● Thermal Systems

“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don't let yourself be lulled into inaction.”

(Bill Gates, 1996).

The transformation is already ongoing and the speed of change is increasing. A clear strategic direction and willingness to make profound changes are the basis for mastering the transformation.

Conclusion

What lies ahead? The transformation of an entire industry

The four automotive megatrends – e-mobility, connectivity, autonomous driving, and car sharing – will have a fundamental impact on the industry. As a result, the entire automotive value chain faces radical changes and automotive suppliers must prepare for these.

It is therefore not surprising that consolidation for automotive suppliers has already started and is picking up speed. Many companies, especially large tier 1 suppliers, have completed or at least started transforming their businesses to prepare for the future, often by grouping products that may become obsolete in separate units and by forming new units at the same time. These new units, often created through strategic carve-outs, partnerships or acquisitions, then cover future technology areas such as electro, batteries, or infotainment.

It comes as no surprise that this transformation requires substantial financial resources. Due to the considerable uncertainty in the market, access to conventional bank financing is limited, however. Instead, alternative forms of funding such as divestiture of non-core business, initial public offerings (IPO) or capital increases need to be considered. To access these capital pools and to convince multiple stakeholders, a robust and sound transformation strategy is a critical success factor. This is without doubt a very challenging task for most suppliers, as it requires a profound analysis of the current situation and strategy definition in a situation where the direction and speed of change is unclear and hard to predict.

To master this transformation, we identified four key areas that need careful consideration

- **Strategic vision:** A clear strategic vision that builds on future-oriented profit pools while at the same time addressing a strategy for component clusters with declining relevance is essential for a successful transformation.
- **Targeted restructuring:** Commitment to a necessary and comprehensive reorientation is a key prerequisite. Only focused and decisive actions will ensure that suppliers can actively shape their future.
- **Scenario-based thinking:** Scenario-based thinking is a valuable method for managing decisions in situations with high levels of uncertainty. Different scenarios need to be evaluated to understand transformation options and anticipate their impact. These options then need to be translated into financial effects for the right decision to be made.
- **Clear transformation concept:** A detailed transformation roadmap, validated against various market scenarios for handling uncertainty along the time scale, is crucial to build trust and win over stakeholders.

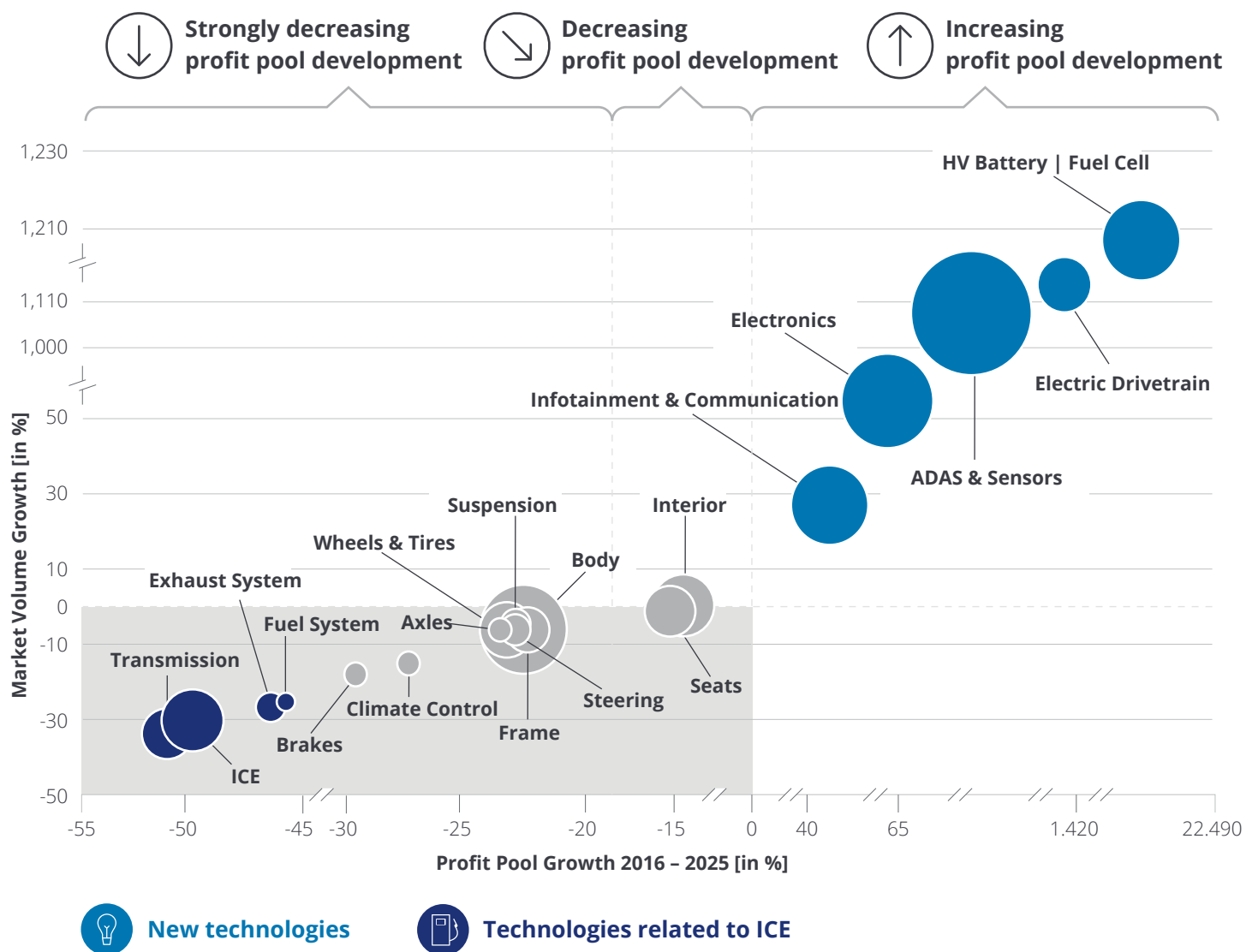
Our Deloitte Supplier Financial Transformation Model will help address these four areas. It makes essential decision criteria tangible and quantifies the financial effects of each option. Individual suppliers and the specific market conditions can be incorporated covering the following key elements:

Automotive suppliers need to start acting now - while there is still sufficient room to maneuver. The Deloitte Supplier Financial Transformation Model puts them in the driver seat to evaluate their options and make the right decisions!

- **Market view:** Market forecasts for 19 component clusters based on our Deloitte automotive value chain (AVC) Industry Model, with calculations based on predefined or specifically developed market scenarios. The forecasts for each cluster include volume and profit pool developments in selected markets. A component cluster-specific profitability benchmark of more than 450 automotive suppliers and key decision data for M&A and financing options are also included. Supplier view: Models expected earnings and liquidity developments (base case) within individual component clusters or combinations thereof, and thus the potential transformation requirements for supplier segments or individual suppliers.
- **Supplier view:** Our model addresses the specific supplier situation including its individual component clusters.
- **Transformational strategies:** Different strategic transformation options and their financial effects for earnings and liquidity are made visible for decisive decision-making – including M&A scenarios and integrated company valuations, liquidity requirements for wind-down scenarios and cost improvement programs.

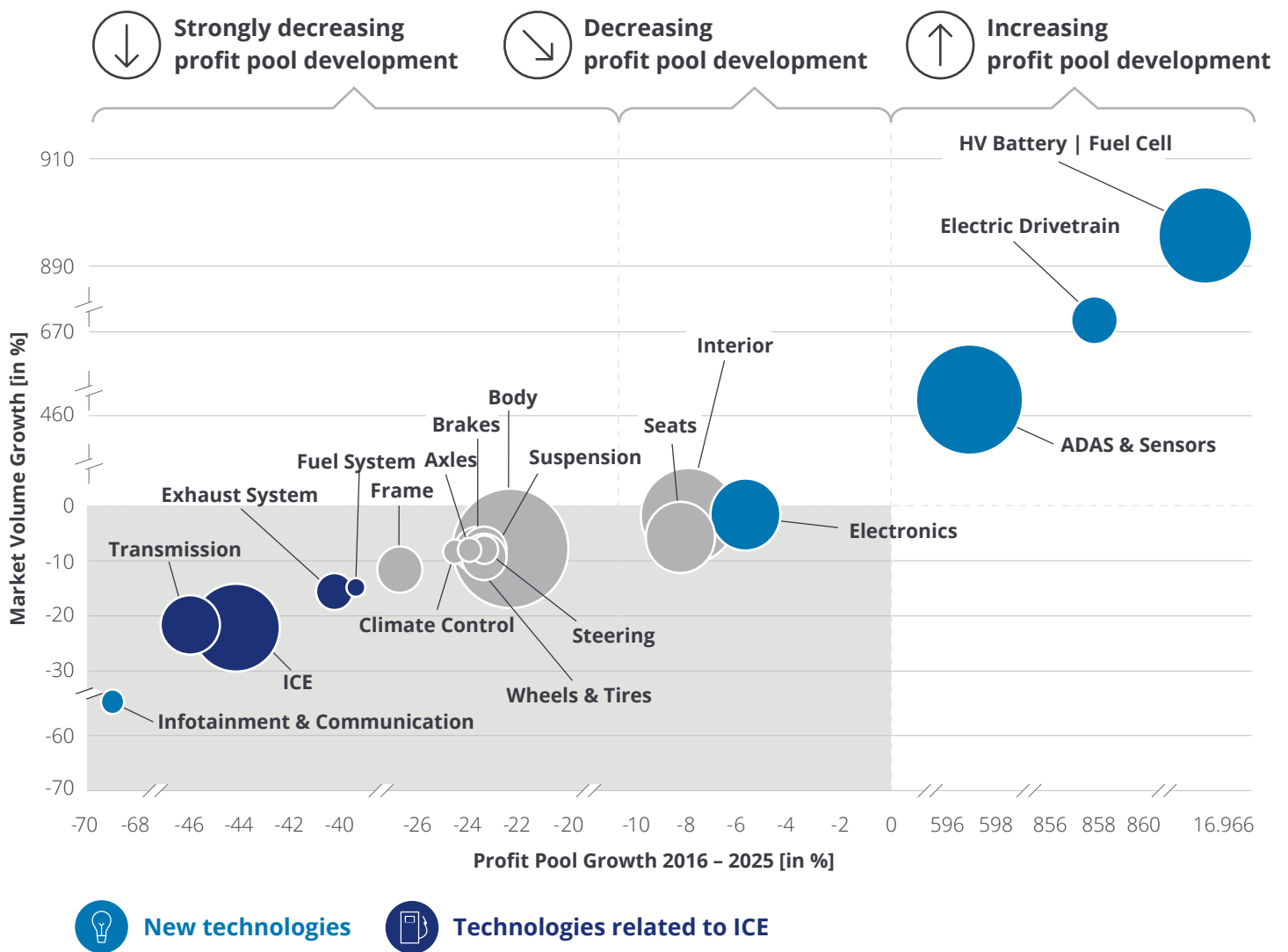
Appendix

Fig. 51 – Profit pool development of component clusters (Data Mobility Manager)



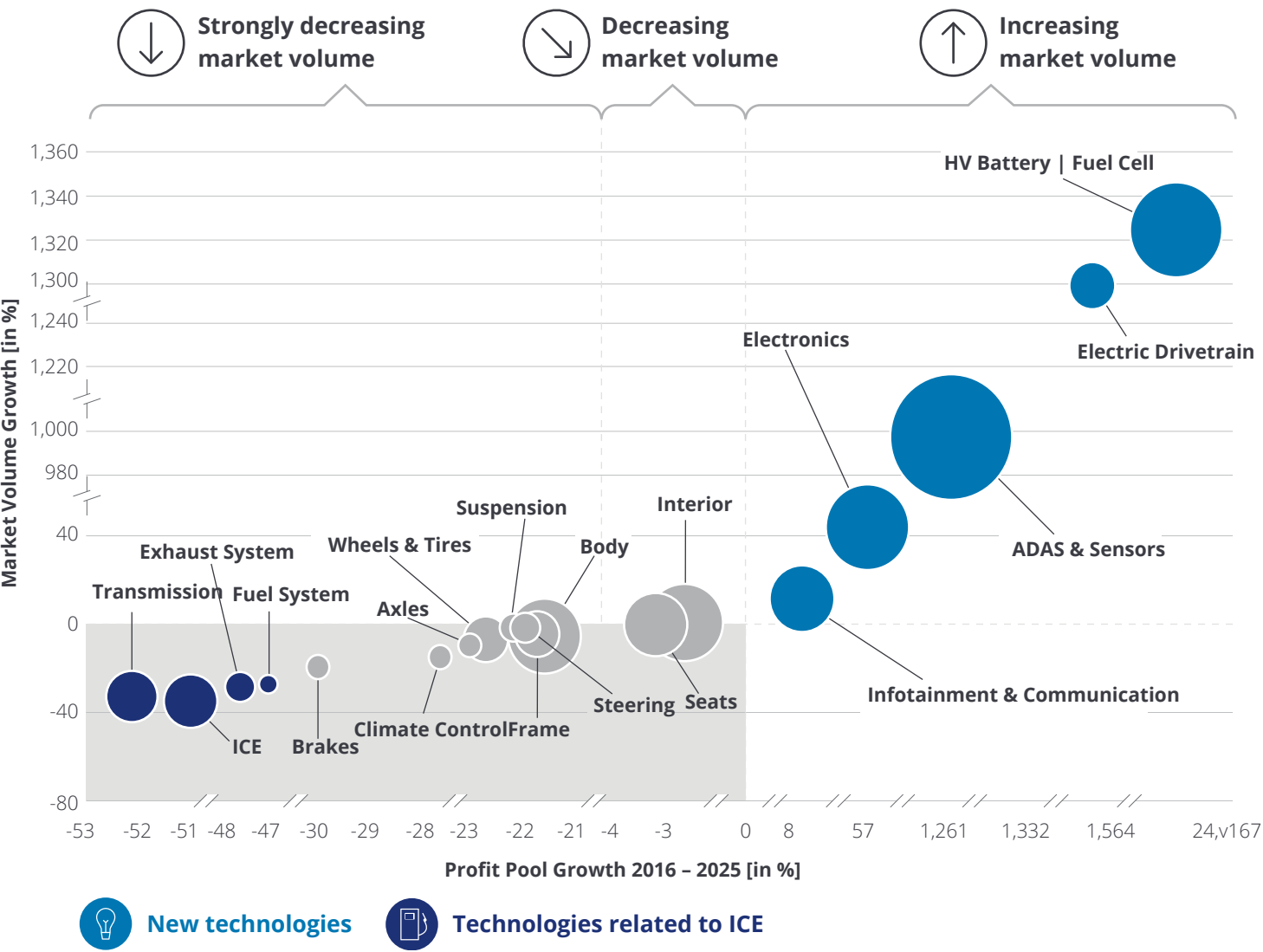
Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicates overall profit pools volume 2025 (Germany, NAFTA, China); excluding inflation and after-market

Fig. 52 – Profit pool development of component clusters (The Fallen Giant)



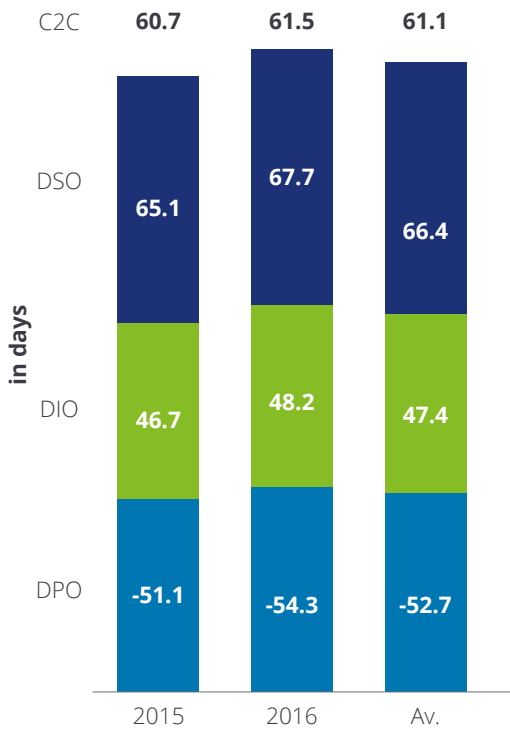
Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicates overall profit pools volume 2025 (Germany, NAFTA, China); excluding inflation and after-market

Fig. 53 – Profit pool development of component clusters (Hardware Platform Provider)



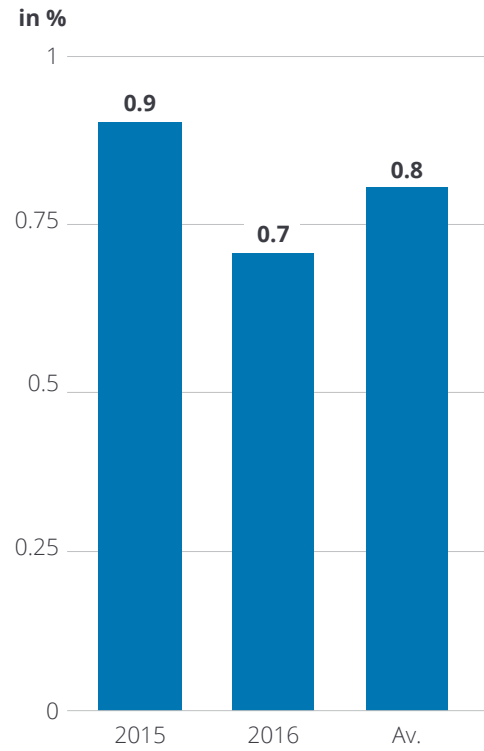
Source: Deloitte Supplier Financial Transformation Model
Bubble sizes indicates overall profit pools volume 2025 (Germany, NAFTA, China); excluding inflation and after-market

Fig. 54 – Benchmarking – Working capital ratios



Source: Deloitte Analysis

Fig. 55 – Benchmarking – Leverage ratio development



Source: Deloitte Analysis

Contact



Andreas Warner

Partner
Restructuring Services
Tel: +49 (0)89 29036 8022
anwarner@deloitte.de



Dr. Harald Proff

Partner
Strategy & Operations
Tel: +49 (0)211 8772 3184
hproff@deloitte.de



Daniel Montanus

Director
Restructuring Services
Tel: +49 (0)69 75695 7155
dmontanus@deloitte.de



Philipp Obenland

Director
Strategy & Operations
Tel: +49 (0)89 29036 7822
pobenland@deloitte.de

Special thanks to Jonas Goltz, Marion Banz, Jakob Herold, Gunnar Ukena



This communication contains general information only not suitable for addressing the particular circumstances of any individual case and is not intended to be used as a basis for commercial decisions or decisions of any other kind. None of Deloitte GmbH Wirtschaftsprüfungsgesellschaft or Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively, the "Deloitte network") is, by means of this communication, rendering professional advice or services. No entity in the Deloitte network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. Please see www.deloitte.com/de/UeberUns for a more detailed description of DTTL and its member firms.

Deloitte provides audit, risk advisory, tax, financial advisory and consulting services to public and private clients spanning multiple industries; legal advisory services in Germany are provided by Deloitte Legal. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's approximately 286,000 professionals are committed to making an impact that matters.