Auto Meets Tech: Analysis of the proposed acquisition of Infineon by Mercedes-Benz

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Dissertation submitted in partial fulfilment of requirements for the MSc in Finance, at the Universidade Católica Portuguesa, 12/09/2023.

Abstract

This dissertation addresses the potential 100% acquistion of Infineon Technologies AG by Mercedes-Benz Group AG. Mercedes-Benz Group AG, one of the most important car manufacturers in the world, seeks to pioneer the direction of technological leadership in the field of electromobility through the acquisition of Infineon Technologies AG, the largest European semiconductor manufacturer, as well as protect itself against semiconductor supply bottlenecks. In this dissertation, enforceability of the potential transaction, theoretical and practical sense, potential synergies, the joint enterprise value and the potential purchase price are examined and analysed.

The analysis leads to the conclusion that, after reviewing the identified risks, a transaction should be carried out. The transaction will result in a combined company value of €256.0 billion with the total synergies, deducting transaction and integration costs amounting to €21.4 billion. The acquisition price of €54.5 billion is based on an assumed acquisition premium of 30% on the current share price (17/08/2023), which will incentivize Infineon's investors to sell while simultaneously increasing shareholder value for Mercedes-Benz. The increase in shareholder value amounts to 12.3%. The transaction process should be collaborative and completed with a cash payment.

Keywords: Automotive, Semiconductor, Acquisition, Analysis, Valuation, Synergies

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Abstrato

A presente dissertação trata da potencial aquisição a 100% da Infineon Technologies AG pelo Mercedes-Benz Group AG. O Mercedes-Benz Group AG, um dos mais importantes fabricantes de automóveis do mundo, gostaria de colocar um ponto de exclamação na direção da liderança tecnológica no domínio da electromobilidade através da aquisição da Infineon Technologies AG, o maior fabricante europeu de semicondutores, bem como de se proteger contra estrangulamentos no fornecimento de semicondutores. Nesta dissertação, a aplicabilidade, o sentido teórico e prático, as sinergias potenciais, o valor da empresa comum e o preço de compra potencial são examinados e analisados.

A análise resultante leva à conclusão de que, após a revisão dos riscos identificados, uma transação deve ser implementada. O resultado é um valor conjunto da empresa de 256,0 mil milhões de euros, com um total de sinergias de 21,4 mil milhões de euros, deduzidos os custos de transação e de integração da operação. O preço de aquisição de 54,5 mil milhões de euros baseia-se num prémio de aquisição presumido de 30 % sobre o preço atual das acções (17/08/2023), o que incentivará os investidores da Infineon a vender, aumentando simultaneamente o valor para os accionistas da Mercedes-Benz. O aumento do valor para os accionistas ascende a 12.3%. O processo de transação deverá ser colaborativo e concluído com um pagamento em dinheiro.

Palavras-chave: Automóvel, Semicondutores, Aquisição, Análise, Avaliação, Sinergias

Título: Auto Meets Tech: Análise da proposta de aquisição da Infineon pela Mercedes-Benz

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Acknowledgements

I would like to begin by expressing my strong appreciation for my thesis advisor, António Borges de Assunção, who guided my research with his excellent expertise in the field of mergers and acquisitions. His readiness and eagerness to assist supported me in the successful submission of this thesis. I am really grateful for his strong effort.

I also want to thank my family, who made this unforgettable study stay in Lisbon possible. During these two years, I was able to form many friendships for life with people from all over the world.

I am also thankful to the Católica Lisbon School of Business and Economics, who made this experience so enjoyable and were always available to answer my questions. Overall, the Master of Science in Finance programme at the Católica Lisbon School of Business and Economics was an exceptional experience that will have a substantial impact on my career, and I will always remember it in a positive light. I can thoroughly recommend this programme to everyone.

Table of Contents

List of Figures

List of Tables

1 Introduction

The automotive industry is in a period of transition. Driven by the ongoing efforts to combat global warming, the shift to sustainable automotive powertrains has become one of the industry's main challenges. Consequently, several new competitors have challenged traditional manufacturers in recent years, especially companies such as Tesla, which presents itself as a car manufacturer but also a technology company. Additionally, the potential market entry of other big technological companies such as Apple threatens the market share of established car manufacturers (Bloomberg, 2021). In addition to this development, supply chain problems and trade wars have hampered the overall performance of car manufacturers. Particularly, the lack of availability of semiconductors has restricted the exploitation of all resources. This issue is concerning for both the European Union and the relevant European car manufacturers.

In the supervisory board meeting of Mercedes-Benz Group AG on 01/07/2023, the board discussed potential strategic investments to address the aforementioned developments at the structural level for the group. The proposal of a 100% acquisition of the Infineon Technologies AG shares by Mercedes-Benz Group AG has been very well received. However, first, the potential transaction must be analysed in terms of feasibility, practicality and theoretical background, and an appropriate purchase price and total enterprise value needs to be allocated. The analyses are realised in this dissertation, which is structured into four main parts and divided into a total of ten chapters.

After the introduction, the dissertation continues with a literature review, which presents essential knowledge on valuation techniques and mergers and acquisitions (M&A) drivers. Subsequently, an industry-level analysis is conducted to provide relevant information about the respective industries and companies. The third part of the thesis focuses on the valuation of the transaction, which is carried out using the explained valuation methods. The valuation part of the thesis is divided as follows:

1. Separate assessments of Mercedes-Benz and Infineon

2. Quantification of potential synergies as well as transaction and integration costs

3. Aggregation of the values calculated to attain a combined company value

In the conclusion part, the results are summarised, and the potential Infineon Technologies acquisition is evaluated from both strategic and financial perspectives, leading to a final recommendation regarding the acquisition price and implementation.

2 Literature review

2.1 Mergers & Acquisitions (M&A)

2.1.1 Definition & drivers of M&A

Definition

Mergers and acquisitions can be distinguished from each other. A merger occurs when a corporation is combined with another corporation, causing both to cease to existing as separate entities. In contrast, an acquisition refers to a transfer of ownership, where one company obtains a controlling interest in another (Reed, Lajoux & Nesvold, 2007).

Drivers

The occurrence of mergers and acquisitions (M&A) transactions has significantly increased worldwide in recent years. The global M&A transaction volume has grown from $2,668 trillion in 2011 to $5,218 trillion in 2021 (Statista, 2023b). Several drivers led to this rise, and this development raises the question of the critical rationales behind it.

Ali-Yrkkö, 2002 distinguished the drivers and motives for M&A transactions into two groups:

1. Firm-level motives for M&As
2. Macro-level causes for M&As

Firm-level motives

All M&A transactions are driven by the economic performance motive, which states that, after the transaction, the value of the combined company becomes greater than that of the individual companies before the transaction (Ali-Yrkkö, 2002). This general hypothesis can be divided into examples and use cases, which illustrate the drivers for M&A transactions in more detail.

Cost reductions are one of the main driving forces for M&A transactions, as such a transaction can lead to a variety of cost improvements in the operations of a firm. Potential cost reductions can be achieved, for example, through production advantages, such as vertical integration and low communication costs, as well as reduced negotiation costs (Arrow, 1975; Williamson, 1975, Anon, 1980; Porter, 1980).

Another incentive for mergers or acquisitions is achieving more significant market power. Economies of scale enable the newly formed company to increase its market share and, thus, prevent the entry of new competitors (Stigler, 1950).

Managerial motives also often constitute the background for transactions, which refer to the personal profit maximisation of the manager, which an M&A transaction may promote. However, the private profit of the manager is not always synonymous with the company's profit (Jensen, 1986).

Other incentives, which are the intended effects of M&A transactions, are the preservation of resources, corporate control and speculative motives (Jensen, 1988; Gort, 1969; Porter, 1980). The aspect of resource expansion has particularly been examined in further studies, especially by Kaplan, 2000, who stated that technological advancement is one of the main reasons for many M&A transactions.

All in all, many of these reasons can be attributed to synergy effects, cited in comparable recent studies as the main reason for M&A in practice (Nathan & O'Keefe, 1989; Betton, Eckbo & Thorburn, 2008). Synergies are described in more detail in Chapter 2.1.

Macro-level causes

Observing M&A transaction volumes clarifies that these transactions occur in waves (Holmström & Kaplan, 2001; Black, 2000). However, it is important to determine what the macroeconomic reasons for this are.

Generally speaking, changes in the economic environment are considered to be responsible for the emergence of merger waves, as merger waves go hand in hand with business cycles and positively correlate with stock market prices (Mueller, 1989; Nelson, 1959).

However, more recent research indicates that this is not a sufficient explanation for the occurrence of merger waves and that technology milestones, in particular, also have a significant impact on M&A (Weston & Chung, 1997). Moreover, political changes, for instance, freedom agreements and financial regulation, are significant change factors for merger waves (Ali-Yrkkö, 2002).

2.1.2 Synergies

"Synergy is the additional value generated by combining two firms, creating opportunities that would not be available to these firms operating independently" (Damodaran, 2005a). As noted in Chapter 2.1.1, synergies are essential for M&A transactions as they are one of the drivers for the occurrence of a transaction and are recognised as one of the justifications for many acquisitions and strategic investments in general.

Synergies can be distinguished into two types: operating synergies and financial synergies.

Operating synergies

Generally, operating synergies affect operations throughout the merged or combined cooperation. They lead to operational improvements, which result in increased operating income from existing assets. Furthermore, Damodaran, 2005a divides operating synergies into four types:

1. Economies of scale

2. Greater pricing power

3. Combination of different functional strengths

4. Higher growth in new and existing markets

Financial synergies

Financial synergies result in higher cash flows or a lower cost of capital and do not affect operating income. They typically translate into tax benefits, a higher debt capacity, diversification and uses for excess cash.

The author described a three-step model to value synergies:

1. Value of the firms involved in the transaction independently
2. Value of the combined firm with no synergy
3. Value of the combined firm with synergy

To attain the value of synergy for the combined firm, step 3 is subtracted from step 2 (Damodaran, 2005a).

2.1.3 Value creation and success factors

On considering theoretical approaches as well as value-increasing and value-decreasing incentives, the question of how worthwhile an M&A transaction is in practice arises. As mentioned previously, M&A transactions seek to improve economic performance. However, perspectives on the actual value-generating effects of transactions differ. Sirower & Sahni, 2006 even concluded that shareholders of the buying company often lose value. Bruner, 2004 also stated that the generally widespread "fashionable" view on whether M&A positively or negatively affects shareholder returns tends to be negative. In his paper, the author examined over 100 studies and the resulting shareholder returns and found that the observed results exhibit significant variability within individual studies and across multiple investigations. Despite this dispersion in findings, Bruner, 2004 concluded that M&A transactions tend to result in positive outcomes for the parties involved. However, as each transaction is unique, reaching a clear consensus on the issue is tricky.

The author added that the success of M&A transactions depends heavily on the "local" circumstances that determine the success of a transaction. The author identified four local conditions that play a role in a transaction's outcome:

1. Strategy
2. Deal design
3. Investment opportunity and its market
4. Governance

Additionally, the author identified determinants that are most likely to positively and negatively influence returns (Bruner, 2004). These success factors can be seen in the following figure:

Exhibit 1

Where M&A Pays and Where It Strays: Adjusted Returns to Buyers by "Neighborhood"

Returns to buyers likely will be higher:	Returns to buyers likely will be lower:
1. Strategic motivation	1. Opportunistic motivation
2. Value acquiring	2. Momentum growth/glamour acquiring
3. Focused/related acquiring	3. Lack of focus/unrelated diversification
4. Credible synergies	4. Incredible synergies
5. To use excess cash profitably	5. Just to use excess cash
6. Negotiated purchases of private firms	6. Auctions of public firms
7. Cross borders for special advantage	7. Cross borders naively
8. Go hostile	8. Negotiate with resistant target
9. Buy during cold M&A markets	9. Buy during hot M&A markets
10. Pay with cash	10. Pay with stock
11. High tax benefits to buyer	11. Low tax benefits to buyer
12. Finance with debt judiciously	12. Over-lever
13. Stage the payments (earnouts)	13. Pay fully up-front
14. Mergers of equals	14. Not a merger of equals
15. Managers have significant stake	15. Managers have low or no stake
16. Shareholder-oriented management	16. Entrenched management
17. Active investors	17. Passive investors
18. Big good deals	18. Big bad deals

Figure 1. Where M&A pays and where it strays: Adjusted returns to Buyers by "Neighborhood"

2.1.4 Types of M&A transactions and methods of payment

A distinction is made between the different types of M&A resulting from the various motives of value generation from M&A.

Gaughan, 2005 classified mergers into three categories:

1. Horizontal (combining competitors in the same industry)
2. Vertical (integrating companies at different stages of the supply chain)
3. Conglomerate (combining companies with different business activities)

In the case of an acquisition, the buyer can use one of several methods of payment, including cash, stock, debt assets or a financing unit consisting of several of the aforementioned. By deciding on the method of payment, the acquirer can adjust the target capital structure of the subsequent combined entity as well as its own liquidity (DePamphilis, 2014).

2.2 Valuation methodologies

2.2.1 Absolute valuation methodologies

Both asset-based valuation and discounted cash flow (DCF) valuation are widely recognised absolute valuation approaches. In the context of Mercedes-Benz's acquisition of Infineon, DCF methodology will be highlighted due to its higher theoretical and practical relevance for M&A transactions in general and the type of transaction proposed, which will be explained later in the thesis.

Discounted Cash Flow valuation

Examining the basis of the DCF valuation methodology, Luehrman, 1997 stated that a DCF comprises the current and future value of a company. The basic relationship is explained in the following illustration.

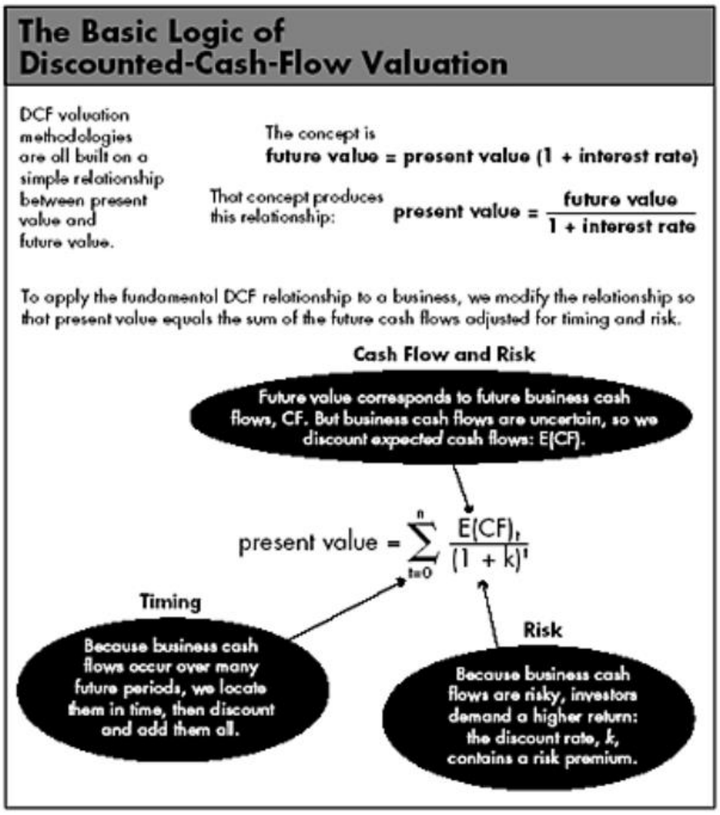


Figure 2. The basic logic of discounted cash flow valuation

It can thus be inferred that the current value of a company equals the summed future cash flows, adjusted for timing and risk (discount rate).

The DCF valuation method can be divided into two types. The weighted average cost of capital (WACC)-based DCF method and the adjusted present value (APV)-based DCF method. Comparing these two approaches, it becomes clear that the difference lies in their different approach to discount cash flows. Incorporating both equity and debt financing costs, the WACC method values the entire cash flow stream using a single discount rate. Meanwhile, the APV method considers the effects of debt financing separately and includes tax shields (Kaplan & Ruback, 1996; Inselbag & Kaufold, 1997). Moreover, the emergence in practice differs between the methods. The WACC method is more widely used and can be implemented more quickly, but it is not as flexible when there is no consistent debt or equity structure. In contrast, the APV method is much more adaptable to Leveraged Buyout (LBO) models and highly leveraged transactions, as Kaplan, 2000 pointed out in his paper (Luehrman, 1997; Kaplan & Ruback, 1996). This paper focuses on the WACC-based DCF valuation, as this model has a higher practical relevance for the type of transaction proposed. The following is a schematic explanation of the WACC-based DCF model.

WACC-based DCF

Damodaran, 2005b highlighted four important inputs regarding a WACC-based DCF valuation:

1. Cash flow from assets in place or investments already made
2. Expected growth rate in the cash flows during a period of both high growth and excess returns (when the firm earns more than its cost of capital on its investments)
3. Length of time before the firm becomes a stable growth firm earning no excess returns
4. The discount rate reflecting the risk of the firm's operating assets and the financial leverage used to fund these assets

Figure 3 summarises these inputs again and shows them in relation to the determination of the company's value using a DCF model. The inputs in the figure can be equated to the common term logics of a DCF, such as capital cash flows, discount rate and terminal value, which will be calculated in the valuation part of the thesis (Kaplan & Ruback, 1996; Damodaran, 2005b).

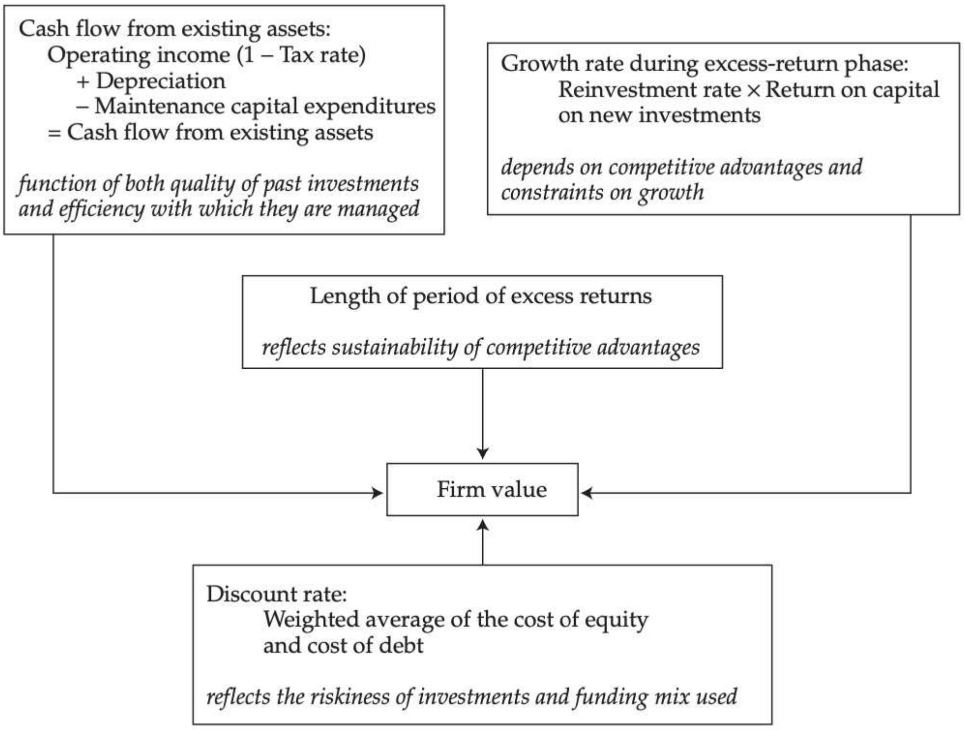


Figure 3. Determination of company value

2.2.2 Relative valuation methodologies

In business valuations, relative valuation methods such as multiple analysis are highly significant and are among the most widely used valuation methods in practice (Kaplan & Ruback, 1996). Generally, relative valuations are essentially comparing one asset to a similar or comparable one. A relative valuation is performed by first identifying comparable market-valued assets and then converting these market values into standardised values. Common metrics include multiples such as earnings, book value, sales and industry-specific multiples, with earnings multiples such as EBITDA, EBIT, net income and sales multiples considered particularly relevant. Additionally, it is also essential to examine the assets or companies involved for differences that could influence a given multiple and, therefore, obtain a result as accurate as possible (Damodaran, 2002b).

Nissim, 2012 presents this situation in even greater detail with regard to the selection of comparable companies. It can be inferred that particular attention must be paid to size, leverage and expected growth.

The point of expected growth is also reflected in the two assumptions mentioned by Kaplan & Ruback, 1996, which should allow for accurate asset valuation. These two assumptions are:

1. It is assumed that comparable companies' anticipated future cash flows would rise at the same rate and carry the same level of risk as those of the company being valued.

2. It is presumptuous that changes in the performance measure will directly correspond to changes in the company's value.

2.2.3 Best practices for firm valuation

To conclude the above-explained valuation methods, a best-practice approach to company valuation is presented. The literature provides some theses that allow for an indication regarding a best practice approach for business valuations in the context of this work. Therefore, the methods mentioned in the stated literature above are assessed to determine their practicality in a business context.

While assessing the presented valuation methodologies, it becomes clear that the fulfilment of the two assumptions mentioned by Kaplan & Ruback, 1996 concerning relative valuation is rarely present in practice. Furthermore, the study conducted in the same paper also showed that “comparable” or “multiple” valuation methods report less accurate valuation results than the DCF valuation method. Thus, absolute valuation methods are more practice-oriented and exact.

Nevertheless, as relative valuation tools can add explanatory power to DCF methods and as the authors found that the most reliable estimates were obtained by implementing the DCF and the comparable methods, the combination of these methodologies can be stated as the best practice approach (Kaplan & Ruback, 1996).

3 Industry analysis

3.1 Automotive manufacturing

3.1.1 Overview

The automotive manufacturing industry comprises the production of trucks, passenger cars and motorcycles and represents, with a worldwide revenue of $1,875.5 billion in 2022, a significant global industry for leading economies worldwide. During the pandemic, automotive manufacturers faced losses due to supply chain issues and the uncertainty of customer demand, among other factors. However, they recovered in 2021 and 2022, with revenue growth rates of 7.1% and 9.6%, respectively. Nevertheless, the impact of the pandemic is undeniable, as the worldwide total revenue compound annual growth rate (CAGR) from 2017 to 2022 equalled 0.8% and the total industry production volume declined, resulting in a negative CAGR of –2.2%.

The customer structure of automotive manufacturers is primarily represented by dealerships, which constitute the majority of direct buyers and act as intermediaries between automotive manufacturers and private customers and B2B clients such as rental companies. The threatening dependency resulting from this intermediate structure is regulated by manufacturers through the imposition of contractual obligations on dealers. Moreover, demand is ultimately determined by the client, which ultimately shapes the strategy of the manufacturer and the distributor (MarketLine, 2023a). Overall, the global automotive manufacturing industry's supply chain can be divided into four distinct stages: raw material production, component production, automotive manufacture and retail (dealerships). An overview of the industry's supply chain is presented in the following figure (MarketLine, 2023b):

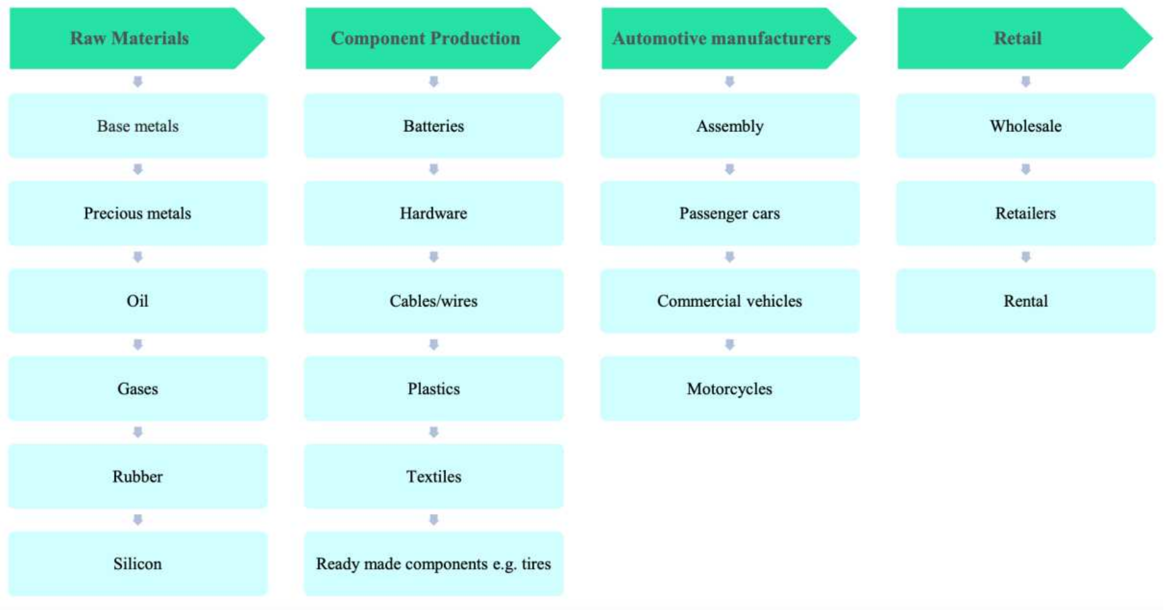


Figure 4. The automotive manufacturing supply chain

Furthermore, customer demand is divided among the following continental regions:

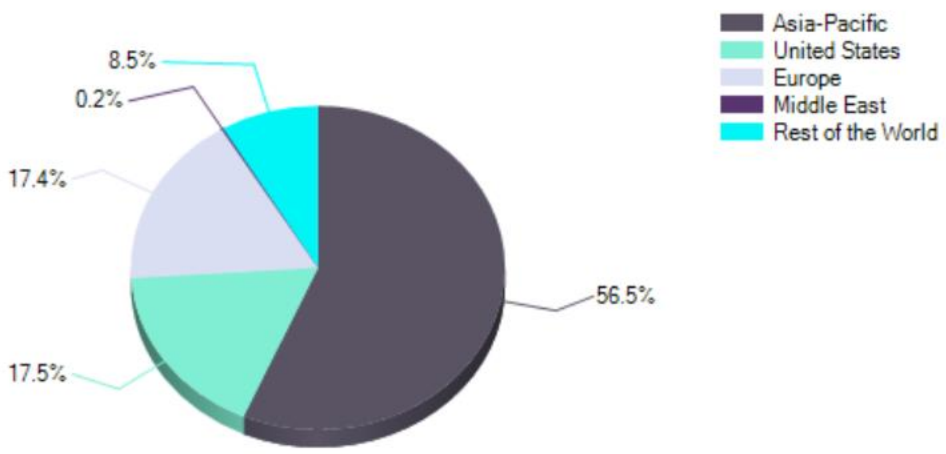


Figure 5. 2022 global automotive manufacturing industry's geography segmentation

These statistics illustrate that customers from Asia-Pacific dominate the automotive market. Furthermore, looking at the product segmentation, it is clear that the manufacturers of cars led with a market share of 46.3% in 2022. Motorcycles and trucks had a market share of 39.4% and 14.3%, respectively, in 2022 (MarketLine, 2023a).

3.1.2 Trends

The ongoing transformation of the automotive manufacturing industry is driven by several trends that significantly impact manufacturers' planning. These trends include the following (PriceWaterCooperhouse, 2018):

1. Electrification
- Driven by regulatory requirements and climate change, the increase in electric vehicles in all product classes is unstoppable.
2. Autonomous driving
- The development of vehicles that do not require human input is being put forward, opening up individual mobility for new user groups.
3. Shared mobility
- The emergence of shared vehicle fleets can reduce costs for the end user and change the industry tremendously.
4. Connectivity
- Connectivity is changing the existence of vehicles worldwide in several ways. Through technological innovation, vehicles will become increasingly connected to one another and to their environments.
5. Yearly updates
- Consumer preferences will force manufacturers to update their vehicles every year.

3.1.3 Key opportunities and threats

As a result of the trends described in Chapter 3.1.2 and the economic situation of the industry, several opportunities and threats are evident. The key opportunities and threats are discussed below.

Key opportunities

Times of change in the automotive manufacturing sector present various opportunities for market participants. One of these opportunities is the expansion of technological advances, such as autonomous driving and alternative powertrains, which will create new growth opportunities. Companies can use this upshift in the industry and the accompanying change in customer needs to prove themselves anew in these market areas and, in turn, gain market share (MarketLine, 2023a).

In addition to technological changes transforming manufacturers' end products, increasing connectivity and digitalization are demanded by customers and are creating further opportunities to improve automotive manufacturers' business models. One example is the integration of sales via digital platforms, which allows manufacturers to skip the intermediary of a dealer, thereby increasing their overall margins (MarketLine, 2023b).

Key threats

In addition to the opportunities mentioned above, several threats that could harm various market participants have emerged. The opportunistic view of market opportunities in the rapidly changing automotive industry can be counteracted by the emergence of problems and increased regulations. The established manufacturers are, therefore, facing a significant challenge, especially in the automotive sector, where the entire drive system and, thus, existing technological advances are being replaced (Statista, 2023a). In addition to the technical changes, changes in customer behaviour, such as the emergence of car sharing, also pose threats to sales development. This effect is also leveraged due to the fact that the market is characterised by large individual companies with significant financial backing, which results in competition density (MarketLine, 2023a).

Furthermore, the dependence on raw materials is another threat for the players in the market. The resulting price effect for raw materials and energy has already been observed in the market in recent years in the wake of the pandemic and the ongoing foreign policy disputes. It will continue to impact the future predictability of purchase and consumer prices (MarketLine, 2023b, 2023a).

3.1.4 Forecast

The global automotive manufacturing industry is expected to grow rapidly in the future due to a positive macroeconomic environment and an increase in demand. Implemented in pursuit of the goal of attaining net-zero emissions by 2050, the transition to electric vehicles is likely to stimulate demand for automotive manufacturers. Therefore, forecasts suggest that the industry will grow at a faster rate, with a total revenue CAGR of 4.9% from 2022 to 2027, reaching a value of $2,381.0 billion in 2027. Moreover, the industry’s volume is expected to rise to 184.4 million units by the end of 2027, which represents a CAGR of 3.2% over the 2022–2027 period (MarketLine, 2023a).

3.2 Semiconductor Industry

3.2.1 Overview

The semiconductor market comprises the manufacture and sale of integrated circuits (analogue, micro, logic and memory circuits) and discrete semiconductor devices. Semiconductors are components that allow the production of electronic devices, such as transistors and microchips, by controlling the flow of electric current. The differentiation between the two types becomes apparent when looking at the respective end markets, the application areas and the specifications. Integrated circuit semiconductors are characterised by their compactness, low production costs and flexibility of use. Due to these characteristics, this type of semiconductor is often found in smartphones, laptops, cameras and car interiors. In contrast, a discrete semiconductor device is characterised by its efficiency in solving specific tasks and is, therefore, suitable for particular products and techniques. Generally, semiconductors facilitate de-carbonization, technological innovation and digitalization through sustainable mobility through their use in electric drivetrains, efficient energy management and intelligent IoT solutions (Infineon Technologies AG, 2023b; MarketLine, 2023c).

Driven by ongoing digitalization, the semiconductor industry could grow at a total revenue CAGR of 7.1% and reach its peak total revenue of $592.4 million in 2022. However, this growth rate was slowed down in 2019 and 2020 by various crises, such as the trade war between the United States and China as well as the aforementioned supply chain issues. Thus, only a total revenue CAGR of –6.6% and 0.7%, respectively, could be achieved in these 2019 and 2020. However, the market recovered particularly strongly in 2021 and 2022, with a total revenue CAGR of 20.7% and 10.6%, respectively, marking a strong upturn in the industry in recent years (MarketLine, 2023c).

As already mentioned, the end-consumer structure of semiconductor manufacturers is characterised by its variety, as semiconductors are used in computing and data storage, wireless communication, automotive electronics, industrial electronics, consumer electronics and wired communication, all of which are critical in society currently (Mckinsey, 2022).

Overall, the global semiconductor market can be split into three stages: raw material production, semiconductor fabrication and end-users. An overview of the industry's supply chain is presented in the following figure (MarketLine, 2023d):

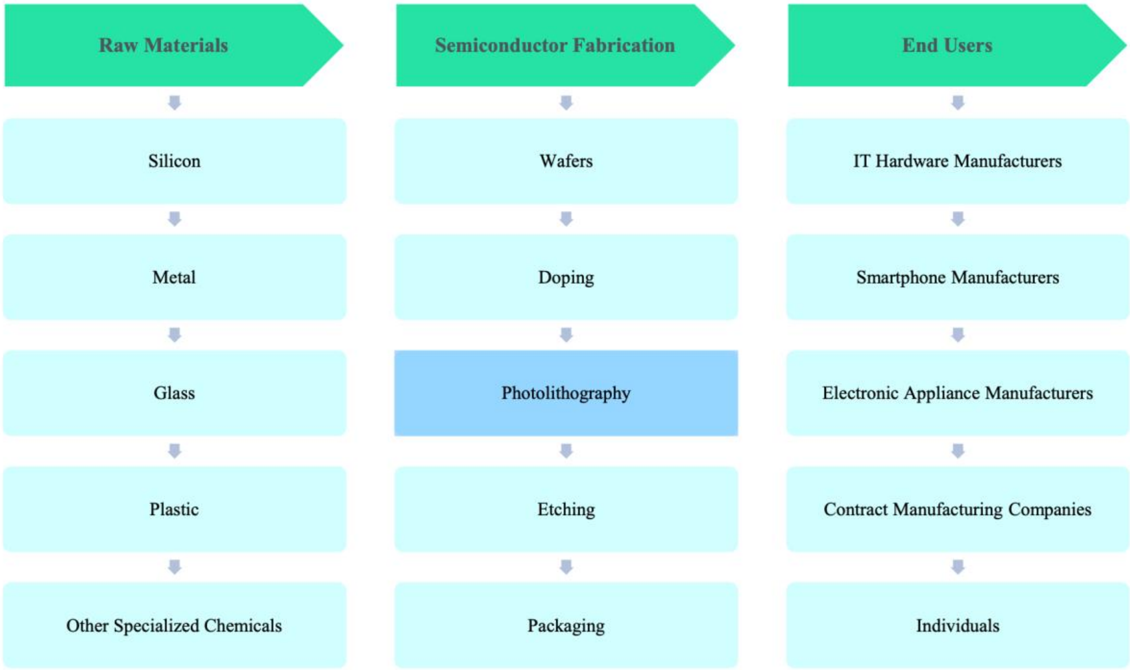


Figure 6. The semiconductor industry's supply chain

Furthermore, this customer demand is divided among the following continental regions:

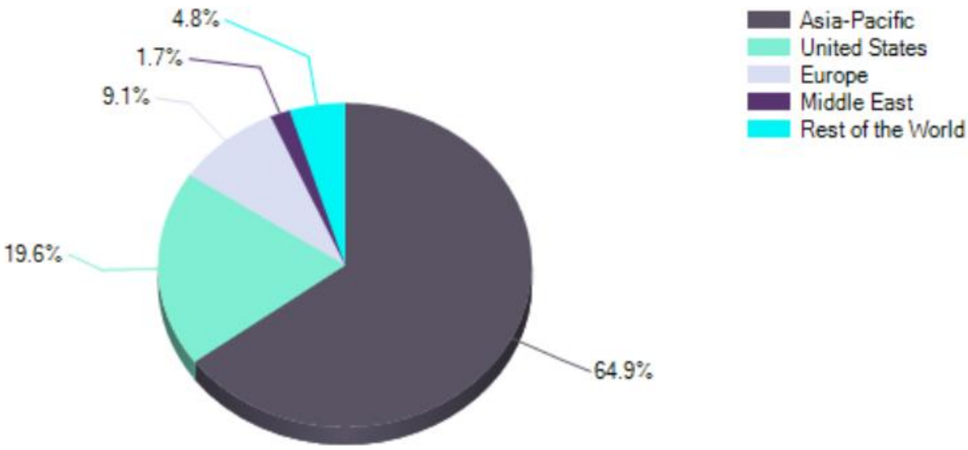


Figure 7. 2022 global semiconductors market's geography segmentation

Moreover, looking at the market categories, integrated semiconductors led with a market share of 84.7%, while discrete semiconductors held only 15.3% in 2022 (MarketLine, 2023c).

3.2.2 Trends

Due to its relevance for technical innovations and its importance in many supply chains, the semiconductor industry is exposed to several trends that can be summarised as follows:

1. Chip shortage

- The global shortage of semiconductor components has blocked sales channels in recent years. This situation is expected to continue in the following years (Accenture, 2021).

2. Geopolitical conflicts

- Due to international political disputes, global governments are implementing policies and programmes to strengthen their position in the semiconductor supply chain, which will lead to changes in the global semiconductor ecosystem (e.g., European Chips Act) (MarketLine, 2023d; Accenture, 2021; European Commission, 2023).

3. Vertical integration in the industry

- Big tech companies such as Google, Meta, Apple, LG and Huawei are undertaking backward integrating into the semiconductor space at an increasing rate, changing the market dynamics inevitably (MarketLine, 2023d; Accenture, 2021).

4. Architecture changes

- Big companies are also pushing a change in the usual product architecture, which means significant changes for the industry.

5. Sustainability

- The high energy consumption, up to 1 TWh of energy per year by one semiconductor fab, in the production of semiconductors must be reduced in the future to meet international climate targets (Accenture, 2021).

3.2.3 Key opportunities and threats

As a result of the trends described in Chapter 3.1.2 and the economic situation of the industry, several opportunities and threats are evident. These opportunities and threats are discussed below.

Key opportunities

The attractiveness of end markets and the expansion of application fields will continue to drive demand from semiconductor companies. In times of megatrends such as the growing digitalization of cars, the emergence of remote working and new technical innovations such as virtual reality (VR) and artificial intelligence (AI) in everyday life will become more relevant than ever before (MarketLine, 2023c; Mckinsey, 2022).

The changes brought about by the fight against climate change also have substantial implications for the industry, which is considered to have an exceptionally high environmental impact. This positioning creates some opportunities for market players to strengthen their competitiveness. Examples include relocating production facilities to countries with good access to renewable energy, designing new processes to reduce energy consumption and using reusable raw materials (MarketLine, 2023d; Accenture, 2021).

Key threats

In addition to the opportunities mentioned above, several threats that could harm various market participants have emerged. The opportunistic view of market opportunities mentioned above can be contradicted by the emergence of significant changes in market conditions concerning sustainability, as companies are under pressure to stem the costs of the required transformation. (Accenture, 2021)

Moreover, when looking at the current circumstances, it becomes clear that external effects strongly influence the semiconductor market. Inflationary pressures from trade conflicts and raw material shortages will continue to strongly influence market participants and force some to change (MarketLine, 2023c).

3.2.4 Forecast

As clarified by the description of the threats, the semiconductor market continues to be under pressure as consumer demand weakens and the supply side continues to face obstacles. Thus, it cannot maintain the growth trajectory of the last two years. Nevertheless, further growth is forecast, with an anticipated total revenue CAGR of 3.6% in 2022–2027, expected to drive the market to a value of $705.7 million by the end of 2027. Looking at the individual markets, it is noticeable here that there is a certain pressure on the Asian market, mainly due to the trade conflicts, as the Asia-Pacific is only forecast to grow with a total revenue CAGR of 2.3% in the respective timeframe (MarketLine, 2023c).

4 Company review

4.1 Mercedes-Benz Group AG

Overview

Mercedes-Benz Group AG was founded in Stuttgart in 1886, and it is one of the world's leading automobile manufacturers. The company operates production facilities in over 30 countries in Europe, North America, South America, Asia and Africa and distributes its cars and vans through various sales channels in almost every country. Additionally, Mercedes-Benz provides financing, leasing, car subscription and rental, fleet management, insurance brokerage, mobility and digital services for charging and payment. It enjoys a worldwide reputation for the quality and luxury of its products and has developed into a very renowned and strong brand.

The group markets its products under Mercedes-AMG, Mercedes-Benz, Mercedes-Maybach, smart and Mercedes-EQ. While the smart brand represents the entry into the Mercedes world and Mercedes-Benz and Mercedes-EQ represent the group's core, Mercedes-AMG and Mercedes-Maybach target customers in the ultra-luxury segment.

As part of its current strategy, Mercedes-Benz intends to focus on luxury. It is positioning itself more strongly as a brand for premium products. This positioning is also designed to concentrate the company on profitable growth in the future while also expanding the company's degree of digitization and sustainably improving the company's margins. Mercedes-Benz wants to become a technological leader through the development of alternative drivetrains. Emphasising sustainability also plays a fundamental role in Mercedes-Benz's vision of the future. Mercedes-Benz is to make the entire Mercedes-Benz new vehicle fleet balance sheet carbon-neutral across all stages of the value chain by 2039. This plan will be implemented by establishing electric drivetrains in the product range.

Corporate structure

In the course of the current corporate strategy, the corporate structure and the name of the group have been adopted. The company, formerly known as Daimler AG, changed its name to Mercedes-Benz Group AG in February 2022 and is emphasising its core competency: premium cars. At the same time, the group spun-off Daimler Truck AG, which previously accounted for 22.9% of revenue, and listed it separately on the stock exchange. Since the spin-off in 2021. The constitution of the group is now as follows:

Mercedes-Benz Cars:

The Mercedes-Benz Cars division accounts for 71% of the group's sales and thus constitutes the core business of the Mercedes-Benz Group. The division includes Mercedes-AMG, Mercedes-Benz, Mercedes-Maybach, smart, and Mercedes-EQ, focusing on all types of motor vehicles that are not classified as vans.

Mercedes-Benz Vans:

The Mercedes-Benz Vans division accounts for 11% of the group's revenue and specialises in producing and distributing vans, including the Citan, Sprinter, V-Class, T-Class and EQV models. The focus here is more on the commercial user of the vehicles than the end user.

Mercedes-Benz Mobility:

Under the name Mercedes-Benz Mobility, the company offers mobility services for cars and vans in the areas of financing, leasing, insurance (rental and subscription models), fleet management and digital services related to charging and payment. The segment's share of revenue constitutes 17% of the total group revenue.

Markets

Mercedes-Benz Group AG is a company with a global presence. The group's revenue in 2022 is distributed among the individual market regions as follows:

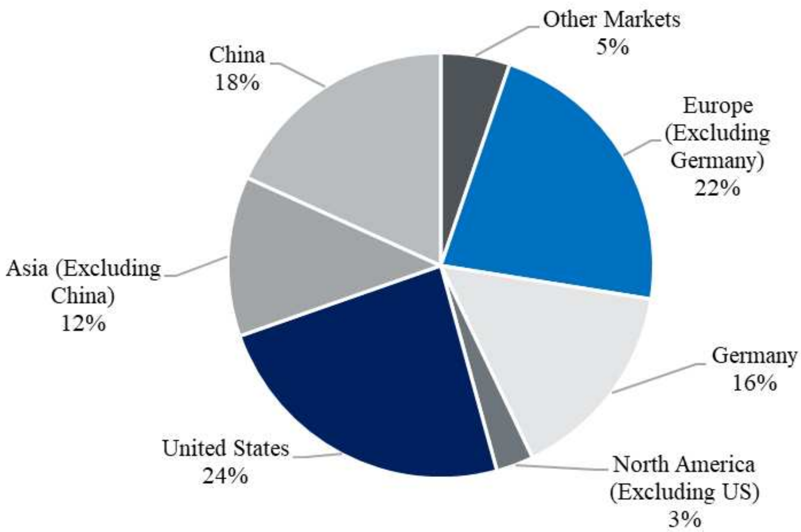


Figure 8. 2022 Revenue split per region – Mercedes-Benz Group AG

Financials

Due to the change in the group structure of Mercedes-Benz Group AG and the associated spin-off of Daimler Trucks AG, a holistic description and interpretation of the historic period under review (2018–2022) is difficult to present. For this reason, the focus will be on the last three reported years, 2020, 2021 and 2022, as the reporting was adjusted to the current corporate structure.

In 2022, the Mercedes-Benz Group recorded a revenue of €150.0 billion, marking a 12.0% increase in the company's 2021 total revenue. This increase confirms the growth trajectory the group has been on since the pandemic. After a down year in 2020 with a 7.8% decline in the two core segments of Mercedes-Benz Cars and Mercedes-Benz Vans, the company was finally able to grow at a CAGR of 14.3% by 2022.

EBITDA also grew from €19.9 billion in 2021 to €21.9 billion in 2022; overall, it grew at a CAGR of 31.6% for the last two reported years post pandemic. Furthermore, margins recovered after the pandemic in 2021 but saw a slight decrease, from the 14.8% EBITDA margin in 2021 to the 14.6% EBITDA margin in 2022. The rising cost of goods sold (COGS) in percentage to revenue in the form of rising energy costs and ongoing supply chain problems can account for this development (Mercedes-Benz Group AG, 2023).

Table 1. Consolidated income statement (historic) – Mercedes-Benz Group AG

€ million	2018A	2019A	2020A	2021A	2022A
Income Statement - Mercedes Benz Group AG					
Revenue	167.362	172.745	121.778	133.893	150.017
year-on-year growth	n/a	3,2%	-29,5%	9,9%	12,0%
Other revenue	-	-	-	-	-
Total Revenue	**167.362**	**172.745**	**121.778**	**133.893**	**150.017**
in % of revenue	100,0%	100,0%	100,0%	100,0%	100,0%
COGS	(136.478)	(146.911)	(103.122)	(104.525)	(117.433)
in % of revenue	81,5%	85,0%	84,7%	78,1%	78,3%
Gross Profit	**30.884**	**25.834**	**18.656**	**29.368**	**32.584**
in % of revenue	18,5%	15,0%	15,3%	21,9%	21,7%
Operating expenses	(16.713)	(17.358)	(5.991)	(9.562)	(10.650)
in % of revenue	10,0%	10,0%	4,9%	7,1%	7,1%
EBITDA	**14.171**	**8.476**	**12.665**	**19.806**	**21.934**
in % of revenue	8,5%	4,9%	10,4%	14,8%	14,6%
D&A	(4.767)	(5.958)	(6.579)	(4.917)	(4.469)
EBIT	**9.404**	**2.518**	**6.086**	**14.889**	**17.465**
in % of revenue	5,6%	1,5%	5,0%	11,1%	11,6%

The large variations in net income, which range from €3.6 billion in 2020 to €23.0 billion in 2021 and €14.5 billion in 2022, can be explained by extraordinary circumstances such as the pandemic and Mercedes' changes in its group structure. Free cash flow (FCF) remained constant in 2021 and 2022 and is at approximately €10.2 billion currently. A complete overview of the historical income statement of Mercedes-Benz can be found in Appendix 3.

The following table shows the most important debt and working capital metrics:

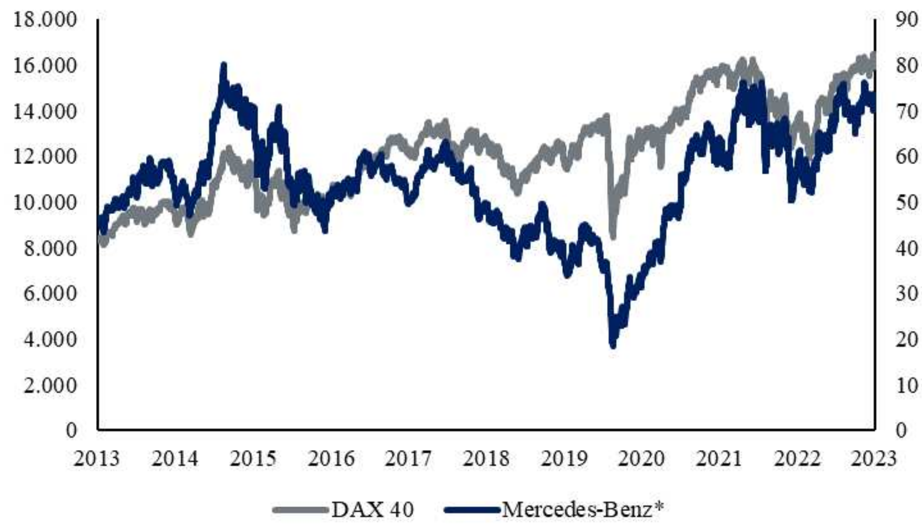
Table 2. Working capital and debt metrics – Mercedes-Benz Group AG

	2020A	2021A	2022A
Working Capital Metrics - Mercedes-Benz Group AG			
Avg. Days Receivables Out.	41	29	21
Avg. Days Inventory Out.	128	105	90
Avg. Days Payable Out.	58	51	39
Avg. Cash Conversion Cycle	111	83	72
Net Working Capital*	**(10.054)**	**(9.069)**	**(5.593)**
Debt Metrics - Mercedes-Benz Group AG			
Total Debt/Equity	234,3%	172,0%	129,2%
Total Debt/Capital	70,1%	63,2%	56,4%
Net Debt/EBITDA	9,5	5,1	4,2
Net Debt*	**120.030**	**101.218**	**91.660**

**€ million*

Share price

Over the last 52 weeks, the share price has fluctuated between €50.65 and €76.10. The development of Mercedes-Benz's share price compared to the development of the DAX 40 is shown in the following chart.



*€

Figure 9. DAX 40 versus Mercedes-Benz Group AG share price

4.2 Infineon Technologies AG

Overview

Infineon Technologies AG is a leading supplier of semiconductors and, with 56,200 employees, the leading player in the European semiconductor market. Headquartered in Munich, Germany, the company focuses on semiconductors and semiconductor-based solutions in the automotive, industrial and consumer sectors. It operates research and development (R&D) sites in 24 countries. The technology company offers a product portfolio that includes versatile standard components as well as highly specialised solutions tailored to individual customers.

Infineon bases its strategy on the long-term growth trends of de-carbonization and digitalization and combines this basis with tangible strategic targets in order to generate value for customers and investors. The strategic targets are based on profitable growth, which is linked to specific growth targets such as annual revenue growth of at least 10% per cycle. To achieve these growth targets, Infineon is investing heavily in the future. Among other things, Infineon Technologies AG is currently investing €5 billion, the company's largest single investment, in the expansion of its plant in Dresden, Germany. The expansion is expected to create about 1,000 new jobs and will be subsidised by the German government to the tune of €1 billion as part of the European Chips Act. The expansion of the plant is seen as a milestone in reducing dependence on semiconductor imports in the European Union and is scheduled for completion in 2026. Furthermore, the company set up a joint venture with TSMC, Bosch and NXP that aims to build another semiconductor manufacturing plant in Dresden. The total investment is expected to exceed €10 billion, and the project is scheduled to be completed by the end of 2027.

Corporate structure

The corporate structure has the following divisions:

Automotive:

Infineon produces semiconductor solutions for all application areas in a vehicle: powertrain and energy management, connectivity and infotainment, body and comfort electronics and safety. It is one of the world's leading supplier of semiconductors.

Industrial Power Control:

The Industrial Power Control business concentrates on semiconductor solutions made to manage the many phases of the lifecycle of electrical energy effectively and intelligently, including generation, transmission, storage and usage.

Power & Sensor Systems:

The Power & Sensor Systems section covers a wide range of power semiconductor, radio frequency and sensor technologies, which will be implemented in electronic equipment such as power supplies, lighting systems, mobile devices and industrial instruments.

Connected Secure Systems:

The Secure Connected Systems business creates applications for industrial, consumer IoT, Payment and Ticketing using proven microcontrollers, security solutions and wireless connectivity, Wi-Fi, Bluetooth and various hybrid connectivity services.

In recent years, Infineon has developed into a technology company that goes far beyond pure semiconductor production. The following table shows the company's strengths in the individual segments:

Core competencies	Automotive	Industrial Power Control	Power & Sensor Systems	Connected Secure Systems
Sensor technologies	✓		✓	
Radio frequency	✓		✓	
Embedded control	✓	✓		✓
Control of power semiconductors	✓	✓	✓	✓
Power semiconductors	✓	✓	✓	
Memories for specific applications	✓			
Connectivity				✓
Security	✓			✓
Software	✓	✓	✓	✓

Figure 10. Competencies - Infineon Technologies AG

Markets

Infineon Technologies AG is a company with a global presence. The company's revenue in 2022 is distributed among the individual market regions as follows:

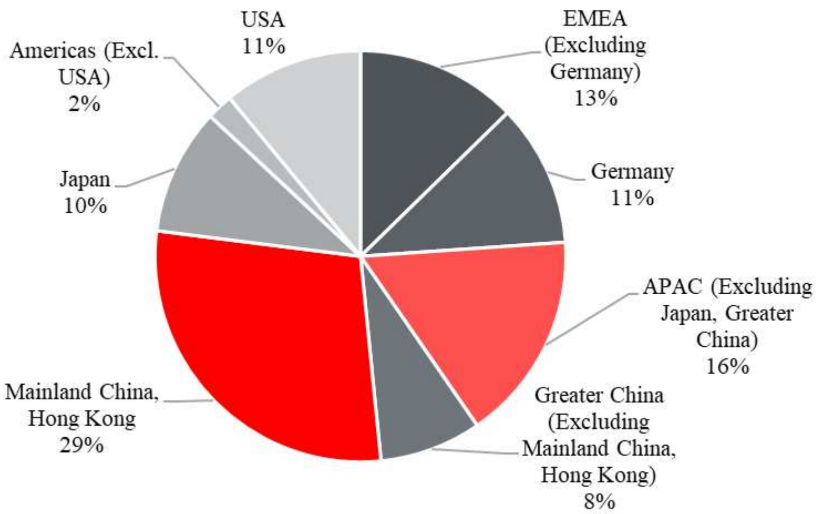


Figure 11. 2022 Revenue split per region – Infineon Technologies AG

Financials

The target, Infineon Technologies, achieved record revenues of €14.2 billion in 2022 and, therefore, confirmed its growth trajectory of recent years. With a 2018–2022 revenue CAGR of 17% and exceptionally strong growth in 2021 and 2022 of 29.1% and 28.6%, respectively, the company's top-line revenue growth has been very positive.

When analysing the company's EBITDA, despite the drastic growth of the last few years, the EBITDA margin improved from 25.3% in 2018 to 29.6% in 2022, which confirms how the excellent the year 2022 was. It is noteworthy that despite rising energy costs and the upcoming inflation in 2022, COGS as a percentage of revenue declined to 56.8%. Infineon has been able to pass on rising production costs to customers, which underlines its strong market position. Considering the years individually, 2020 stands out with the lowest EBITDA margin of 20.7% due to the pandemic and international trade conflicts.

Table 3. Consolidated income statement (historic) – Infineon Technologies AG.

€ million	2018A	2019A	2020A	2021A	2022A
Income Statement - Infineon Technologies AG					
Revenue	7.599	8.029	8.567	11.060	14.218
year-on-year growth	n/a	5,7%	6,7%	29,1%	28,6%
Other revenue	-	-	-	-	-
Total Revenue	**7.599**	**8.029**	**8.567**	**11.060**	**14.218**
in % of revenue	100,0%	100,0%	100,0%	100,0%	100,0%
COGS	(4.714)	(4.980)	(5.763)	(6.783)	(8.077)
in % of revenue	62,0%	62,0%	67,3%	61,3%	56,8%
Gross Profit	**2.885**	**3.049**	**2.804**	**4.277**	**6.141**
in % of revenue	38,0%	38,0%	32,7%	38,7%	43,2%
Operating expenses	(959)	(933)	(1.033)	(1.529)	(1.936)
in % of revenue	12,6%	11,6%	12,1%	13,8%	13,6%
EBITDA	**1.926**	**2.116**	**1.771**	**2.748**	**4.205**
in % of revenue	25,3%	26,4%	20,7%	24,8%	29,6%
D&A	(702)	(804)	(919)	(1.001)	(1.130)
EBIT	**1.224**	**1.312**	**852**	**1.747**	**3.075**
in % of revenue	16,1%	16,3%	9,9%	15,8%	21,6%

Similar developments can also be seen in net income, which recorded its lowest level in 2020 for the considered timeframe. In general, this item in the income statement has fluctuated the most in recent years.

Nevertheless, 2022 marked a record result for Infineon, achieving a net income of €2.2 billion. A complete overview of the historical income statement of Infineon Technologies can be found in Appendix 6.

In 2022, the company's FCF decreased from €1.5 billion to €1.0 billion due to increased capital expenditures (CAPEX), which will be discussed further in the valuation section (Infineon Technologies AG, 2023b, 2023c, 2023a).

The following table shows the most important debt and working capital metrics:

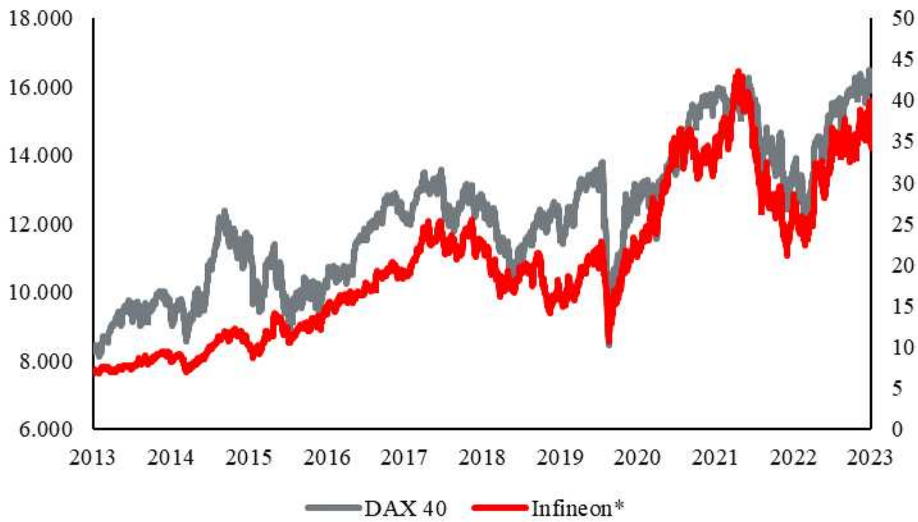
Table 4. Working capital and debt metrics – Infineon Technologies AG

	2020A	2021A	2022A
Working Capital Metrics - Infineon Technologies AG			
Avg. Days Receivables Out.	52	47	45
Avg. Days Inventory Out.	119	114	119
Avg. Days Payable Out.	67	72	78
Avg. Cash Conversion Cycle	104	89	86
Net Working Capital*	**744**	**390**	**900**
Debt Metrics			
Total Debt/Equity	72,3%	60,7%	40,5%
Total Debt/Capital	42,0%	37,8%	28,8%
Net Debt/EBITDA	2,0	0,9	0,5
Net Debt*	**4.166**	**2.994**	**2.331**

*€ million

Share price

Over the last 52 weeks, the share price has fluctuated between €33.05 and €40.24. The development of Infineon's share price compared to the development of the DAX 40 is shown in the following chart.



*€

Figure 12. DAX 40 versus Infineon Technologies AG share price

5 Deal rationale:

The rationale for the takeover of Infineon Technologies by Mercedes-Benz is presented in the following sections:

Mercedes-Benz – A Technology Leader:

As mentioned in Chapter 2.1.1, technological advancements are one of the main reasons for M&A transactions (Kaplan, 2000). This also applies to the proposed transaction between Mercedes-Benz and Infineon. Pursuing its current corporate strategy, the Mercedes-Benz Group seeks to present itself as a technology leader. The acquisition of Infineon will significantly accelerate this process. The newly acquired technological expertise through the additional resources of Infineon can make Mercedes-Benz one of the technology drivers of electromobility. Consequently, Mercedes-Benz can establish itself as a leading supplier and developer of sustainable mobility and catch up with companies such as Tesla.

Independence:

Political unrest and trade conflicts have shaped the market environment in the automotive market in recent years. Supply chain problems, production stops and the resulting loss of sales have burdened many market participants. Integrating one of the world's largest semiconductor manufacturers will curb these uncertainty factors to a certain extent, giving the group significantly more planning ability and production depth. Such a transaction would also be in the spirit of the European Chips Act, which aims to make Europe independent as a semiconductor production location.

Diversification:

The acquisition is also attractive for Mercedes-Benz in terms of diversification. In addition to the automotive division, Infineon has three other non-automotive business units, which represent over 50% of its revenues. These units will open up new avenues of growth for Mercedes-Benz.

The automotive market itself is no longer an absolute growth market due to strong regulation and high market maturity. By integrating a leading semiconductor company, Mercedes-Benz can expect higher growth rates, especially if the acquired asset, Infineon, continues to develop as before.

Growth opportunities:

This transaction creates several growth opportunities for both parties. Infineon will have access to a significantly richer cash pool, which can be used for even more significant investments, further enhancing the company's strong momentum. For both companies, the achievement of potential synergies can further improve the margins of the companies, which will subsequently improve the group's value creation.

Value creation:

With the acquisition of Infineon, Mercedes-Benz aims to become a unique player in the automotive space. The resulting differentiation from other market participants should lead to a rise in the Mercedes-Benz's share price far above its current level. In particular, the resulting enhanced reputation as a technology company should lead to a substantial increase in the value of Mercedes-Benz and, in turn, increase its shareholder value.

6 Valuation

6.1 Valuation of Mercedes-Benz Group AG

The company valuation of Mercedes-Benz Group AG was carried out using the valuation methods already explained in Chapter 2.2:

1. Absolute valuation

- DCF valuation

2. Relative valuation

- Multiple analysis

The data used was retrieved from Capital IQ and Refinitiv, and the subsequent valuation was carried out in €, the home currency of Mercedes-Benz Group AG.

6.1.1 DCF valuation

6.1.1.1 Financial projections

Revenue

Mercedes-Benz's revenue is estimated to grow at a CAGR of 4.1% between 2022 and 2028, primarily driven by positive industry outlooks on new consumer demand for electric vehicles and Mercedes' refocus as a luxury brand. As already explained in Chapter 3.1.4, forecasts suggest that the industry will grow with a total revenue CAGR of 4.9% from 2022 to 2027, and the management of Mercedes-Benz itself has stated, as part of its new strategy, that it will achieve an annual growth of 5% until 2026. Consequently, the estimated CAGR of 4.1% appears to be at the lower end of the revenue forecast spectrum. This conservative approach was adopted for the valuation due to the extended projected timeframe in comparison to other estimates mentioned before. Furthermore, given Mercedes' status as one of the largest companies in the industry, and the increasing maturity of the company, maintaining the growth may prove to be difficult.

The calculations for the abovementioned growth rate are based on historical growth rates (revenue CAGR 2018–2022). However, due to the change in the group structure over the historical period, adjustments had to be made to holistically interpret the historical growth rates of the current group structure. The current corporate segments (Mercedes-Benz Cars, Mercedes-Benz Vans and Mercedes-Benz Mobility) were considered individually and expected to grow in line with their respective preceding four years' CAGRs of 4.8%, 6.0% and 0.6%. The modelling of the individual future business line revenues and subsequent consolidation into the current corporate structure result in the abovementioned growth rate of 4.1% (Appendix 1 & 2).

COGS and gross profit margin

The percentage share of COGS in revenue has ranged between 85.0% and 78.1% from 2018 to 2022. Following the projection of COGS, the average percentage share of COGS in the previous years' revenues was calculated and applied to the future corresponding revenues. Consequently, COGS was estimated to be 81.5% of revenues, leading to an anticipated gross profit margin of 18.5% for the projected period.

OPEX and EBITDA margin

The calculation of the percentage share of operating expenditures (OPEX) and the subsequent calculation of OPEX were carried out according to the same scheme. Consequently, OPEX is expected to account for 7.8% of the projected revenues, which leads to an EBITDA margin of 10.6%. An overview of the income statement projections up to EBIT is included in Appendix 9.

PP&E, CAPEX and D&A

The development of property, plant and equipment (PP&E), CAPEX, and depreciation and amortisation (D&A) is shown in the following table:

Table 5. PP&E, CAPEX and D&A schedule – Mercedes-Benz Group AG

€ million PP&E, Capital Expenditure & Depreciation Schedule - Mercedes Benz Group AG	2022A	2023E	2024E	2025E	2026E	2027E	2028E	Average Historic
Net PP&E - BoP:		40.980	42.308	43.728	45.239	46.842	48.537	
Capital Expenditures:		5.444	5.669	5.903	6.146	6.400	6.664	
Depreciation & Amortisation:		(4.116)	(4.249)	(4.392)	(4.543)	(4.704)	(4.875)	
Net PP&E - EoP:	**40.980**	**42.308**	**43.728**	**45.239**	**46.842**	**48.537**	**50.327**	
Capital Expenditure:	3.481	5.444	5.669	5.903	6.146	6.400	6.664	
% Total Revenue:	*2,3%*	*3,5%*	*3,5%*	*3,5%*	*3,5%*	*3,5%*	*3,5%*	3,5%
Depreciation & Amortisation:	(4.121)	(4.116)	(4.249)	(4.392)	(4.543)	(4.704)	(4.875)	
% PP&E:	*(10,1%)*	*(10,0%)*	*(10,0%)*	*(10,0%)*	*(10,0%)*	*(10,0%)*	*(10,0%)*	*(10%)*

PP&E, CAPEX and D&A depend on the following relationship, which is also demonstrated in the table above:

CAPEX = PPEt – PPEt-1 + depreciation

PPEt = PPEt-1 + capital expenditures – depreciation

The management of Mercedes-Benz expects the proportion of CAPEX to revenue to remain consistent at the three-year average of 3.5%. The data provided reflects the current corporate structure, and a significant change in the relevant key figures can be observed from the structural change. Therefore, the three-year historical average was selected to better represent this trend. Additionally, it is also assumed that the depreciation and amortisation rate (as a percentage share of PP&E) will remain constant at the five-year average, resulting in a future percentage share of PP&E of 10.0%.

Working Capital

The following balance sheet items were predicted based on various assumptions in order to forecast the working capital level and the resulting change in working capital. The individual balance sheet items are listed below with the respective assumptions for the projections:

Current Assets:

Total cash and short-term investments: The 2022 percentage of revenue (13.4%) continues for the planning period.

Accounts receivable: The average historical days outstanding (accounts receivable days) (29) continues for the planning period.

Other receivables: The five-year average percentage of revenue (2.4%) continues for the planning period.

Inventory: The average historical days outstanding (inventory days) (99) continues for the planning period.

Prepaid expenses: The 2022 percentage of expenses (0.4%) continue for the planning period.

Other current assets: The five-year average value (52,315) continues for the planning period.

Current Liabilities:

Accounts payable: The average historical days outstanding (accounts payable days) (45) continues for the planning period.

Accrued expenses: The five-year average percentage of expenses (4.5%) continues for the planning period.

Finance div. debt current: The five-year average value (56,046) continues for the planning period.

Unearned revenue, current: The five-year average percentage of revenue (5.7%) continues for the planning period.

Current income taxes payable: The five-year average percentage of revenue (0.8%) continues for the planning period.

The calculation of the inventory days, accounts receivable days, and accounts payable days has resulted from the following dataset:

Table 6. Inventory days, accounts receivables days and accounts payable (historic) – Mercedes-Benz Group AG

Working Capital Metrics - Mercedes-Benz Group AG	2018A	2019A	2020A	2021A	2022A	Average
Inventory Days	86	87	128	105	90	99
Accounts Receiveable Days	26	27	41	29	21	29
Accounts Payable Days	40	39	58	51	39	45

Source: CapIQ

The working capital was then estimated by subtracting the current liabilities (excluding debt) from the current assets (excluding cash and cash equivalents). Subsequently, the change in working capital resulted from the differences between the individual forecasted periods. Overall, the management expects the currently negative and historically strongly fluctuating working capital to return to positive territory. In 2023–2024, the change in working capital will be stable and slightly growing (Appendix 13).

FCF estimation

Following the projection of the individual components of FCF described above, the following formula was used to calculate Mercedes' FCF for the individual plan years:

NOPAT + D&A – CAPEX – Change in NWC = FCF

The development of FCF and the calculation of the individual plan years can be seen in the following table:

Table 7. FCF forecast – Mercedes-Benz Group AG

€ million	2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
	Free Cash Flow Forecast - Mercedes-Benz Group AG							
EBIT	**14.889**	**17.465**	**12.501**	**13.054**	**13.626**	**14.218**	**14.832**	**15.468**
Tax expenses	(4.030)	(4.727)	(3.383)	(3.533)	(3.688)	(3.848)	(4.014)	(4.186)
NOPAT	**10.859**	**12.738**	**9.118**	**9.521**	**9.938**	**10.370**	**10.818**	**11.282**
+ D&A	4.917	4.469	4.116	4.249	4.392	4.543	4.704	4.875
-CAPEX	(4.579)	(3.481)	(5.444)	(5.669)	(5.903)	(6.146)	(6.400)	(6.664)
- Δ NWC	(985)	(3.476)	(8.052)	(786)	(819)	(853)	(888)	(924)
FCF	**10.212**	**10.250**	**(262)**	**7.315**	**7.608**	**7.915**	**8.234**	**8.568**

6.1.1.2 Discount rate – WACC

WACC formula

WACC is calculated by using the following formula:

$$WACC = \frac{E}{E+D} * R_E + \frac{D}{E+D} * R_D * (1-T)$$

Capital structure

Mercedes-Benz does not provide any information regarding its future capital structure. Therefore, it can be assumed that the current capital structure will be maintained. The current debt-to-capital ratio is 56.4%.

Cost of equity

The cost of equity is calculated by using the capital asset pricing model (CAPM):

$$R_i = R_f + \beta_i * (R_m - R_f)$$

The components of the formula are explained below:

Risk-free rate (Rf):

The risk-free rate represents compensation for the time value of money and equals the yield on a 10-year government bond in Germany at 2.3%. The data was retrieved from the Refinitiv database (03/08/2022).

Market risk premium (Rm-Rf):

The market risk premium (Rm–Rf) measures the anticipated extra return from investing in the stock market compared to a risk-free asset. According to Damodaran, 2023a, Germany's projected market risk premium will be 5.0%.

Beta:

The beta quantifies the volatility of an individual stock compared to the overall market and helps assess the riskiness of an individual stock. Mercedes–Benz's beta was calculated by analysing how its stock price volatility compares to the Dax 40 Index over 10 years. This evaluation, which considered adjustments in both share and index closing prices, resulted in a value of 1.32. This figure indicates the extent to which Mercedes–Benz's stock price tends to vary in response to changes in the market.

The calculation of the cost of equity results in 8.8%.

Cost of debt

The following formula calculates the cost of debt:

Cost of debt = Rf + default spread

To calculate the cost of debt, this study assesses the default spread by considering the company's rating. This spread reflects the interest rate required to offset the risk linked to default. Therefore, the study retrieved the risk-free rate of 2.3% using the same method used for the cost of equity calculation and the default spread by analysing Mercedes-Benz's solvency ratings. The company's long-term bond rating equals A2 by Moody's and A by S&P global ratings, which, according to Damodaran, 2023b, results in a default spread of 1.42%. All in all, this results in a cost of debt of 3.7%.

Premium

Due to the current uncertain economic situation as well as the change in the market financing landscape and the consequent current uncertainty in large transactions by capital providers due to interest rate increases, it is assumed that potential capital providers will demand a premium of 25% for such a transaction (Bain, 2023; Bloomberg, 2023).

Computation

After inserting the individually retrieved values into the above WACC formula and adding the assumed premium, the WACC of Mercedes-Benz equals 6.7%, which is in line with the current market conditions (KPMG, 2022).

6.1.1.3 Terminal value

The terminal value was calculated using the perpetuity growth approach:

$$TV = \frac{FCF_n * (1 + g)}{(r - g)}$$

Terminal value refers to the projected value of an asset or investment after a forecasted period and is, thus, intended to reflect a company's long-term growth. Since all components except *g* (perpetual growth rate of FCF) of the above formula have already been described in previous parts of the paper, the study will now focus on this item. A common approach to finding the long-term growth rate is to take the nominal GDP growth rate of the company's country—in this case, Germany—as the benchmark. Subsequently, the German five-year nominal GDP growth rate of 3.43% was retrieved (OECD, 2023). Subsequently, an adjustment of –0.5% of this rate was undertaken, as it is assumed that inflation levels will lower again in the mid- to long-term and that Mercedes-Benz's growth will be more moderate due to its high degree of maturity. The perpetual growth rate of FCF amounts to 2.93%, which in its overall form results in a terminal value of €233.6 billion for Mercedes-Benz.

6.1.1.4 Enterprise value

To calculate the enterprise value, the individual FCFs and the terminal value are discounted by the WACC. The sum of the discounted FCFs of the planning period and the discounted terminal value results in an enterprise value of €194.9 billion.

The following sensitivity analysis shows how the above enterprise value changes in the course of a change in the WACC of up to +/–0.4% and/or the long-term growth rate of up to +/–0.4%.

Table 8. Sensitivity Table Enterprise Value – Mercedes-Benz Group AG

€ million		Long Term Growth Rate				
Sensitivity Analysis Enterprise Value - Mercedes-Benz Group AG						
	194.879	2,5%	2,7%	2,9%	3,1%	3,3%
WACC	6,3%	198.053	207.693	218.474	230.614	244.386
	6,5%	187.861	196.458	206.016	216.707	228.744
	6,7%	178.647	186.354	**194.879**	204.357	214.957
	6,9%	170.275	177.220	184.863	193.315	202.714
	7,1%	162.636	168.921	175.807	183.386	191.768

6.1.1.5 Equity value

After deducting the reported net debt of €91.7 billion, the equity value amounts to €103.2 billion. With 1069.9 shares outstanding, it gives a share price of €96.48.

6.1.2 Relative valuation

6.1.2.1 Multiple analysis

The multiples analysis of Mercedes-Benz Group AG is based on the trading multiples of Mercedes-Benz's peer companies. Transaction multiples were not used, as they are influenced by synergies, which would have been inappropriate in the individual valuation of the company.

The following types of trading multiples were used:

EV/Revenue

EV/EBITDA

P/E

The peer group listed below was selected based on its comparable industry, business model and geographical expansion. Extreme outliers within the attained multiples, such as Tesla, were excluded from the dataset. The peer multiples retrieved by Refinitiv are shown in the following table:

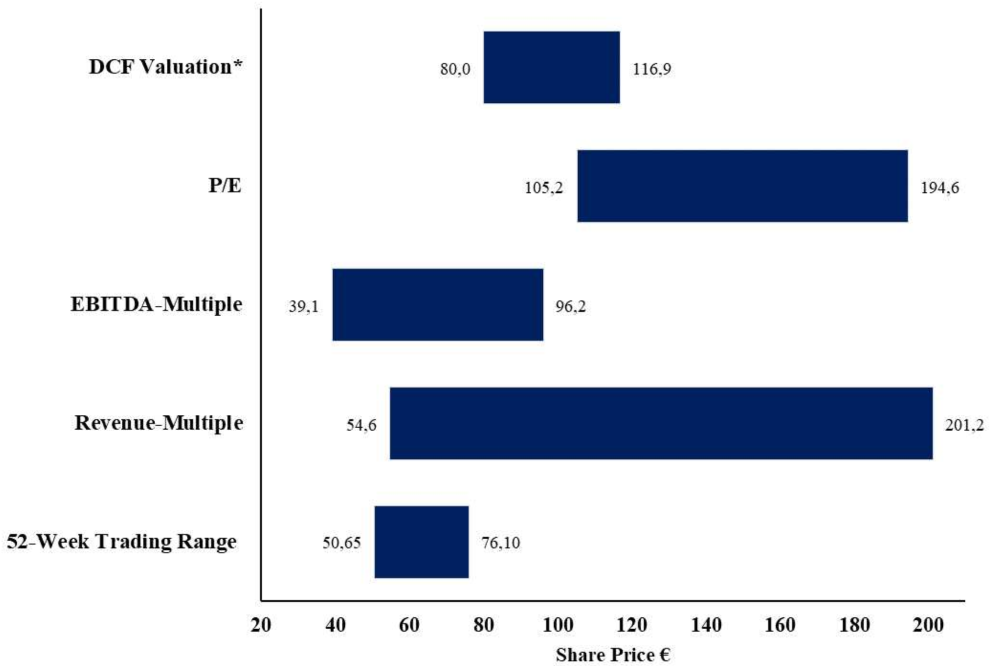
Table 9. Relative valuation peers selection – Mercedes-Benz Group AG

Company Name	Country	EV/Revenue	EV/EBITDA	P/E
Relative Valuation Peers Selection - Mercedes-Benz Group AG				
Bayerische Motoren Werke AG	Germany	0,9 x	5,4 x	5,8 x
Volkswagen AG	Germany	0,8 x	4,8 x	3,7 x
Dr Ing hc F Porsche AG	Germany	1,1 x	4,3 x	17,6 x
Renault SA	France	1,1 x	7,7 x	3,1 x
Ferrari NV	Italy	9,8 x	25,8 x	44,2 x
Hyundai Motor Co	South Korea	0,8 x	6,7 x	4,0 x
Geely Automobile Holdings Ltd	Hong Kong	0,4 x	5,0 x	26,8 x
Toyota Motor Corp	Japan	1,5 x	11,2 x	9,7 x
Average		**2,0 x**	**8,9 x**	**14,4 x**
Median		**1,0 x**	**6,1 x**	**7,8 x**

Due to the substantial deviations within the data set, there is a relatively wide range of results reflected in the price range from €39.07 to €201.23 (Appendix 15).

6.1.3 Valuation results

The following "football field" illustration shows the results of the different evaluation methods.



**DCF valuation – The DCF valuation range shows the share price spectrum, obtained by changing the WACC by +/-0.2% and the long-term growth rate by -/+0.2%, thus identifying the lower and upper end of the valuation spectrum.*

Figure 13. Valuation results – Mercedes-Benz Group AG

In the “football field” illustration, the results of the DCF valuation sit above the attained 52-week trading range. The difference can be seen in more detail while comparing market value (share price (17/08/2023) *shares outstanding) and equity value (calculated in the DCF model explained in Chapter 6.1.1). Therefore, with a market value of €72.2 billion compared to an equity value of €103.2 billion, Mercedes-Benz is currently undervalued by approx. 30.0% in the market. The multiple analysis adds no explanatory power regarding this finding, as the given valuation spectrum is too broad. Thus, no clear statement can be made with regard to the interpretation of the valuation.

6.2 Valuation Infineon Technologies AG

The company valuation of Infineon Technologies AG was carried out using the valuation methods explained in Chapter 2.2:

1. Absolute valuation

- DCF valuation

2. Relative valuation

- Multiple analysis

The data used was retrieved from Capital IQ and Refinitiv, and the subsequent valuation was carried out in €, the home currency of Infineon Technologies AG.

6.2.1 DCF valuation

6.2.1.1 Financial projections

Revenue

The revenue of Infineon is estimated to grow at a CAGR of 13.8% between 2022 and 2028. The expansion of revenue up to €30.3 billion in 2028 is primarily driven by high capital expenditures, further increasing demand from key customers, and favourable policy support in Europe through the European Chips Act. After growing strongly at a revenue CAGR of 17.0% in 2018–2022 and expanding at growth rates of 29.1% and 28.6% in 2021 and 2022, respectively, the CAGR projection mentioned above for 2022–2028 is composed as follows: It is assumed that revenue will grow in line with the preceding four years’ CAGR of 17% for the 2023 financial year and graduate in the subsequent years towards a growth rate of 10% in 2028. The target growth rate of 10% was chosen because Infineon’s management set an annual revenue growth goal of at least 10% per cycle in its last annual report (Infineon

Technologies AG, 2023b). As already explained in Chapter 3.2.4, forecasts suggest that the industry will grow at a total revenue CAGR of 3.6% from 2022 to 2027. Thus, the management's projections are rather on the upper side of the valuation spectrum, as an optimistic approach was taken for the valuation, which can be explained in particular by the high investments and favourable local market position as well as the strong "overperformance" of the last two years (MarketLine, 2023c).

COGS and Gross Profit margin

The percentage share of COGS in revenue ranged between 67.3% and 56.8% in 2018–2022. Following the projection of COGS, the five-year average percentage share of COGS in the previous years' revenues was calculated and applied to the future corresponding revenues. Consequently, COGS was estimated to be 61.9% of revenues until the end of the planning period, leading to an anticipated gross profit margin of 38.1% for the projected period.

OPEX and EBITDA margin

The calculation of the percentage share of OPEX and the subsequent calculation of OPEX were carried out by estimating the five-year 25 percentile share of OPEX and applying this rate to the future corresponding revenues. The 25 percentile was chosen because it is expected that OPEX will account for a lower share of revenue as the company matures. Consequently, OPEX is expected to account for 12.1% of projected revenues, which leads to an EBITDA margin of 26.0% for the projected period. An overview of the income statement projections up to EBIT is included in Appendix 11.

PP&E, CAPEX and D&A

The development of PP&E, CAPEX and D&A is shown in the following table.

Table 10. PP&E, CAPEX and D&A schedule – Infineon Technologies AG

€ million PP&E, Capital Expenditure & Depreciation Schedule - Infineon Technologies AG	2022A	2023E	2024E	2025E	2026E	2027E	2028E	Average Historic	75 Percentile Historic	25 Percentile Historic
Net PP&E - BoP:		5.052	6.191	7.420	8.734	10.124	11.289			
Capital Expenditures:		2.401	2.775	3.167	3.571	3.694	3.472			
Depreciation & Amortisation		(1.262)	(1.546)	(1.853)	(2.181)	(2.529)	(2.820)			
Net PP&E - EoP:	**5.052**	**6.191**	**7.420**	**8.734**	**10.124**	**11.289**	**11.942**			
Capital Expenditure:	2.053	2.401	2.775	3.167	3.571	3.694	3.472			
% Total Revenue:	*14,4%*	*14,4%*	*14,4%*	*14,4%*	*14,4%*	*13,4%*	*11,5%*	13,4%	14,4%	11,5%
Depreciation & Amortisation	(1.130)	(1.262)	(1.546)	(1.853)	(2.181)	(2.529)	(2.820)			
% PP&E:	*(22,4%)*	*(25,0%)*	*(25,0%)*	*(25,0%)*	*(25,0%)*	*(25,0%)*	*(25,0%)*	*(25%)*		

The above table follows the same logic as the valuation of the Mercedes-Benz Group.

The management of Infineon expects that the proportion of CAPEX to revenue will remain consistent at the five-year 75 percentile of 14.4%% for 2023 until 2026, representing the announced high capital expenditures, which have been discussed in Chapter 4.2. The following year, the growth rate is set to amount to 13.4%, the five-year average CAGR 2018–2022, while declining in the last planning year, 2028, to the five-year 25 percentile CAGR 2018–2022 of 11.5%. Infineon's management has forecasted this position to reflect the high level of capital investment in the coming years. As the company becomes more mature, CAPEX to revenue is set to decline, as shown by applying the average and the 25 percentile, respectively, for 2027 and 2028. Additionally, for Mercedes-Benz, it is assumed that the depreciation and amortisation rate (as a percentage share of PP&E) will remain constant at the five-year average, resulting in a future percentage share of the PP&E rate of 25.0%.

Working Capital

The following balance sheet items were predicted based on various assumptions in order to forecast the working capital level and the resulting change in working capital. The individual balance sheet items are listed below with the respective assumptions for the projections:

Current Assets:

Total cash and short-term investments: The 2022 percentage of revenue (26.1%) continues for the planning period.

Accounts receivable: The average historical days outstanding (accounts receivable days) (47) continues for the planning period.

Other receivables: The five-year average of 1.5% of revenue (1.5%) continues for the planning period.

Inventory: The average historical days outstanding (inventory days) (115) continues for the planning period.

Prepaid expenses: The 2022 percentage of expenses (1.5%) continues for the planning period.

Other current assets: The five-year average value (376) continues for the planning period.

Current Liabilities:

Accounts payable: The average historical days outstanding (accounts payable days) (76) continues for the planning period.

Accrued expenses: The five-year average percentage of expenses (3.4%) continues for the planning period.

Short-term borrowings: The five-year average value (330) continues for the planning period.

Current portion of long-term debt: The five-year average percentage of revenue (2.7%) continues for the planning period.

Unearned revenue: The five-year average percentage of revenue (0.1%) continues for the planning period.

Current portion of leases: The two-year CAGR 2020–2022 (13%) continues for the planning period.

Current income taxes payable: The five-year average percentage of revenue (2.5%) continues for the planning period.

Other current liabilities: The five-year average value (1,132) continues for the planning period.

The calculation of the inventory days, accounts receivable days and accounts payable days has resulted from the following data set:

Table 11. Inventory days, accounts receivables days and accounts payable (historic) - Infineon Technologies AG

Working Capital Metrics - Infineon Technologies AG	2018A	2019A	2020A	2021A	2022A	Average
Inventory Days	105	117	119	114	119	115
Accounts Receiveable Days	44	48	52	47	45	47
Accounts Payable Days	81	80	67	72	78	76

Source: CapIQ

As with Mercedes-Benz, the working capital level of Infineon was then estimated by subtracting the current liabilities (excluding debt) from the current assets (excluding cash and cash equivalents). The change in working capital results from the differences between the individual forecasted periods. Overall, the management expects the historically strongly fluctuating working capital to rise over €1.5 billion again in 2023 and then to grow year-on-year between €433 million and €466 million until the end of the planning period, thereby establishing a stable change in working capital over the years (see Appendix 14).

FCF estimation

FCF for Infineon is estimated using the same methodology that was applied to calculate FCF for Mercedes-Benz.

The development of the FCF of Infineon and the calculation of the individual plan years can be seen in the following table:

Table 12. FCF forecast – Infineon Technologies AG

€ million	2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Free Cash Flow Forecast - Infineon Technologies AG								
EBIT	**1.747**	**3.075**	**3.070**	**3.459**	**3.861**	**4.261**	**4.646**	**5.069**
Tax expenses	(345)	(606)	(605)	(682)	(761)	(840)	(916)	(1.000)
NOPAT	**1.402**	**2.469**	**2.464**	**2.777**	**3.099**	**3.421**	**3.730**	**4.069**
+ D&A	1.001	1.130	1.262	1.546	1.853	2.181	2.529	2.820
-CAPEX	(1.268)	(2.053)	(2.401)	(2.775)	(3.167)	(3.571)	(3.694)	(3.472)
- Δ NWC	354	(510)	(785)	(433)	(454)	(466)	(465)	(452)
FCF	**1.489**	**1.036**	**540**	**1.116**	**1.331**	**1.565**	**2.099**	**2.965**

6.2.1.2 Discount rate – WACC

WACC formula

WACC is calculated by using the following formula:

$$WACC = \frac{E}{E+D} * R_E + \frac{D}{E+D} * R_D * (1-T)$$

Capital structure

Infineon Technologies does not provide any information regarding its future capital structure. Therefore, it can be assumed that the current capital structure will be maintained. The current debt-to-capital ratio is 28.8%.

Cost of equity

The cost of equity is calculated by using the CAPM:

$$R_i = R_f + \beta_i * (R_m - R_f)$$

The components of the formula were derived in the same way as for Mercedes-Benz:

In this case, the beta amounts to 1.29.

The calculation of the cost of equity results in 8.7%.

Cost of debt

The following formula calculates the cost of debt:

Cost of debt = Rf + default spread

To calculate the cost of debt, the study assesses the default spread using the same scheme that was implemented for Mercedes-Benz; therefore, the company's rating was considered. This spread reflects the interest rate required to offset the risk linked to default. Therefore, the study retrieved the risk-free rate of 2.3% using the same method used to calculate cost of equity and the default spread by analysing Infineon's solvency ratings. The company's long-term bond rating equals BBB by S&P global ratings, which, according to Damodaran, 2023a result in a default spread of 2.00%. All in all, this results in a cost of debt of 4.3%.

Premium

Due to the current uncertain economic situation as well as the change in the market financing landscape and the consequent current uncertainty in large transactions by capital providers due to interest rate increases, it is assumed that potential capital providers will demand a premium of 25% for such a transaction (Bain, 2023; Bloomberg, 2023).

Computation

After inserting the individually retrieved values into the above WACC formula and adding the assumed premium, the WACC of Infineon Technologies equals 9.0%, which is in line with the current market conditions (KPMG, 2022).

6.2.1.3 Terminal value

As with the valuation of Mercedes-Benz, the terminal value of Infineon was calculated using the perpetuity growth approach:

$$TV = \frac{FCF_n * (1 + g)}{(r - g)}$$

Regarding Infineon's terminal value, the same methodology was applied as for Mercedes-Benz, except that the adjustment - based on the assumption that inflation levels will fall again in the medium to long term - only amounts to 0.25%. This lower adjustment is driven by Infineon’s recent growth trajectory and lower maturity, as it is expected to grow closer to the projected five-year average nominal GDP growth rate of Germany in the long run than Mercedes-Benz. Followingly the perpetual growth rate of FCF amounts to 3.18%, which in its overall form results in a terminal value of €52.9 billion for Infineon.

6.2.1.4 **Enterprise value**

To calculate the enterprise value, the individual FCFs and the terminal value are discounted by the WACC. The sum of the discounted FCFs of the planning period and the discounted terminal value results in an enterprise value of €39.8 billion.

The following sensitivity analysis shows how the above enterprise value changes in the course of a change in the WACC of up to +/–0.4% and/or the long-term growth rate of up to +/–0.4%.

Table 13. Sensitivity table enterprise value – Infineon Technologies AG

€ million		Long Term Growth Rate				
Sensitivity Analysis Enterprise Value - Infineon Technologies AG						
	39.769	**2,8%**	**3,0%**	**3,2%**	**3,4%**	**3,6%**
	8,6%	40.405	41.676	43.041	44.512	46.101
	8,8%	38.910	40.086	41.346	42.700	44.158
WACC	**9,0%**	37.512	38.603	**39.769**	41.019	42.361
	9,2%	36.203	37.217	38.299	39.455	40.695
	9,4%	34.975	35.919	36.925	37.998	39.145

6.2.1.4 <u>Equity value</u>

After deducting the reported net debt of €2.3 billion, the equity value amounts to €37.4 billion. With 1302.7 shares outstanding, it gives a share price of €28.74.

6.2.2 Relative valuation

6.2.2.1 Multiple analysis

The multiples analysis of Infineon Technologies AG is based on the trading multiples of Infineon's peer companies. Transaction multiples were not used, as they are influenced by synergies, which would have been inappropriate in the individual valuation of the company.

The following types of trading multiples were used:

EV/Revenue

EV/EBITDA

P/E

The peer group listed below was selected based on its comparable industry, business model and geographical expansion. Extreme outliers within the attained multiples were excluded from the dataset. The peer multiples retrieved by Refinitiv are shown in the following table:

Table 14. Multiples analysis – Infineon Technologies AG

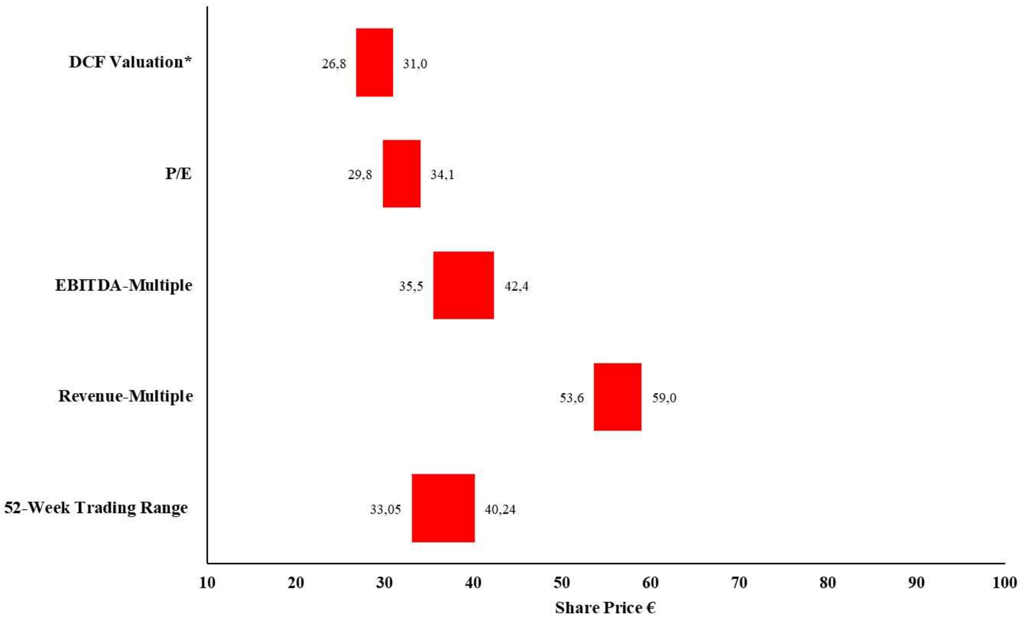
Company Name	Country	EV/Revenue	EV/EBITDA	P/E
Relative Valuation Peers Selection - Infineon Technologies AG				
STMicroelectronics NV	Netherlands	2,4 x	6,7 x	11,0 x
ASML Holding NV	Netherlands	8,9 x	25,4 x	31,2 x
ASM International NV	Netherlands	8,1 x	26,0 x	35,0 x
Texas Instruments Inc	United States	8,5 x	16,9 x	22,6 x
NXP Semiconductors NV	Netherlands	4,5 x	11,6 x	14,9 x
Taiwan Semiconductor Manufacturing Co Ltd	Taiwan	6,3 x	9,2 x	18,1 x
Nokia Oyj	Finland	0,7 x	5,0 x	9,5 x
Telefonaktiebolaget LM Ericsson	Sweden	0,7 x	6,4 x	12,1 x
Soitec SA	France	5,6 x	16,0 x	32,3 x
Average		**5,1 x**	**13,7 x**	**20,7 x**
Median		**5,6 x**	**11,6 x**	**18,1 x**

Source: Refinitiv Eikon

The multiple analysis resulted in a share price range from €29.76 to €59.05 (Appendix 16).

6.2.3 Valuation results

The following "football field" illustration shows the results of the different evaluation methods.



**DCF valuation – The DCF valuation range shows the share price spectrum, obtained by changing the WACC by +/-0.2% and the long-term growth rate by -/+0.2%, thus identifying the lower and upper end of the valuation spectrum.*

Figure 14. Valuation results - Infineon Technologies AG

In the "football field" illustration, the results of the DCF valuation sit at the lower end of the valuation range. The difference can be seen in more detail on comparing market value (share price (17/08/2023) *shares outstanding) and equity value (calculated in the DCF model explained in Chapter 6.2.1). Therefore, with a market value of €41.9 billion compared to an equity value of €37.4 billion, Infineon is currently overvalued by approx. 11.9% in the market. The multiple analysis adds explanatory power regarding this finding, as the slight overvaluation can be explained by the valuation spectrum of the multiple analyses, which settles at a similar to overlying level to the 52-week trading range.

7 Synergies

As explained in Chapter 2.1.2, synergy effects are one of the explanations for conducting transactions.

Regarding the determination of synergies, it should be noted that Mercedes-Benz, with a revenue of €150.0 billion in 2022, is a larger and more mature company compared to Infineon, with a revenue of €14.2 billion in 2022. Therefore, the size of the synergies generated differs between the companies. It should also be noted that the full synergy potential mentioned will only be fully realised after a certain period. The synergies are expected to be fully realised for Mercedes-Benz in 2026 and for Infineon in 2025. In deriving the individual synergy variables, the results of Deloitte's report, "Unlocking the full potential of M&A," in cooperation with the University of St. Gallen (CH) were used as a benchmark. The report's authors evaluated more than 800 transactions according to their synergies and, thus, provided information on the synergy effects in different sectors.

7.1 Revenue synergies

The transaction's revenue synergies are assumed to represent 0.5% of the total annual revenue for both companies involved when their full potential is realised. The following figure shows how, according to Deloitte's survey, the announced revenue synergies are distributed on a scale from <1% to >25% for the transactions in question (Deloitte, 2017).

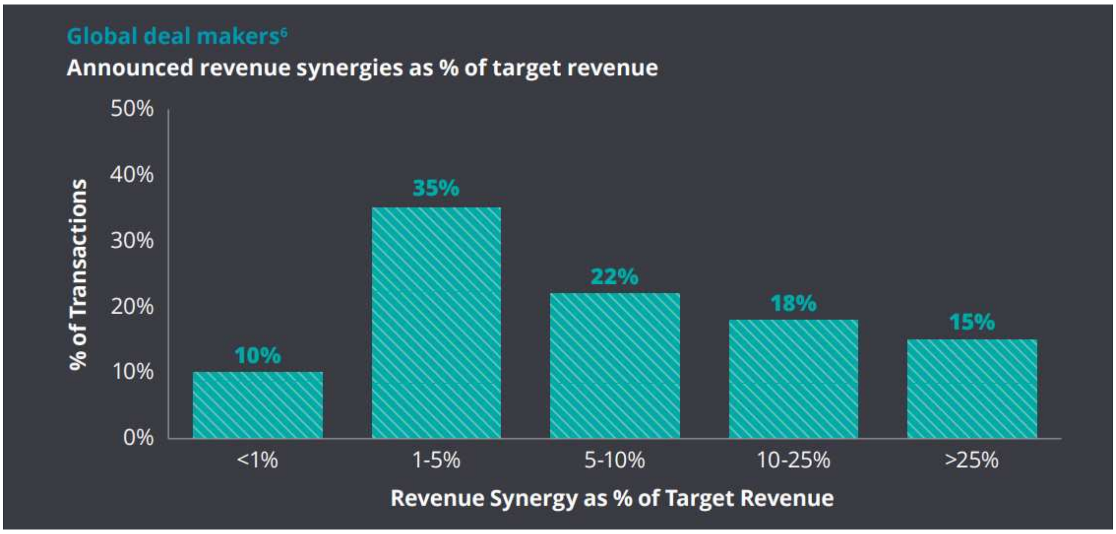


Figure 15. Announced revenue synergies as percentage of target revenue

Therefore, the revenue synergies of this transaction fall under the lowest threshold. The rationale for this assumption is explained below for the individual companies.

Mercedes-Benz Group AG

Enhancing Supply Chain Security:

Supply chain problems have recently prevented manufacturers from producing and delivering at full capacity. This shortfall, driven by a lack of semiconductor components, which has caused car manufacturers to lose more than 9.5 million units of global light-vehicle production in 2021, continues to be a bottleneck in the supply chain of automotive corporations (S&P Global Mobility, 2023). The acquisition of Infineon would enable secured sourcing of production-related parts and thus increase the potential total output of Mercedes-Benz as well as reduce dependency on external suppliers. Furthermore, the resulting unique position in the market in terms of speed of delivery and ability to deliver can give Mercedes-Benz a competitive advantage over other manufacturers.

As mentioned above, the synergies of this transaction fall into the lowest range, as presented by Deloitte. This can be explained as follows: The mere vertical integration of Infineon does not open up any new cross-selling opportunities, products or markets for Mercedes-Benz itself. Furthermore, Infineon's automotive division only accounts for 45.83% of its total sales, which further reduces the effects. Consequently, the conservative assumption of 0.5% revenue synergies was made.

Infineon Technologies AG

No expected increase in revenue following the proposed transaction was considered for Infineon. Including Infineon in the Mercedes-Benz Group will result in various adjustments for both entities. This integration offers Infineon access to one of the world's largest automobile manufacturers as a preferred trade partner. However, it also raises the question of how other car manufacturers, end processors of Infineon's automotive division and automotive suppliers, who are direct customers of the division, are reacting to this significant market shift. Therefore, it can be assumed that there will be no tangible revenue effects from the transaction in the foreseeable future.

7.2 Cost synergies

It is assumed that the transaction's cost synergies will represent 3.6% of the total annual combined cost for both companies involved when the full potential is realised. The following figure shows how, according to Deloitte's survey, the announced cost synergies are distributed on a scale from <1% to >25% for the transactions in question (Deloitte, 2017).

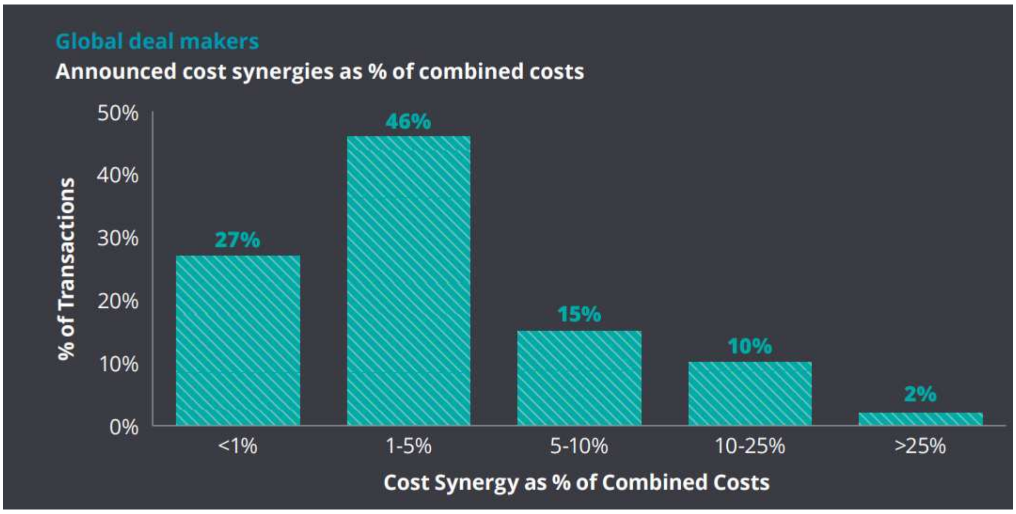


Figure 16. Announced cost synergies as percentage of the combined cost

Thus, the cost synergies of this transaction fall into the second-lowest but most common threshold. The rationale for this assumption for the companies in question is explained below.

Mercedes-Benz Group AG and Infineon Technologies AG

Reducing COGS:

Economies of skill, scale and scope will enable both parties to reduce COGS in various ways. The direct connection to Infineon will save part of the material costs for Mercedes-Benz, as no additional price must be paid for an external supplier. Furthermore, by being embedded in the Mercedes-Benz Group, Infineon can gain higher bargaining power in terms of material purchase. The maximum COGS synergies are estimated at 0.3% for Mercedes-Benz and 1.0% for Infineon.

OPEX consolidations:

With respect to OPEX, it is assumed that specific structures will change due to the transaction, thus creating synergies for both companies. For Infineon, in particular, the overlapping of operating cost items such as accounting, legal and IT can be eliminated by integrating into the Mercedes-Benz Group. In addition to overhead cost elimination, both companies will benefit from the exchange of knowledge and the potential transfer of employees, which can reduce R&D costs. This saving is reflected numerically in the respective P&Ls as follows: The maximum OPEX synergies are estimated at 0.3% for Mercedes-Benz and 2.0% for Infineon.

These aspects result in overall cost synergies of 3.6%, as mentioned above. This classification, according to Deloitte's statistics, results in an average synergy effect compared to other transactions due to the countable similarities but fundamental differences in business models and positions within the value chain.

7.3 Financial synergies

In addition to the operational synergies mentioned, financial synergies should be considered. Financial synergies are difficult to quantify as an outsider due to their speculative and vague character; thus, they are only presented qualitatively below.

Mercedes-Benz and Infineon Technologies

Access to financing:

As described by Lewellen, 1971, a transaction and subsequent integration into a larger group may lead to financing advantages. Thus, Infineon may benefit from lower issuing costs for debt in the future.

Cash effects:

On comparing the cash positions of the companies involved, it is noticeable that Mercedes, with a cash position of €14.1 billion has 9.8 times as much access to potential investment funds compared to Infineon, who has a cash position of €1.4 billion. With this potential "dry powder," Infineon can finance further investment projects, allowing the company to scale further.

7.4 Synergy calculation

The total synergy value of the two combined companies is calculated as described in Chapter 2.1.2. Therefore, to attain the transaction's total synergies, the combined firm's enterprise value, including synergies, is subtracted from the enterprise value of the combined firm with no synergies.

After attaining the enterprise value of the combined firm with no synergies by adding the respective enterprise values of Infineon and Mercedes-Benz, the enterprise value of the combined firm including synergies was calculated. To do so, the synergy effects arising from the execution of the transaction divided into revenue, COGS, and OPEX synergies were incorporated into the P&Ls of the respective companies. In the following, the same scheme from the valuation without synergies is applied to the valuation including synergies.

Regarding the discount rate (WACC) within the synergy valuation, the transaction-related synergies should be discounted using the respective discount rates rather than using a "blended" discount rate. The valuation team concluded that the size differences between the two parties were too significant. Therefore, a blended rate would be very similar to that of Mercedes-Benz's.

The calculation of the total synergies from the transaction amount to €26.1 billion. The following table shows an overview of the calculation.

Table 15. Total synergy calculation – Combined Company

€ million	**Mercedes-Benz**	**Infineon**
Total Synergy Calculation - Combined Company		
EV	194.879	39.769
Origin of Synergies	15.912	10.233
EV (including Synergies)	210.790	50.002
EV (Combined Company) (including Synergies)*	**260.792**	
Sum of individual EVs (excluding Synergies)	**234.647**	
Total Synergies	**26.145**	

**No Integration & Transaction cost included*

8 Combined company value

8.1 Integration and transaction Cost

In the course of a transaction, direct transaction costs as well as integration costs are incurred. In the case of the Mercedes-Benz–Infineon transaction, these are as follows: The transaction costs are based on a market standard assumption of 0.75% of the acquisition cost being direct transaction costs. Consequently, transaction costs of € 408.6 million are expected to be incurred. Additionally, the assumption that 8% of the acquisition price is used as integration costs results in integration costs of €4.4 billion (PriceWaterCooperhouse, 2023). This results in total transaction and integration costs of €4.8 billion.

8.2 Combined company valuation

The calculation of the individual enterprise values of Mercedes-Benz and Infineon and the related synergies for both companies, deducting transaction and integration costs, results in a combined enterprise value of €256.0 billion.

The calculation is presented in Table 16 below.

Table 16. Combined company valuation – Combined Company

€ million Combined Company Valuation - Combined Company	
Mercedes-Benz EV	194.879
Infineon Technologies EV	39.769
Total Synergies	26.145
Integration & Transaction Cost	(4.766)
Combined Company Enterprise Value	**256.027**

9 Transaction

9.1 Acquisition premium and acquisition price

For the execution of the transaction, an acquisition premium above the traded stock closing price of 30% is established (Deloitte, 2017). An acquisition premium in the field of M&A is the premium of resources that a buyer is willing to pay above the current market value (share price (17/08/2023) *shares outstanding) of a company to gain control of that company (Nathan & O'Keefe, 1989). Numerically, for this transaction, this means the following: To the share of Infineon Technologies AG traded at €32.16 (17/08/2023) at €1,302.7 shares outstanding with a final market value of €41.9 billion, the acquisition premium of 30% is added up. The acquisition price of Infineon is, therefore, €54.5 billion.

9.2 Shareholder value

The question of whether the takeover of Infineon Technologies AG carried out by Mercedes-Benz Group AG entails positive shareholder value is answered as follows: The stated acquisition price of €54.5 billion is €17.0 billion above Infineon's equity value of €37.4 billion, equivalent to a premium of 45.5%. This premium is exceeded by the synergies from the transactions deducting transaction and integration costs of €21.4 billion, resulting in an overall increase in shareholder value of 12.3%.

9.3 Transaction process

In the course of completing the transaction, the following issues must be clarified:

Hostile vs. friendly takeover:

Since the target is publicly listed on the stock exchange, Mercedes-Benz has two options concerning the transaction approach: a hostile or a friendly approach. According to a survey by Jensen & Ruback, 1983, hostile transactions achieved significant returns for bidders. Conversely, hostile deals were associated with merely any cash flow returns while potentially leading to a higher acquisition premium (Healy, Ruback & Palepu, 1992). Although Mercedes-Benz could afford a slightly higher takeover premium and still create positive shareholder value, a friendly takeover approach is proposed because the realisation of synergies and integration may be easier to achieve with the consent of the current management. Furthermore, takeover defence methods could be used in case of a hostile takeover, which could complicate the successful enforcement of the transaction (Bruner, 2004).

Negotiation:

Following the decision to adopt a friendly takeover approach, the question about the exact form and contractual structure of the transaction arises, which is worked out in cooperation with investment banks, lawyers, tax specialists and strategic advisors. Mercedes-Benz should aim to purchase 100% of the shares of Infineon to attain complete control of the company. The consensus that this transaction will increase Mercedes-Benz's shareholder value makes it much easier for the two parties involved to reach an agreement. Although the current market price of Infineon is slightly overvalued, the full payment of the assumed acquisition premium is considered to represent a reasonable compensation for Infineon's shareholders, creating shareholder value for both parties and allowing Infineon's shareholders to realise gains. For the incentivisation of the management, the strategy continues to be that their remuneration is regulated by a variable salary component, whereby the salary is linked to the company's further success (Infineon Technologies AG, 2023b). Furthermore, the possibility of including non-compete clauses can be considered while negotiating the contract. These clauses serve the purpose of preserving the successful management foundation of the acquired company.

Payment method:

It was decided that the acquisition price of €54.5 billion will be financed by 100% cash. The cash part of the acquisition price will be funded through 25% equity and 75% debt provided by a syndicate of banks. This has been proposed as the subsequent equity burden of €13.6 billion is covered by the currently liquid funds (Cash+Short-Term Investments) of Mercedes-Benz Group AG.

Furthermore, to analyze the feasibility and sustainability of this type of transaction, the combined companies' post-deal debt levels and following cost of debt were examined, presented in the following table.

Table 17. Post acquisition cost of debt – Combined Company

€ million	Combined Company (post Acquisition)
Post Acquisition Cost of Debt - Combined Company	
Net Debt*	148.491
Cost of Debt	*3,7%*
Annual Cost of Debt	5.450
EV	256.027
Annual Cost of Debt / EV	**2,1%**

**Net Debt - Combined Company (post Acquisition) - Net Debt includes Acquisition debt financing of €40.9 billion plus the equity burden of €13.6 billion and the respective Net Debt values of Mercedes-Benz and Infineon*

Despite the high debt burden of 148.5 billion euros, it is assumed that the emerging cost of debt, which results in an annual Cost of Debt / EV of 2.1%, can be absorbed by the group. The enforcement of a cash transaction emerges as the best option compared to other payment methods. Since, a payment with shares resulting from a share issuance of Mercedes-Benz shares would result in a loss for Mercedes shareholders due to the calculated undervaluation of 30.0% of the current share price. Additionally, theoretical advantages emerge as an all-cash deal in this context aligns with research-backed performance benefits of cash transactions compared to stock deals (Sirower & Sahni, 2006).

Signing to closing:

Between the signing and closing of the transaction, the antitrust authorities involved usually review the legality of the transaction (Galpin, 2020). The review of the potential outcome is beyond the scope of this paper; therefore, no indication can be given. Nevertheless, these risks should be examined in advance of the transaction process.

9.4 Transaction risk

The most relevant possible risks of the transaction are briefly highlighted below.

Complexity:

The proposed transaction, which would mark the largest transaction ever in Germany, would pose a significant challenge for Mercedes-Benz despite its scale. The potential expenditure of resources represents a risk for Mercedes-Benz, as the calculated synergies and integration costs are difficult to predict precisely. An exact calculation in advance has often proved risky, especially for a transaction of this magnitude.

Shift in market dynamics:

An integration of Infineon into the Mercedes Group would bring about a major change in the European automotive landscape. Infineon already has direct or indirect commercial relationships with various market participants. This transaction poses the risk of deterring other competitors, potentially blocking established revenue channels in the future.

Antitrust authorities:

The parties involved in the transaction have no influence on the decisions of the antitrust authorities involved, who could ultimately prevent the transaction from being carried out.

10 Conclusion

The potential takeover of Infineon Technologies AG by Mercedes-Benz Group AG was analysed in this dissertation. After examining the transaction risks incurred, the execution of this transaction is recommended for the following reasons.

The automotive industry is undergoing a significant transition characterised by a shift to alternative powertrains, new market conditions and high-tech market entries. Additionally, supply chain problems driven by international conflicts hamper manufacturers' outcomes. As a leading and established automotive manufacturer, Mercedes-Benz seeks to position itself better than its competitors as part of its strategy to assume technology leadership. Carrying out the acquisition could be a clear exclamation mark and a novelty within the industry. The increase in manufacturing stiffness, the associated independence and the additional access to new technologies in the automobile and other sectors underline the ambitions of Mercedes-Benz and offer a competitive advantage.

In addition to the strategic advantages that can be drawn from the transaction, it also makes sense from a financial perspective for both levels. Mercedes-Benz will increase shareholder value by 12.3% with the execution of this transaction and the associated synergies. Infineon's shareholders will also be incentivized by receiving an acquisition premium. The enterprise value of the combined company amounts to €256.0 billion.

Appendices

Appendix 1. Mercedes-Benz Revenue Growth Rate Calculation (historic)

Revenue Growth Rate Calculation - Mercedes-Benz Group AG	2018A	2019A	2020A	2021A	2022A	CAGR 18-22
Mercedes Benz Cars & Vans*						
Units sold	2.804.192,00	2.823.818	2.461.900	2.329.200	2.456.000	-3,3%
Average Price per Unit **	38.060,52	37.855	40.041	47.848	52.450	
Total Revenue***	106.729,00	106.897	98.576	111.447	128.818	4,8%
yoy Total Revenue Growth in %	n/a	0,2%	-7,8%	13,1%	15,6%	
Mercedes-Benz Cars						
Units sold	2.382.791,00	2.385.432	2.087.200	1.943.000	2.040.700	-3,8%
Average Price per Unit **	39.073,09	39.355	n/a	49.775	54.688	
Total Revenue***	93.103,00	93.878	n/a	96.712	111.601	4,6%
yoy Total Revenue Growth in %	n/a	0,8%	n/a	n/a	15,4%	
Mercedes-Benz Vans						
Units sold	421.401,00	438.386	374.700	386.200	415.300	-0,4%
Average Price per Unit **	32.335,00	33.762	n/a	38.154	41.457	
Total Revenue***	13.626,00	14.801	n/a	14.735	17.217	6,0%
yoy Total Revenue Growth in %	n/a	8,6%	n/a	n/a	16,8%	
Mercedes Benz Mobility						
Total Revenue***	26.269,00	28.646	27.699	27.941	26.954	0,6%
yoy Total Revenue Growth in %	n/a	9,0%	-3,3%	0,9%	-3,5%	
Reconcilation						
Total Revenue***	(8.438,00)	(7.227)	28.034	(5.495)	(5.755)	-9,1%
yoy Total Revenue Growth in %	n/a	-14,4%	-487,9%	-119,6%	4,7%	
Unadjusted Total Revenue* **	**124.560,0**	**128.316,0**	**154.309**	**133.893**	**150.017**	4,8%
Adjustments for discountinud operations	-	-	(32.531)	-	-	
Total Revenue* **	**124.560,0**	**128.316,0**	**121.778**	**133.893**	**150.017**	4,8%
yoy Total Revenue Growth in %	n/a	3,0%	-5,1%	9,9%	12,0%	

**For consistent and standardized representation, the Mercedes-Benz Cars and Mercedes-Benz Vans business units have been merged*
***€*
****€ million*

Appendix 2. Revenue growth rate calculation (estimation) – Mercedes-Benz Group AG

Revenue Growth Rate Calculation - Mercedes-Benz Group AG	2022A	2023E	2024E	2025E	2026E	2027E	2028E	CAGR 22-28
Mercedes Benz Cars & Vans*								
Units sold	2.456.000	2.523.781	2.593.433	2.665.007	2.738.557	2.814.136	2.891.802	2,8%
Average Price per Unit **	52.450	53.499	54.569	55.661	56.774	57.909	59.068	2,0%
Total Revenue***	128.818	135.021	141.522	148.336	155.479	162.965	170.812	4,8%
yoy Total Revenue Growth in %	15,6%	4,8%	4,8%	4,8%	4,8%	4,8%	4,8%	
Mercedes-Benz Cars								
Units sold	2.040.700	2.093.414	2.147.489	2.202.962	2.259.867	2.318.242	2.378.125	2,6%
Average Price per Unit **	54.688	55.781	56.897	58.035	59.196	60.380	61.587	2,0%
Total Revenue***	111.601	116.773	122.186	127.849	133.774	139.974	146.462	**4,6%**
yoy Total Revenue Growth in %	15,4%	4,6%	4,6%	4,6%	4,6%	4,6%	4,6%	
Mercedes-Benz Vans								
Units sold	415.300	431.677	448.700	466.394	484.786	503.904	523.775	3,9%
Average Price per Unit **	41.457	42.286	43.132	43.994	44.874	45.772	46.687	2,0%
Total Revenue***	17.217	18.254	19.353	20.519	21.754	23.064	24.454	**6,0%**
yoy Total Revenue Growth in %	16,8%	6,0%	6,0%	6,0%	6,0%	6,0%	6,0%	
Mercedes Benz Mobility								
Total Revenue***	26.954	27.128	27.303	27.479	27.657	27.835	28.015	**0,6%**
yoy Total Revenue Growth in %	-3,5%	0,6%	0,6%	0,6%	0,6%	0,6%	0,6%	
Reconcilation								
Total Revenue***	(5.755)	(6.191)	(6.446)	(6.713)	(6.993)	(7.285)	(7.592)	4,7%
yoy Total Revenue Growth in %	4,7%	7,6%	4,1%	4,1%	4,2%	4,2%	4,2%	
Unadjusted Total Revenue* **	**150.017**	**155.957**	**162.379**	**169.102**	**176.143**	**183.515**	**191.235**	4,1%
Adjustments for discountinud operations	-	-	-	-	-	-	-	
Total Revenue* **	**150.017**	**155.957**	**162.379**	**169.102**	**176.143**	**183.515**	**191.235**	**4,1%**
yoy Total Revenue Growth in %	12,0%	4,0%	4,1%	4,1%	4,2%	4,2%	4,2%	

**For consistent and standardized representation, the Mercedes-Benz Cars and Mercedes-Benz Vans business units have been merged*
***€*
****€ million*

Appendix 3. Income statement (historic) – Mercedes-Benz Group AG

Income Statement - Mercedes-Benz					
For the Fiscal Period Ending	12 months Dec-31-2018	Reclassified 12 months Dec-31-2019	Reclassified 12 months Dec-31-2020	Reclassified 12 months Dec-31-2021	12 months Dec-31-2022
Currency	*EUR*	*EUR*	*EUR*	*EUR*	*EUR*
Revenue	141.093,0	144.099,0	94.079,0	105.952,0	123.063,0
Finance Div. Revenue	26.269,0	28.646,0	27.699,0	27.941,0	26.954,0
Other Revenue	-	-	-	-	-
Total Revenue	**167.362,0**	**172.745,0**	**121.778,0**	**133.893,0**	**150.017,0**
Cost Of Goods Sold	111.589,0	118.626,0	76.688,0	80.069,0	92.903,0
Finance Div. Operating Exp.	24.884,0	28.276,0	26.424,0	24.448,0	24.526,0
Interest Expense - Finance Division	5,0	9,0	10,0	8,0	4,0
Gross Profit	**30.884,0**	**25.834,0**	**18.656,0**	**29.368,0**	**32.584,0**
Selling General & Admin Exp.	15.379,0	15.370,0	9.659,0	10.252,0	10.619,0
R & D Exp.	6.581,0	6.586,0	4.697,0	5.385,0	5.591,0
Depreciation & Amort.	-	-	-	-	-
Other Operating Expense/(Income)	(480,0)	1.360,0	(1.786,0)	(1.158,0)	(1.091,0)
Other Operating Exp., Total	**21.480,0**	**23.316,0**	**12.570,0**	**14.479,0**	**15.119,0**
Operating Income	**9.404,0**	**2.518,0**	**6.086,0**	**14.889,0**	**17.465,0**
Interest Expense	(655,0)	(674,0)	(261,0)	(367,0)	(363,0)
Interest and Invest. Income	267,0	393,0	221,0	208,0	261,0
Net Interest Exp.	**(388,0)**	**(281,0)**	**(40,0)**	**(159,0)**	**(102,0)**
Income/(Loss) from Affiliates	1.108,0	1.245,0	1.261,0	1.492,0	1.941,0
Other Non-Operating Inc. (Exp.)	107,0	(265,0)	(292,0)	323,0	328,0
EBT Excl. Unusual Items	**10.231,0**	**3.217,0**	**7.015,0**	**16.545,0**	**19.632,0**
Restructuring Charges	-	-	(911,0)	(549,0)	(162,0)
Impairment of Goodwill	-	-	-	-	-
Gain (Loss) On Sale Of Invest.	111,0	-	-	604,0	385,0
Gain (Loss) On Sale Of Assets	34,0	(105,0)	(147,0)	(693,0)	449,0
Insurance Settlements	219,0	-	-	-	-
Other Unusual Items	-	718,0	-	(96,0)	-
EBT Incl. Unusual Items	**10.595,0**	**3.830,0**	**5.957,0**	**15.811,0**	**20.304,0**
Unusual items	364,0	613,0	(1.058,0)	(734,0)	672,0
Income Tax Expense	3.013,0	1.121,0	1.926,0	4.761,0	5.495,0
Earnings from Cont. Ops.	**7.582,0**	**2.709,0**	**4.031,0**	**11.050,0**	**14.809,0**
Earnings of Discontinued Ops.	-	-	(22,0)	12.346,0	-
Extraord. Item & Account. Change	-	-	-	-	-
Net Income to Company	**7.582,0**	**2.709,0**	**4.009,0**	**23.396,0**	**14.809,0**
Minority Int. in Earnings	(333,0)	(332,0)	(382,0)	(390,0)	(308,0)
Net Income	**7.249,0**	**2.377,0**	**3.627,0**	**23.006,0**	**14.501,0**

Appendix 4. Balance sheet (historic) – Mercedes-Benz Group AG

Balance Sheet- Mercedes-Benz					
Balance Sheet as of:	**Restated Dec-31-2018**	**Restated Dec-31-2019**	**Dez-31-2020**	**Restated Dec-31-2021**	**Dez-31-2022**
Currency	***EUR***	***EUR***	***EUR***	***EUR***	***EUR***
ASSETS					
Cash And Equivalents	12.799,0	16.152,0	20.344,0	18.034,0	14.094,0
Short Term Investments	8.362,0	7.420,0	5.165,0	6.289,0	5.970,0
Total Cash & ST Investments	**21.161,0**	**23.572,0**	**25.509,0**	**24.323,0**	**20.064,0**
Accounts Receivable	10.545,0	11.045,0	9.929,0	6.875,0	7.328,0
Other Receivables	4.362,0	3.947,0	3.270,0	3.060,0	3.260,0
Total Receivables	**14.907,0**	**14.992,0**	**13.199,0**	**9.935,0**	**10.588,0**
Inventory	28.096,0	28.420,0	25.298,0	20.976,0	24.906,0
Prepaid Exp.	712,0	682,0	670,0	445,0	451,0
Finance Div. Loans and Leases, ST	47.481,0	52.068,0	43.196,0	34.468,0	38.084,0
Finance Div. Other Curr. Assets	8.441,0	7.269,0	6.798,0	12.013,0	8.020,0
Other Current Assets	815,0	797,0	594,0	769,0	761,0
Total Current Assets	**121.613,0**	**127.800,0**	**115.264,0**	**102.929,0**	**102.874,0**
Net Property, Plant & Equipment	**49.368,0**	**55.581,0**	**52.853,0**	**41.897,0**	**40.980,0**
Long-term Investments	4.653,0	4.944,0	4.746,0	13.419,0	13.372,0
Other Intangibles	13.913,0	15.077,0	15.686,0	14.386,0	15.275,0
Finance Div. Loans and Leases, LT	51.300,0	52.880,0	53.709,0	46.955,0	48.237,0
Finance Div. Other LT Assets	35.636,0	39.067,0	36.309,0	35.275,0	33.875,0
Deferred Tax Assets, LT	4.021,0	5.803,0	6.259,0	3.434,0	3.725,0
Other Long-Term Assets	1.115,0	1.286,0	911,0	1.536,0	1.677,0
Total Assets	**281.619,0**	**302.438,0**	**285.737,0**	**259.831,0**	**260.015,0**
LIABILITIES					
Accounts Payable	13.395,0	11.896,0	11.605,0	9.670,0	11.101,0
Accrued Exp.	6.547,0	5.661,0	6.288,0	5.255,0	5.595,0
Finance Div. Debt Current	56.240,0	62.601,0	59.303,0	52.300,0	49.786,0
Finance Div. Other Curr. Liab.	1.002,0	811,0	773,0	1.108,0	1.103,0
Curr. Income Taxes Payable	1.095,0	1.128,0	1.001,0	1.457,0	1.416,0
Unearned Revenue, Current	8.362,0	9.195,0	8.763,0	7.415,0	8.289,0
Other Current Liabilities	11.311,0	14.510,0	12.076,0	10.470,0	11.113,0
Total Current Liabilities	**97.952,0**	**105.802,0**	**99.809,0**	**87.675,0**	**88.403,0**
Long-Term Debt	25.764,0	34.507,0	27.885,0	21.770,0	13.119,0
Finance Div. Debt Non-Curr.	62.898,0	64.672,0	58.654,0	51.773,0	48.932,0
Unearned Revenue, Non-Current	6.951,0	7.658,0	7.354,0	5.155,0	4.890,0
Pension & Other Post-Retire. Benefits	7.393,0	9.728,0	12.070,0	5.359,0	1.021,0
Def. Tax Liability, Non-Curr.	3.762,0	3.935,0	3.649,0	4.488,0	6.910,0
Other Non-Current Liabilities	10.846,0	13.295,0	14.068,0	10.444,0	10.200,0
Total Liabilities	**215.566,0**	**239.597,0**	**223.489,0**	**186.664,0**	**173.475,0**
Common Stock	3.070,0	3.070,0	3.070,0	3.070,0	3.070,0
Additional Paid In Capital	-	-	-	-	-
Retained Earnings	40.473,0	46.329,0	47.111,0	55.926,0	67.695,0
Treasury Stock	-	-	-	-	-
Comprehensive Inc. and Other	21.124,0	11.945,0	10.510,0	12.955,0	14.650,0
Total Common Equity	**64.667,0**	**61.344,0**	**60.691,0**	**71.951,0**	**85.415,0**
Minority Interest	1.386,0	1.497,0	1.557,0	1.216,0	1.125,0
Total Equity	**66.053,0**	**62.841,0**	**62.248,0**	**73.167,0**	**86.540,0**
Total Liabilities And Equity	**281.619,0**	**302.438,0**	**285.737,0**	**259.831,0**	**260.015,0**

Appendix 5. Cash flow statement (historic) – Mercedes-Benz Group AG

Cash Flow Mercedes-Benz					
For the Fiscal Period Ending	12 months Dec-31-2018	12 months Dec-31-2019	12 months Dec-31-2020	12 months Dec-31-2021	12 months Dec-31-2022
Currency	*EUR*	*EUR*	*EUR*	*EUR*	*EUR*
Net Income	**7.249,0**	**2.377,0**	**3.627,0**	**23.006,0**	**14.501,0**
Depreciation & Amort.	4.291,0	5.370,0	5.940,0	4.427,0	4.121,0
Amort. of Goodwill and Intangibles	476,0	588,0	639,0	490,0	348,0
Depreciation & Amort., Total	**4.767,0**	**5.958,0**	**6.579,0**	**4.917,0**	**4.469,0**
Other Amortization	1.538,0	1.793,0	1.920,0	2.063,0	2.052,0
(Gain) Loss From Sale Of Assets	(178,0)	(761,0)	131,0	(695,0)	(990,0)
Asset Writedown & Restructuring Costs	-	-	458,0	-	-
(Income) Loss on Equity Invest.	1.380,0	1.202,0	1.783,0	1.625,0	1.605,0
Other Operating Activities	(384,0)	(630,0)	(117,0)	(9.546,0)	(502,0)
Change in Acc. Receivable	(884,0)	(346,0)	1.339,0	1.694,0	1.029,0
Change In Inventories	(3.850,0)	99,0	2.039,0	(2.561,0)	(4.111,0)
Change in Acc. Payable	1.694,0	(1.625,0)	(299,0)	-	-
Change in Other Net Operating Assets	(10.989,0)	(179,0)	4.872,0	4.046,0	(1.159,0)
Cash from Ops.	**343,0**	**7.888,0**	**22.332,0**	**24.549,0**	**16.894,0**
Capital Expenditure	(7.534,0)	(7.199,0)	(5.741,0)	(4.579,0)	(3.481,0)
Sale of Property, Plant, and Equipment	644,0	429,0	365,0	826,0	469,0
Cash Acquisitions	-	-	-	-	-
Divestitures	-	-	-	-	-
Sale (Purchase) of Intangible assets	(3.167,0)	(3.636,0)	(2.819,0)	(2.741,0)	(3.418,0)
Invest. in Marketable & Equity Securt.	54,0	(171,0)	1.747,0	(1.089,0)	2.950,0
Net (Inc.) Dec. in Loans Originated/Sold	-	-	-	-	-
Other Investing Activities	82,0	(30,0)	27,0	1.357,0	27,0
Cash from Investing	**(9.921,0)**	**(10.607,0)**	**(6.421,0)**	**(6.226,0)**	**(3.453,0)**
Short Term Debt Issued	2.637,0	840,0	-	1.463,0	172,0
Long-Term Debt Issued	71.137,0	63.607,0	53.713,0	42.196,0	38.429,0
Total Debt Issued	**73.774,0**	**64.447,0**	**53.713,0**	**43.659,0**	**38.601,0**
Short Term Debt Repaid	-	-	(3.263,0)	-	-
Long-Term Debt Repaid	(56.318,0)	(55.043,0)	(59.953,0)	(60.859,0)	(51.945,0)
Total Debt Repaid	**(56.318,0)**	**(55.043,0)**	**(63.216,0)**	**(60.859,0)**	**(51.945,0)**
Issuance of Common Stock	118,0	85,0	31,0	-	-
Repurchase of Common Stock	(50,0)	(42,0)	(30,0)	-	-
Common Dividends Paid	(3.905,0)	(3.477,0)	(963,0)	(1.444,0)	(5.349,0)
Total Dividends Paid	**(3.905,0)**	**(3.477,0)**	**(963,0)**	**(1.444,0)**	**(5.349,0)**
Special Dividend Paid	-	-	-	-	-
Other Financing Activities	(393,0)	(342,0)	(282,0)	(415,0)	(339,0)
Cash from Financing	**13.226,0**	**5.628,0**	**(10.747,0)**	**(19.059,0)**	**(19.032,0)**
Foreign Exchange Rate Adj.	133,0	121,0	(999,0)	870,0	88,0
Net Change in Cash	**3.781,0**	**3.030,0**	**4.165,0**	**134,0**	**(5.503,0)**

Appendix 6. Income statement (historic) – Infineon Technologies AG

Income Statement - Infineon Technologies					
For the Fiscal Period Ending	**12 months Sep-30-2018**	**Reclassified 12 months Sep-30-2019**	**12 months Sep-30-2020**	**Reclassified 12 months Sep-30-2021**	**12 months Sep-30-2022**
Currency	***EUR***	***EUR***	***EUR***	***EUR***	***EUR***
Revenue	7.599,0	8.029,0	8.567,0	11.060,0	14.218,0
Other Revenue	-	-	-	-	-
Total Revenue	**7.599,0**	**8.029,0**	**8.567,0**	**11.060,0**	**14.218,0**
Cost Of Goods Sold	4.714,0	4.980,0	5.763,0	6.783,0	8.077,0
Gross Profit	**2.885,0**	**3.049,0**	**2.804,0**	**4.277,0**	**6.141,0**
Selling General & Admin Exp.	850,0	821,0	881,0	1.135,0	1.388,0
R & D Exp.	836,0	943,0	1.095,0	1.433,0	1.786,0
Depreciation & Amort.	-	-	-	-	-
Other Operating Expense/(Income)	(25,0)	(27,0)	(24,0)	(38,0)	(108,0)
Other Operating Exp., Total	**1.661,0**	**1.737,0**	**1.952,0**	**2.530,0**	**3.066,0**
Operating Income	**1.224,0**	**1.312,0**	**852,0**	**1.747,0**	**3.075,0**
Interest Expense	(60,0)	(62,0)	(130,0)	(155,0)	(142,0)
Interest and Invest. Income	15,0	26,0	29,0	5,0	11,0
Net Interest Exp.	**(45,0)**	**(36,0)**	**(101,0)**	**(150,0)**	**(131,0)**
Income/(Loss) from Affiliates	(5,0)	(6,0)	(9,0)	9,0	39,0
Other Non-Operating Inc. (Exp.)	(8,0)	(9,0)	2,0	(3,0)	(26,0)
EBT Excl. Unusual Items	**1.166,0**	**1.261,0**	**744,0**	**1.603,0**	**2.957,0**
Merger & Related Restruct. Charges	-	(104,0)	(301,0)	(272,0)	(210,0)
Impairment of Goodwill	-	-	-	-	-
Gain (Loss) On Sale Of Assets	270,0	-	20,0	-	-
Asset Writedown	(7,0)	(6,0)	(12,0)	(12,0)	(24,0)
Other Unusual Items	(18,0)	(68,0)	(27,0)	-	-
EBT Incl. Unusual Items	**1.411,0**	**1.083,0**	**424,0**	**1.319,0**	**2.723,0**
Income Tax Expense	193,0	194,0	52,0	144,0	537,0
Earnings from Cont. Ops.	**1.218,0**	**889,0**	**372,0**	**1.175,0**	**2.186,0**
Earnings of Discontinued Ops.	(143,0)	(19,0)	(4,0)	(6,0)	(7,0)
Extraord. Item & Account. Change	-	-	-	-	-
Net Income to Company	**1.075,0**	**870,0**	**368,0**	**1.169,0**	**2.179,0**
Minority Int. in Earnings	-	-	-	-	-
Net Income	**1.075,0**	**870,0**	**368,0**	**1.169,0**	**2.179,0**

Appendix 7. Balance sheet (historic) – Infineon Technologies AG

Balance Sheet Infineon Technologies					
Balance Sheet as of:		Restated	Reclassified		
	Sep-30-2018	Sep-30-2019	Sep-30-2020	Sep-30-2021	Sep-30-2022
Currency	*EUR*	*EUR*	*EUR*	*EUR*	*EUR*
ASSETS					
Cash And Equivalents	732,0	1.021,0	1.851,0	1.749,0	1.438,0
Short Term Investments	1.248,0	571,0	599,0	1.107,0	240,0
Trading Asset Securities	563,0	2.187,0	777,0	1.066,0	2.039,0
Total Cash & ST Investments	**2.543,0**	**3.779,0**	**3.227,0**	**3.922,0**	**3.717,0**
Accounts Receivable	971,0	1.148,0	1.293,0	1.565,0	1.972,0
Other Receivables	101,0	171,0	148,0	151,0	144,0
Total Receivables	**1.072,0**	**1.319,0**	**1.441,0**	**1.716,0**	**2.116,0**
Inventory	1.480,0	1.701,0	2.052,0	2.181,0	3.081,0
Prepaid Exp.	57,0	92,0	92,0	145,0	189,0
Other Current Assets	271,0	602,0	367,0	288,0	350,0
Total Current Assets	**5.423,0**	**7.493,0**	**7.179,0**	**8.252,0**	**9.453,0**
Gross Property, Plant & Equipment	11.686,0	12.623,0	13.959,0	15.224,0	17.070,0
Accumulated Depreciation	(9.000,0)	(9.638,0)	(10.316,0)	(11.090,0)	(12.018,0)
Net Property, Plant & Equipment	**2.686,0**	**2.985,0**	**3.643,0**	**4.134,0**	**5.052,0**
Long-term Investments	37,0	84,0	185,0	185,0	208,0
Goodwill	764,0	909,0	5.897,0	5.962,0	7.083,0
Other Intangibles	357,0	353,0	2.981,0	2.577,0	2.586,0
Deferred Tax Assets, LT	648,0	599,0	627,0	695,0	527,0
Deferred Charges, LT	475,0	543,0	640,0	772,0	897,0
Other Long-Term Assets	489,0	615,0	847,0	757,0	1.106,0
Total Assets	**10.879,0**	**13.581,0**	**21.999,0**	**23.334,0**	**26.912,0**
LIABILITIES					
Accounts Payable	1.181,0	1.089,0	1.160,0	1.569,0	2.260,0
Accrued Exp.	146,0	153,0	317,0	310,0	341,0
Short-term Borrowings	-	-	329,0	330,0	-
Curr. Port. of LT Debt	25,0	22,0	242,0	503,0	752,0
Curr. Port. of Leases	-	-	59,0	66,0	76,0
Curr. Income Taxes Payable	117,0	144,0	340,0	288,0	356,0
Unearned Revenue, Current	-	-	4,0	12,0	26,0
Other Current Liabilities	713,0	805,0	999,0	1.365,0	1.777,0
Total Current Liabilities	**2.182,0**	**2.213,0**	**3.450,0**	**4.443,0**	**5.588,0**
Long-Term Debt	1.507,0	1.534,0	6.528,0	5.752,0	4.910,0
Long-Term Leases	-	-	235,0	265,0	310,0
Pension & Other Post-Retire. Benefits	552,0	733,0	739,0	617,0	297,0
Def. Tax Liability, Non-Curr.	9,0	20,0	293,0	324,0	371,0
Other Non-Current Liabilities	183,0	448,0	535,0	532,0	492,0
Total Liabilities	**4.433,0**	**4.948,0**	**11.780,0**	**11.933,0**	**11.968,0**
Common Stock	2.274,0	2.501,0	2.612,0	2.612,0	2.612,0
Additional Paid In Capital	4.486,0	5.494,0	6.462,0	6.513,0	6.579,0
Retained Earnings	(333,0)	421,0	435,0	1.407,0	3.506,0
Treasury Stock	(37,0)	(37,0)	(33,0)	(28,0)	(23,0)
Comprehensive Inc. and Other	56,0	254,0	743,0	897,0	2.270,0
Total Common Equity	**6.446,0**	**8.633,0**	**10.219,0**	**11.401,0**	**14.944,0**
Total Equity	**6.446,0**	**8.633,0**	**10.219,0**	**11.401,0**	**14.944,0**
Total Liabilities And Equity	**10.879,0**	**13.581,0**	**21.999,0**	**23.334,0**	**26.912,0**

Appendix 8. Cash flow statement (historic) – Infineon Technologies AG

Cash Flow Infineon Technologies					
For the Fiscal Period Ending	12 months Sep-30-2018	12 months Sep-30-2019	12 months Sep-30-2020	12 months Sep-30-2021	12 months Sep-30-2022
Currency	*EUR*	*EUR*	*EUR*	*EUR*	*EUR*
Net Income	**1.075,0**	**870,0**	**368,0**	**1.169,0**	**2.179,0**
Depreciation & Amort.	702,0	804,0	919,0	1.001,0	1.130,0
Amort. of Goodwill and Intangibles	110,0	84,0	285,0	443,0	440,0
Depreciation & Amort., Total	**812,0**	**888,0**	**1.204,0**	**1.444,0**	**1.570,0**
Other Amortization	49,0	57,0	56,0	69,0	94,0
(Gain) Loss From Sale Of Assets	(271,0)	(10,0)	(22,0)	(5,0)	(12,0)
Asset Writedown & Restructuring Costs	7,0	6,0	12,0	12,0	24,0
Stock-Based Compensation	-	-	-	27,0	62,0
Net Cash From Discontinued Ops.	4,0	(2,0)	(6,0)	2,0	(6,0)
Other Operating Activities	134,0	98,0	35,0	(43,0)	147,0
Change in Acc. Receivable	(116,0)	71,0	46,0	(279,0)	(307,0)
Change In Inventories	(251,0)	(239,0)	124,0	(121,0)	(766,0)
Change in Acc. Payable	158,0	(109,0)	(71,0)	407,0	640,0
Change in Other Net Operating Assets	(26,0)	(29,0)	65,0	383,0	355,0
Cash from Ops.	**1.575,0**	**1.601,0**	**1.811,0**	**3.065,0**	**3.980,0**
Capital Expenditure	(1.090,0)	(1.295,0)	(915,0)	(1.268,0)	(2.053,0)
Sale of Property, Plant, and Equipment	11,0	15,0	33,0	14,0	16,0
Cash Acquisitions	(16,0)	(123,0)	(7.433,0)	(19,0)	(36,0)
Divestitures	324,0	-	(1,0)	13,0	-
Sale (Purchase) of Intangible assets	(164,0)	(156,0)	(184,0)	(229,0)	(257,0)
Invest. in Marketable & Equity Securt.	(228,0)	(929,0)	1.328,0	(795,0)	(111,0)
Net (Inc.) Dec. in Loans Originated/Sold	-	-	-	-	-
Other Investing Activities	-	-	-	-	-
Cash from Investing	**(1.163,0)**	**(2.488,0)**	**(7.172,0)**	**(2.284,0)**	**(2.441,0)**
Short Term Debt Issued	-	-	-	-	-
Long-Term Debt Issued	-	1,0	9.815,0	1.084,0	500,0
Total Debt Issued	**-**	**1,0**	**9.815,0**	**1.084,0**	**500,0**
Short Term Debt Repaid	-	-	-	-	-
Long-Term Debt Repaid	(321,0)	(23,0)	(5.435,0)	(1.646,0)	(1.977,0)
Total Debt Repaid	**(321,0)**	**(23,0)**	**(5.435,0)**	**(1.646,0)**	**(1.977,0)**
Issuance of Common Stock	6,0	1.530,0	2.227,0	-	-
Repurchase of Common Stock	-	-	(20,0)	(39,0)	(39,0)
Common Dividends Paid	(283,0)	(305,0)	(336,0)	(286,0)	(351,0)
Total Dividends Paid	**(283,0)**	**(305,0)**	**(336,0)**	**(286,0)**	**(351,0)**
Special Dividend Paid	-	-	-	-	-
Other Financing Activities	56,0	(36,0)	23,0	2,0	(2,0)
Cash from Financing	**(542,0)**	**1.167,0**	**6.274,0**	**(885,0)**	**(1.869,0)**
Foreign Exchange Rate Adj.	2,0	9,0	(83,0)	2,0	19,0
Net Change in Cash	**(128,0)**	**289,0**	**830,0**	**(102,0)**	**(311,0)**

Appendix 9. Consolidated income statement forecast - Mercedes-Benz Group AG

€ million	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Income Statement - Mercedes Benz Group AG							
Revenue	150.017	156.211	162.661	169.377	176.370	183.652	191.235
year-on-year growth	12,0%	4,1%	4,1%	4,1%	4,1%	4,1%	4,1%
Other revenue	-	-	-	-	-	-	-
Total Revenue	**150.017**	**156.211**	**162.661**	**169.377**	**176.370**	**183.652**	**191.235**
in % of revenue	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
COGS	(117.433)	(127.349)	(132.607)	(138.082)	(143.783)	(149.720)	(155.902)
in % of revenue	78,3%	81,5%	81,5%	81,5%	81,5%	81,5%	81,5%
Gross Profit	**32.584**	**28.862**	**30.054**	**31.295**	**32.587**	**33.932**	**35.333**
in % of revenue	21,7%	18,5%	18,5%	18,5%	18,5%	18,5%	18,5%
Operating expenses	(10.650)	(12.245)	(12.751)	(13.277)	(13.826)	(14.396)	(14.991)
in % of revenue	7,1%	7,8%	7,8%	7,8%	7,8%	7,8%	7,8%
EBITDA	**21.934**	**16.617**	**17.303**	**18.017**	**18.761**	**19.536**	**20.343**
in % of revenue	14,6%	10,6%	10,6%	10,6%	10,6%	10,6%	10,6%
D&A	(4.469)	(4.116)	(4.249)	(4.392)	(4.543)	(4.704)	(4.875)
EBIT	**17.465**	**12.501**	**13.054**	**13.626**	**14.218**	**14.832**	**15.468**
in % of revenue	11,6%	8,0%	8,0%	8,0%	8,1%	8,1%	8,1%

Appendix 10. Consolidated income statement including synergies forecast - Mercedes-Benz Group AG

€ million	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Income Statement - Mercedes Benz Group AG							
Revenue	150.017	156.211	162.661	169.377	176.370	183.652	191.235
year-on-year growth	12,0%	4,1%	4,1%	4,1%	4,1%	4,1%	4,1%
Other revenue	-	-	-	-	-	-	-
Revenue Synergies		-	488	678	882	918	956
in % of revenue		*0,0%*	*0,3%*	*0,4%*	*0,5%*	*0,5%*	*0,5%*
Total Revenue	**150.017**	**156.211**	**163.149**	**170.054**	**177.252**	**184.570**	**192.191**
in % of revenue	100,0%	100,0%	100,3%	100,4%	100,5%	100,5%	100,5%
COGS	(117.433)	(127.349)	(133.005)	(138.634)	(144.502)	(150.468)	(156.681)
in % of revenue	78,3%	81,5%	81,5%	81,5%	81,5%	81,5%	81,5%
COGS Synergies		-	156	312	469	469	469
in % of revenue		*0,0%*	*0,1%*	*0,2%*	*0,3%*	*0,3%*	*0,3%*
Gross Profit	**32.584**	**28.862**	**30.300**	**31.732**	**33.218**	**34.571**	**35.979**
in % of revenue	21,7%	18,5%	18,6%	18,7%	18,8%	18,8%	18,8%
Operating expenses	(10.650)	(12.245)	(12.789)	(13.330)	(13.895)	(14.468)	(15.066)
in % of revenue	7,1%	7,8%	7,8%	7,8%	7,8%	7,8%	7,8%
OPEX Synergies		-	156	312	469	469	469
in % of revenue		*0,0%*	*0,1%*	*0,2%*	*0,3%*	*0,3%*	*0,3%*
EBITDA	**21.934**	**16.617**	**17.667**	**18.714**	**19.792**	**20.571**	**21.382**
in % of revenue	14,6%	10,6%	10,9%	11,0%	11,2%	11,2%	11,2%
D&A	(4.469)	(4.116)	(4.249)	(4.393)	(4.547)	(4.711)	(4.884)
EBIT	**17.465**	**12.501**	**13.418**	**14.321**	**15.245**	**15.860**	**16.498**
in % of revenue	11,6%	8,0%	8,2%	8,5%	8,6%	8,6%	8,6%

Appendix 11. Consolidated income statement forecast – Infineon Technologies AG

€ million	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Income Statement - Infineon Technologies AG							
Revenue	14.218	16.629	19.215	21.935	24.733	27.542	30.284
year-on-year growth	28,6%	17,0%	15,6%	14,2%	12,8%	11,4%	10,0%
Other revenue	-	-	-	-	-	-	-
Total Revenue	**14.218**	**16.629**	**19.215**	**21.935**	**24.733**	**27.542**	**30.284**
in % of revenue	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
COGS	(8.077)	(10.292)	(11.893)	(13.577)	(15.308)	(17.047)	(18.744)
in % of revenue	56,8%	61,9%	61,9%	61,9%	61,9%	61,9%	61,9%
Gross Profit	**6.141**	**6.337**	**7.322**	**8.359**	**9.425**	**10.495**	**11.540**
in % of revenue	43,2%	38,1%	38,1%	38,1%	38,1%	38,1%	38,1%
Operating expenses	(1.936)	(2.005)	(2.317)	(2.645)	(2.982)	(3.321)	(3.652)
in % of revenue	13,6%	12,1%	12,1%	12,1%	12,1%	12,1%	12,1%
EBITDA	**4.205**	**4.332**	**5.005**	**5.714**	**6.443**	**7.174**	**7.889**
in % of revenue	29,6%	26,0%	26,0%	26,0%	26,0%	26,0%	26,0%
D&A	(1.130)	(1.262)	(1.546)	(1.853)	(2.181)	(2.529)	(2.820)
EBIT	**3.075**	**3.070**	**3.459**	**3.861**	**4.261**	**4.646**	**5.069**
in % of revenue	21,6%	18,5%	18,0%	17,6%	17,2%	16,9%	16,7%

Appendix 12. Consolidated income statement including synergies forecast – Infineon Technologies AG

€ million	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Income Statement - Infineon Technologies AG							
Revenue	14.218	16.629	19.215	21.935	24.733	27.542	30.284
year-on-year growth	28,6%	17,0%	15,6%	14,2%	12,8%	11,4%	10,0%
Other revenue	-	-	-	-	-	-	-
Revenue Synergies		-	-	-	-	-	-
in % of revenue		*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*	*0,0%*
Total Revenue	**14.218**	**16.629**	**19.215**	**21.935**	**24.733**	**27.542**	**30.284**
in % of revenue	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
COGS	(8.077)	(10.292)	(11.893)	(13.577)	(15.308)	(17.047)	(18.744)
in % of revenue	56,8%	61,9%	61,9%	61,9%	61,9%	61,9%	61,9%
COGS Synergies		-	96	219	247	275	303
in % of revenue		*0,5%*	*0,5%*	*1,0%*	*1,0%*	*1,0%*	*1,0%*
Gross Profit	**6.141**	**6.420**	**7.418**	**8.578**	**9.672**	**10.771**	**11.843**
in % of revenue	43,2%	38,6%	38,6%	39,1%	39,1%	39,1%	39,1%
Operating expenses	(1.936)	(2.005)	(2.317)	(2.645)	(2.982)	(3.321)	(3.652)
in % of revenue	13,6%	12,1%	12,1%	12,1%	12,1%	12,1%	12,1%
OPEX Synergies		-	288	439	495	551	606
in % of revenue		*1,0%*	*1,5%*	*2,0%*	*2,0%*	*2,0%*	*2,0%*
EBITDA	**4.205**	**4.581**	**5.390**	**6.372**	**7.185**	**8.001**	**8.797**
in % of revenue	29,6%	27,5%	28,0%	29,0%	29,0%	29,0%	29,0%
D&A	(1.130)	(1.262)	(1.546)	(1.853)	(2.181)	(2.529)	(2.820)
EBIT	**3.075**	**3.319**	**3.843**	**4.519**	**5.003**	**5.472**	**5.978**
in % of revenue	21,6%	20,0%	20,0%	20,6%	20,2%	19,9%	19,7%

Appendix 13. Working capital – Mercedes-Benz Group AG

€ million	2018A	2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Working Capital - Mercedes Benz Group AG											
CURRENT ASSETS											
Total Cash & Short Term Investments	21.161	23.572	25.509	24.323	20.064	20.892	21.755	22.653	23.589	24.563	25.577
in % of revenue	12,6%	13,6%	20,9%	18,2%	13,4%	13,4%	13,4%	13,4%	13,4%	13,4%	13,4%
Accounts Receivable	10.545	11.045	9.929	6.875	7.328	12.359	12.869	13.401	13.954	14.530	15.130
Other Receivables	4.362	3.947	3.270	3.060	3.260	3.760	3.915	4.077	4.245	4.420	4.603
in % of revenue	2,6%	2,3%	2,7%	2,3%	2,2%	2,4%	2,4%	2,4%	2,4%	2,4%	2,4%
Total Receivables	**14.907**	**14.992**	**13.199**	**9.935**	**10.588**	**16.119**	**16.784**	**17.477**	**18.199**	**18.951**	**19.733**
Inventory	28.096	28.420	25.298	20.976	24.906	34.663	36.094	37.584	39.136	40.752	42.434
Prepaid Exp.	712	682	670	445	451	624	650	677	705	734	764
in % of expenses	0,5%	0,4%	0,6%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
Other Current Assets	56.737	60.134	50.588	47.250	46.865	52.315	52.315	52.315	52.315	52.315	52.315
Total Current Assets	**121.613**	**127.800**	**115.264**	**102.929**	**102.874**	**124.613**	**127.598**	**130.707**	**133.943**	**137.314**	**140.823**
CURRENT LIABILITIES											
Accounts Payable	13.395	11.896	11.605	9.670	11.101	15.862	16.517	17.199	17.909	18.649	19.419
Accrued Exp.	6.547	5.661	6.288	5.255	5.595	6.270	6.529	6.798	7.079	7.371	7.676
in % of expenses	4,3%	3,4%	5,8%	4,6%	4,4%	4,5%	4,5%	4,5%	4,5%	4,5%	4,5%
Finance Div. Debt Current	56.240	62.601	59.303	52.300	49.786	56.046	56.046	56.046	56.046	56.046	56.046
Unearned Revenue, Current	8.362	9.195	8.763	7.415	8.289	8.929	9.297	9.681	10.081	10.497	10.930
in % of revenue	*5,0%*	*5,3%*	*7,2%*	*5,5%*	*5,5%*	5,7%	5,7%	5,7%	5,7%	5,7%	5,7%
Curr. Income Taxes Payable	1.095	1.128	1.001	1.457	1.416	1.300	1.354	1.410	1.468	1.528	1.592
in % of revenue	*0,7%*	*0,7%*	*0,8%*	*1,1%*	*0,9%*	0,8%	0,8%	0,8%	0,8%	0,8%	0,8%
Other Current Liabilities	12.313	15.321	12.849	11.578	12.216	12.855	12.855	12.855	12.855	12.855	12.855
Total Current Liabilities	**97.952**	**105.802**	**99.809**	**87.675**	**88.403**	**101.262**	**102.598**	**103.989**	**105.438**	**106.946**	**108.517**
Net Working Capital	2.500	(1.574)	(10.054)	(9.069)	(5.593)	2.459	3.245	4.064	4.917	5.805	6.729
Change in Net Working Capital		**(4.074)**	**(8.480)**	**985**	**3.476**	**8.052**	**786**	**819**	**853**	**888**	**924**

Appendix 14. Working capital – Infineon Technologies AG

€ million	2018A	2019A	2020A	2021A	2022A	2023E	2024E	2025E	2026E	2027E	2028E
Working Capital - Infineon Technologies AG											
CURRENT ASSETS											
Total Cash & Short Term Investments	2.543	3.779	3.227	3.922	3.717	4.347	5.023	5.735	6.466	7.200	7.917
in % of revenue	33,5%	47,1%	37,7%	35,5%	26,1%	26,1%	26,1%	26,1%	26,1%	26,1%	26,1%
Accounts Receivable	971	1.148	1.293	1.565	1.972	2.156	2.491	2.844	3.207	3.571	3.927
Other Receivables	101	171	148	151	144	252	291	332	374	417	458
in % of revenue	1,3%	2,1%	1,7%	1,4%	1,0%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Total Receivables	**1.072**	**1.319**	**1.441**	**1.716**	**2.116**	**2.408**	**2.782**	**3.176**	**3.581**	**3.988**	**4.385**
Inventory	1.480	1.701	2.052	2.181	3.081	3.236	3.740	4.269	4.813	5.360	5.894
Prepaid Exp.	57	92	92	145	189	186	214	245	276	307	338
in % of expenses	1,0%	1,6%	1,4%	1,7%	1,9%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Other Current Assets	271	602	367	288	350	376	376	376	376	376	376
Total Current Assets	**5.423**	**7.493**	**7.179**	**8.252**	**9.453**	**10.553**	**12.136**	**13.800**	**15.513**	**17.231**	**18.909**
CURRENT LIABILITIES											
Accounts Payable	1.181	1.089	1.160	1.569	2.260	2.131	2.463	2.812	3.170	3.530	3.882
Accrued Exp.	146	153	317	310	341	417	482	550	620	691	760
in % of expenses	2,6%	2,6%	4,7%	3,7%	3,4%	3,4%	3,4%	3,4%	3,4%	3,4%	3,4%
Short Term Borrowings	-	-	329	330	-	330	330	330	330	330	330
Curr. Portion of LTD	25	22	242	503	752	441	510	582	656	731	803
in % of revenue	*0,3%*	*0,3%*	*2,8%*	*4,5%*	*5,3%*	2,7%	2,7%	2,7%	2,7%	2,7%	2,7%
Unearned Revenue	-	-	4	12	26	11	13	15	17	19	20
in % of revenue	*0,0%*	*0,0%*	*0,0%*	*0,1%*	*0,2%*	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Curr. Portion of Leases	-	-	59	66	76	86	98	111	126	143	162
Curr. Income Taxes Payable	117	144	340	288	356	413	477	544	614	684	752
in % of revenue	*1,5%*	*1,8%*	*4,0%*	*2,6%*	*2,5%*	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
Other Current Liabilities	713	805	999	1.365	1.777	1.132	1.132	1.132	1.132	1.132	1.132
Total Current Liabilities	**2.182**	**2.213**	**3.450**	**4.443**	**5.588**	**4.961**	**5.504**	**6.076**	**6.665**	**7.259**	**7.841**
Net Working Capital	723	1.523	744	390	900	1.685	2.118	2.572	3.038	3.503	3.955
Change in Net Working Capital		**800**	**(779)**	**(354)**	**510**	**785**	**433**	**454**	**466**	**465**	**452**

Appendix 15. Multiple valuation results– Mercedes-Benz Group AG

Multiple Valuation Average Results - Mercedes-Benz Group AG	EV/Revenue	EV/EBITDA	P/E
2022 Value*	150.017	21.934	14
Multiple	2,0 x	8,9 x	14,4 x
Enterprise Value*	**306.948**	**194.556**	**299.824**
Net Debt*	91.660	91.660	91.660
Equity Value*	**215.288**	**102.896**	**208.164**
Shares Outstanding	1.070	1.070	1.070
Share Price**	**201,23**	**96,18**	**194,58**

Multiple Valuation Median Results - Mercedes-Benz Group AG	EV/Revenue	EV/EBITDA	P/E
2022 Value*	150.017	21.934	14
Multiple	1,0 x	6,1 x	7,8 x
Enterprise Value*	**150.102**	**133.454**	**204.162**
Net Debt*	91.660	91.660	91.660
Equity Value*	**58.442**	**41.794**	**112.502**
Shares Outstanding	1.070	1.070	1.070
Share Price**	**54,63**	**39,07**	**105,16**

€ million
**€

Appendix 16. Multiple valuation results – Infineon Technologies AG

Multiple Valuation Average Results - Infineon Technologies AG	EV/Revenue	EV/EBITDA	P/E
2022 Value*	14.218	4.205	2
Multiple	5,1 x	13,7 x	20,7 x
Enterprise Value*	**72.151**	**57.576**	**46.742**
Net Debt*	2.331	2.331	2.331
Equity Value*	**69.820**	**55.245**	**44.411**
Shares Outstanding	1.303	1.303	1.303
Share Price**	**53,60**	**42,41**	**34,09**

Multiple Valuation Median Results - Infineon Technologies AG	EV/Revenue	EV/EBITDA	P/E
2022 Value*	14.218	4.205	2
Multiple	5,6 x	11,6 x	18,1 x
Enterprise Value*	**79.253**	**48.581**	**41.106**
Net Debt*	2.331	2.331	2.331
Equity Value*	**76.922**	**46.250**	**38.775**
Shares Outstanding	1.303	1.303	1.303
Share Price**	**59,05**	**35,50**	**29,76**

€ million
**€

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