BERYLLS EQUITY PARTNERS

PRIVATE EQUITY IN THE AUTOMOTIVE INDUSTRY – ARE INVESTORS STILL INTERESTED?

AGENDA

EXECUTIVE SUMMARY

1 Technological change, new business models and macroeconomic trends cause disproportionate disruption

ACES[1] trends and new business models redistribute profit pools, pressuring traditional automotive companies' toplines and necessitating strategic investors to transform their business units to stay competitive in the new mobility era. In addition, the excessive dependency of the automotive industry on highly complex, global supply chains makes it suffer more from production stops due to war, pandemics and material shortages than other industries.

2 Automotive companies' multiple years of distress scare debt providers

More than three years of low returns, increased debt ratios and strained liquidity positions have made debt providers fear automotive exposure. Debt volumes have reduced and interest rates have increased. Traditional banks limit their automotive investment volumes, cashflow-based debt funds face uncertain forecasts and asset-based lenders are expensive financers of last resort.

3 Strategic investors impede financial growth investments, buyout funds are robbed of their value creation tool

Due to their synergistic long-term intent, strategic investors are willing to beat out PE[2] growth investors, elevating valuations and reducing the returns from automotive investments to an unattractive level. The value creation model of buyout funds, leverage and dividend payments, is not viable anymore. Returns available in other industries, due to better debt terms, far exceed automotive investments.

4 Automotive PE is primarily attractive for turnaround investors

The deal flow from corporate carve-outs, distressed succession solutions and (pre-) insolvencies creates many attractive opportunities for turnaround investors. The target selection, restructuring and strategic repositioning, however, requires extensive market knowledge and a broad industry network.

5 Automotive and mobility venture capital leads the way for PE opportunities in upcoming years

VC[3] investments in automotive and mobility startups have already been significant in recent years – sooner than later this generation of assets will hit maturity, market penetrations will increase and operative cashflows will turn positive. Mature regulatory frameworks and established technological concepts will allow long-term planning horizons. This will provide attractive investment opportunities for growth and buyout PE funds.

[1] Autonomous, connected, electrified, shared [2] Private equity [3] Venture capital

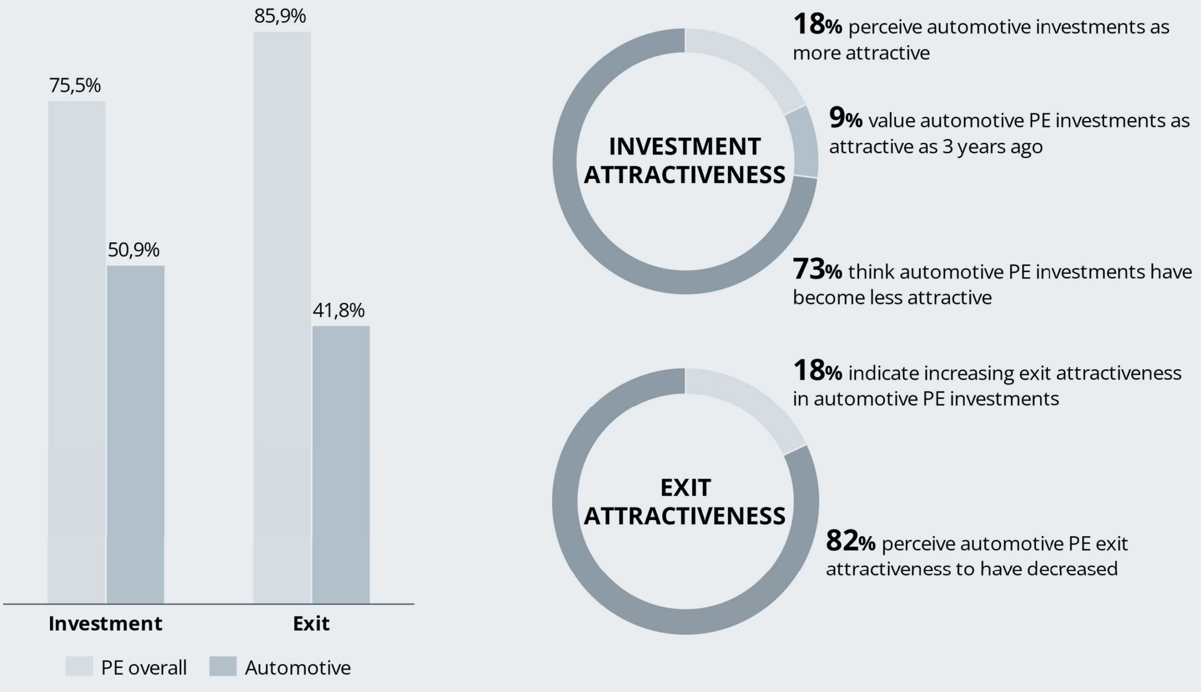
PRIVATE EQUITY TOP – AUTOMOTIVE FLOP?

Global buyout investment volumes for the first time exceeded $ 1 trillion in 2021. Private capital dry powder increased to $ 3.4 trillion, reaching new heights and proving investors' trust in PE's return expectations[4]. Overall, private equity is one of the most attractive investment sectors today. Due to a lack of alternative investment options – besides public markets few investment approaches currently provide comparable returns – competition for attractive assets is high and valuations soar. But how do automotive targets live up to that market standard?

FIGURE 1

INVESTORS' AUTOMOTIVE PE INDUSTRY PERCEPTION

Investors' PE industry perception (0% unattractive – 100% highly attractive)



Source: Berylls Equity Partners

So far, the PE industry's success story does not translate to automotive investments. The automotive industry is considered one of the least attractive industries for PE investors. Investment and exit attractiveness are perceived far below the PE industry average – trend falling. Less than one fifth of investors regard the automotive industry as more attractive than pre-COVID. This raises two questions – why did PE investors stop to favor their once beloved child and where are automotive PE investments headed?

[4] Bain & Company Global Private Equity Report 2022

AUTOMOTIVE INDUSTRY? DISRUPTION IS THE KEYWORD

The automotive industry experiences both underlying and temporary disruption, redistributing the potential of companies to capture value. Both automotive companies and investors alike face uncertainty regarding the predictability, transparency and stability of future sales volumes, prices and production costs along a globalized value chain.

1 | Underlying industry transformation

Irrespective of temporary market disruptions, technological and business model trends shift revenue pools from traditional automotive suppliers, OEMs[5] and aftermarket industries to new mobility services and tech-companies serving the ACES sectors. These segments enjoy sustainably stable or growing market volumes. Market participants dependent on old technology or business models, in contrast, face declining sales volumes and profit pools.

2 | Temporary sources of distress

Extraordinary market distress due to COVID, the semiconductor shortage and the war in Ukraine has caused production stops. The complexity of today's vehicles and the lack of global supply chain resilience make the automotive industry especially vulnerable to current procurement disruptions. Single products, like e.g. wiring harnesses produced in Ukraine, lead to production stops across the entire industry, automotive suppliers and OEMs consequently losing profit contributions. Additionally, rising energy and material expenses increase the production costs, further pressuring margins.

[5] Original equipment manufacturer

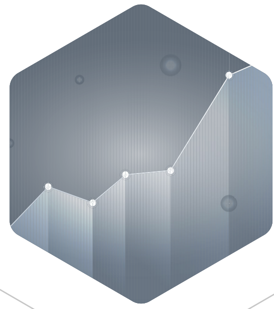
Due to the challenging market environment both strategic and financial investors are concerned with portfolio restructuring. As internal competencies in future-proof segments are not sufficiently available, strategic investors employ M&A to add new technologies and business models to their portfolios while disposing of assets tied to the old economy. Financial investors on the other hand fear a further valuation decline of traditional automotive targets and seek to profit from market growth potentials. This creates significant activity on the automotive transaction market with strategic and financial investors active on the buy and sell side.

Dependent on their value creation approach and business lifecycle appetite, three PE investor categories can be defined:

1. Growth investors target new technologies and new business models with significant growth projections. Growth companies require financing due to the capital intensity of the industry and financially strong competition.

2. Buyout investors create value through dividend payments and deleveraging, targeting companies with high predictability, low risk and consequently stable cashflows.

3. Turnaround investors focus on companies with sustainably decreasing sales volumes and profitability, lack of financial resources and need for turnaround expertise to adapt to the changing market environment.



GROWTH INVESTMENTS – THE BATTLEFIELD OF STRATEGIC AND FINANCIAL INVESTORS

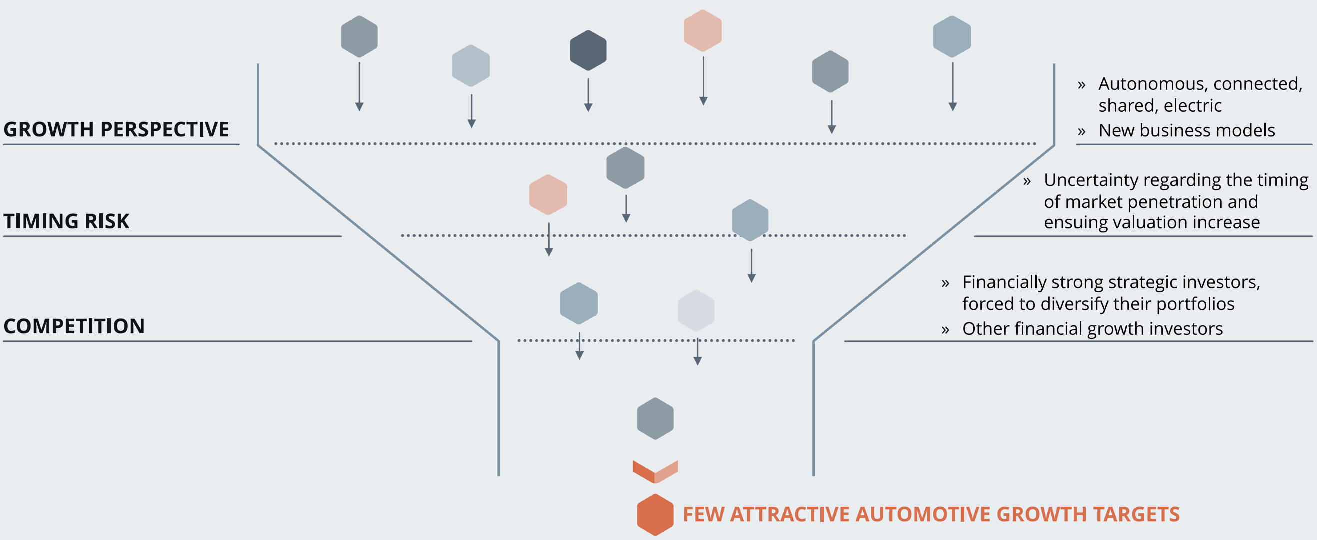
Growth investments require scalable targets, creating returns through rising valuations between acquisition and exit. Increasing market volumes or market shares drive earnings and in turn enterprise valuations. Scaling portfolio companies in growing technology sectors is less challenging than disrupting old economy segments.

In light of the disrupted automotive industry few sectors fulfill these criteria. Sensor technology and software, for example, will gain importance in automated driving and new business models, battery and charging technology will profit from electric vehicle market penetration.

Many mobility startups in the ACES sectors are already stuffed with cash from VC financing. But there are still suitable targets, not within VC investment scope, in need of financing to expand their operations and drive market penetration. Targets in question must however pass two more filters within the growth investment funnel, to fulfill viable return perspectives.

FIGURE 2

AUTOMOTIVE GROWTH INVESTMENT FUNNEL



Source: Berylls Equity Partners

1 | The timing of technological and business model shifts is uncertain

As growth investors primarily rely on market trends for the expansion of their assets and ensuing value creation, the establishment of the asset's technology within the investment horizon is essential to returns. Although most agree on the increasing dominance of ACES technologies and new business models, the speed of change is not certain. Sustainable governmental regulation is not in sight and consumers' future buying preferences are to be seen. Therefore, both entry and exit valuations are difficult to derive. Return expectations, however, depend significantly on the timing of cashflows. Growth investors struggle with adequate valuations of targets, as the long-term certainty of cashflows and exit valuations is not transparent. Unlike VC investment models, PE firms depend on positive cash flows to successfully exit their portfolio companies.

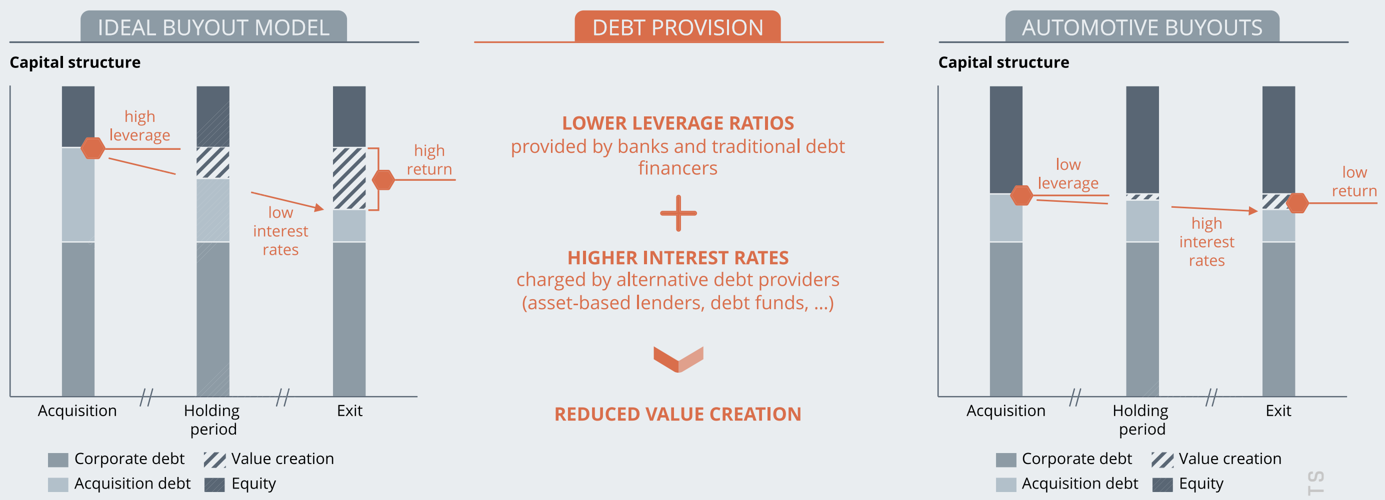
2 | The growth equity market is highly competed

Strategic investors have both the means and the motive to be highly active in the automotive M&A market right now. Portfolio expansion and diversification to reposition in line with future trends inclines them to complement their current value proposition with growth sectors. As inhouse competencies are often not sufficient to create this expertise stand-alone, selected acquisitions in new technologies and business models are a suitable alternative. Due to high public valuations and dry powder, strategic investors are financially well equipped to pay top dollar for promising growth assets. As they can raise synergy potentials and pursue a longer investment horizon, strategic investors are often willing to beat out financial investors. Mixing hungry strategic buyers with a few growth target snacks is spicing up the underlying competition among financial investors.

Deal activity by growth investors is currently low – competition from strategically motivated investors and risk deductions arising from uncertainty lead to few growth targets being considered by PE investors.

FIGURE 3

BUYOUT FUNDS' LOST VALUE CREATION



Source: Berylls Equity Partners

BUYOUT INVESTMENTS – NO LEVERAGE, NO FUN

Buyout investments depend on leverage. The primary value creation in buyouts does not stem from operative improvements or market growth. Buyout funds create value through the leverage of purchase prices and subsequent repayment through the portfolio's cashflows. Contrary to growth investments, the future potential of technology and business model are secondary investment requirements – the predictability and extent of free cashflows drive buyout investment decisions.

However, few automotive sectors currently suit this investment approach. Just operations in technologies independent of the drivetrain normally offer reliable forecasts, though companies in their infancy do not provide sufficient cashflows to support the buyout model. Suppliers providing e.g. body parts, cooling technology or chassis components are not impacted by the downturn due to the ACES trends and have grown cashflow-positive in the past decades. But what is still normal in the automotive industry? A pandemic, supply chain issues, material shortages, war – uncertainty is bigger than ever, dampening the outlook for equity and debt providers even in technologically stable sectors.

1 | Debt providers fear automotive exposure

Volumes provided by banks are reduced and interest rates raised – assuming they even consider automotive investments. ESG[6] guidelines incline banks to move away from ICE[7]-related investments, risk associated with the automotive industry in general requires them to sharply increase security coverage and interest rates. Banks shying away from automotive assets opens opportunities for cashflow-based financers. The less rigid investment requirements of debt funds allow automotive exposure too risky for banks' guidelines. Their assessment is based on the stability and predictability of cashflows for mostly unsecured debt – but automotive companies are not very good at that right now. This leaves asset-based lending. Asset-based lending has been common in Anglo-American investments in the past decades and gains momentum in Europe. Still, some regard it as financing of last resort due to the high costs associated. Regardless of the source of debt provision, high interest rates prohibit buyout funds from employing their value creation model to an extent possible in other industries.

2 | Mid- and short-term transparency increases the risk-profile of automotive investments

Independent of the value creation model and the debt provider, uncertainty due to prevailing industry trends and temporary market distress requires significant risk provisions by investors as the stability of cashflows and margins is fundamental to the success of deleveraging and appropriate exit returns.

The underlying investment model of buyout investors does not suit the current automotive market development – both risk and return are substandard compared to other industries. Debt providers, if at all, offer low volumes at high interest rates, reducing the return potential to buyout investors. Unpredictability and a lack of transparency do not allow buyout investors to pursue automotive targets at risk-adjusted returns. Therefore, few automotive assets are suitable and only selected investment cases fulfill the buyout investment criteria.

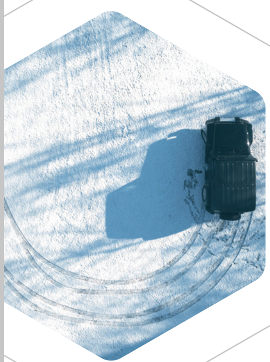
[6] Environmental, social, governance
[7] Internal combustion engine

TURNAROUND INVESTMENTS (PART I) – HOW TO MAKE MONEY WITH AUTOMOTIVE PE

The success of automotive turnaround investments is dependent on stakeholder support. Customers, suppliers, financing partners and employees must contribute to enable the transformation from a struggling market participant to a reliable business partner. But after having passed stakeholder management as the first hurdle, investors still need a clear strategy for the future as most of the stakeholder support will end after a transition period.

1 | Restructuring & repositioning

Despite having competitive competencies, companies have run into difficulties due to temporary market disruptions and technological transformation. Leveraging the core competencies refined over decades of automotive experience and employing them in new product areas allows investors to reposition targets in the long run. As due to decreasing sales volumes many companies have dropped below the threshold their overhead structures are designed for, personnel and process restructuring are measures to decrease the fixed expenses and increase profitability. Rethinking and setting up the organizations for present and future output levels is essential to the sustainable development of the business, cutting the burden arising from past mismanagement and inefficiencies.



2 | Consolidation & add-on acquisitions

The contrasting approach to resizing a target to a sustainable level is consolidating similar assets to gain market power. Add-on acquisitions create economies of scale in overhead and production processes and raise the negotiation power towards customers and suppliers through a bigger share of wallet. Thereby fixed cost ratios are reduced, sales volumes secured and price adjustments enforceable. Due to the high number of distressed automotive cases, contract volumes can be taken over from companies going out of business. However, investors must convince customers of the efficiency and success of a relocation – requiring a good network within the automotive industry and distressed community. Investors proving their professionality and competency during relocation processes can build strong customer relationships as they solve significant problems for their customers. Because sales volumes from combustion engine related areas will still be sufficiently high for a few years and efficient processes and price negotiations can increase margins, this strategy promises viable investment returns. However, eventually sales volumes in combustion engine related sectors will drop, necessitating investors to either reposition in the meantime or wind-down their automotive assets.

Besides two promising investment approaches, turnaround investors enjoy a high availability of distressed targets at relatively low valuations. Corporate carve-outs, difficult and underperforming succession solutions and (pre-) insolvencies are valuable transaction sources, providing investors with sufficient opportunities to develop automotive assets.

» **Carve-out** activity has significantly increased due to corporate portfolio restructuring. Well-invested and highly efficient assets hit the market, often even at negative purchase prices due to personnel liabilities and steeply decreasing toplines. Investors capable of installing overhead structures and restoring market access face promising investment cases at low liquidity demands.

» Most **succession solutions** do not concern high-performing assets anymore, as due to the recent market crises even well-run companies have come under pressure. Current owners realize the need for external financing to bridge liquidity gaps and serve strategic investments. In case banks do not provide additional debt, private owners increasingly accept equity investors as partners of choice to reposition the asset for future growth – not only due to financial power, but more importantly because of restructuring and crises management expertise.

» Despite last years' disruption, **insolvencies** have not significantly increased. So far, governmental support has kept most companies afloat, creating many "zombies". Compared to corporate sellers who provide liquidity through negative valuations to support the investor's restructuring efforts, insolvency administrators currently always demand a significant purchase price for the assets of the company. The profits expected from the investments do not justify the high costs associated with an asset-deal at liquidation value, working capital financing as well as a lack of creditworthiness and debt capacity. Asset valuation must be rethought – otherwise insolvency administrators and creditors will have to liquidate most insolvent companies, disregarding the stakeholder interests of customers and employees.

Side note – asset valuation of insolvent "zombies"

Governmental support programs and short-term work allowances have led to a delay and congestion of corporate insolvencies. Companies, which should have filed for insolvency years ago – "zombies" – are still walking. Plenty of these insolvencies will flood the transaction market in the upcoming months. Stakeholder interests regarding the handling of "zombies" are contrasting. Employees, customers and insolvency administrators are interested in a sale of the business. Employees retain workplaces, customers avoid the risky, time- and cost-intensive relocation process and insolvency administrators build their reputation. Financial creditors, in contrast, are interested in the maximization of their recovery rate. In line with insolvency law, they set their minimum recovery value at the liquidation value of their collateral securities.

This valuation method, currently applied in insolvency proceedings, is – from a financial investor's standpoint – no longer viable. The excessive availability of assets and their limited capacity of profit generation renders their value to an investor lower than the liquidation value. The expenses for restructuring, working capital ramp-up and asset purchases do no longer match the potential returns from investments. Besides high liquidity needs, investors face a high risk profile due to long-established crises causes and a reputation risk of the insolvent target. "Zombies", therefore, do not represent attractive opportunities for investors, necessitating alternative valuation methods, not applied in insolvency proceedings to date.

But how to proceed with "zombies"? Current insolvency law does not allow the sale of assets below liquidation value, and therefore – rightfully – serves financial creditors' interests. The interests of employees and customers, however, are not always met when a company is liquidated to maximize the recovery rate for financial creditors. The gap between investors' and creditors' asset valuation has to be bridged – but by whom?

FIGURE 4

INSOLVENCY ASSET VALUATION

CREDITORS' ASSET VALUATION

Land & buildings	€ 3mn.
Machinery	€ 2mn.
Inventory & supplies	€ 5mn.
Intangible assets	€ 1mn.
Demanded asset purchase price	**€ 11mn.**

MINIMUM VALUATION AT LIQUIDATION VALUE

RETROGRADE VALUATION BASED ON ASSETS' PROFIT CAPACITY

NEW ALLOCATION OF RESIDUAL PURCHASE PRICE NECESSARY

INVESTORS' ASSET VALUATION

ASSUMED EXIT STATE	
EBITDA	€10mn.
Market multiple	6.0 x
Enterprise value	**€ 60mn.**
Debt	€ 21mn.
Equity value	**€ 39mn.**
DEDUCTED INVESTMENT STATE	
Expected money multiple	3.0 x
Viable equity purchase price	**€ 13mn.**
Working capital ramp-up	€ 5mn.
Restructuring expenses	€ 2mn.
Risk provision	€ 1mn.
Viable asset purchase price	**€ 5mn.**

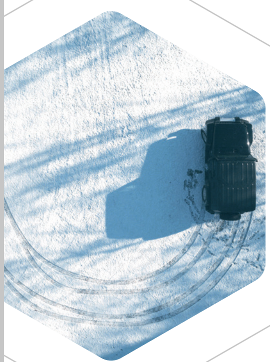
Note: Examplary transaction valuation

It is the investors' responsibility to restructure and reposition the business long-term and thereby turn it profitable. In the meantime, however, losses must be covered by other stakeholders to render the aggregated investment returns and risk exposure attractive to investors. Customers' interest in the sale and continuation of the business could incline them to support investors through loss compensation agreements and liquidity support during the acquisition and ramp-up period. Likewise, employees could be willing to contribute through extensive reorganization collective agreements.

But do customers and employees want to go that far to restructure a "zombie", what solutions could insolvency law provide and what other creative approaches are out there? We are happy to discuss!

TURNAROUND INVESTMENTS (PART II) – DO INVESTORS HAVE WHAT IT TAKES?

Strategic investors are currently very active on the automotive transaction market – but they leave their hands off risky, time- and management capacity-intensive turnaround targets. Turnaround investors consequently face limited strategic competition, sufficient availability of targets and promising value creation approaches in turnaround cases. Still, investors must cope with high risk due to uncertainty regarding the short-term stability of the automotive industry. Both investment approaches (restructuring & repositioning and consolidation & add-on) require stable revenues and margins to fund the envisaged adjustment measures. Investors are not willing to finance cash- and profit-drain due to untransparent market conditions in high-risk investments as turnaround cases. Consequently, investors must apply significant risk deductions regarding the sales volumes in upcoming months to avoid further capital injections – again, this requires the support of all stakeholders, especially customers securing demand and suppliers adjusting payment terms to support liquidity. In theory, turnaround investments seem lucrative and, with sufficient stakeholder engagement, easy – yet the success of automotive turnaround investments significantly depends on two key investor competencies.



1 | Industry, restructuring & repositioning experience

As the underlying disruption of the automotive industry and temporary market distress coincide, investors must have profound industry expertise at their disposal. Differentiating between targets suitable for long-term turnarounds and targets not capable of adjusting to industry trends is elementary to successful investment decisions. A deep understanding of market developments, sourcing and sales strategies is necessary to position targets in future-proof sectors, strategically focus on relevant technologies and efficiently deploy resources. Having business development resources at their disposal, such as operations, strategy and sales competencies, facilitates investors' restructuring efforts as it reduces the dependency on external consultancies and increases entrepreneurial commitment.

2 | Industry network

Almost all distressed targets suffer from declining sales forecasts. This necessitates investors to adjust organizational structures, but – more importantly – open new sales channels in short time. Extensive industry networks at all value chain levels facilitate both the sourcing of new suppliers and the winning of new orders. Consequently, capacity utilization can be increased and necessary restructuring efforts reduced.

Turnaround investors are currently offered great opportunities – if they have adequate market expertise. The availability of targets in light of the industry's disruption bears significant value creation potential. This, however, is subject to adequate purchase price allocation – especially in insolvency asset deals – and investors' competencies to select the right targets and leverage their capabilities for sustainable future growth.

YES, (SOME) PE INVESTORS ARE STILL INTERESTED IN AUTOMOTIVE

Market stability – or the lack of it – is the single most important challenge regarding PE investments in the automotive industry today. The timing of long-term technological shifts and business model disruptions leaves automotive companies and investors guessing. To date there is no regulatory clarity regarding the timing of market share shifts. Short-term, the dependency on global supply chains makes the automotive industry suffer disproportionately from production stops due to pandemics, material shortages and war. Investors do not know how to accurately plan the next years, months and even weeks.

Beyond that, every investor group has its specific challenges to take on. Growth investors face high competition, especially from strategic investors. Buyout funds cannot execute their value creation model due to a lack of affordable debt. Investors can only influence that to a minor degree. This, in addition to necessary risk adjustments for uncertain market developments and macroeconomic instability, currently renders automotive exposure unattractive to growth and buyout investors.

At the moment, the automotive PE industry is only suited for one investor group – turnaround investors. The returns of distressed investments depend on the quality of investors' stakeholder negotiation skills as well as restructuring and repositioning. Turnaround investors must provide an extensive industry network and market expertise to select future-proof targets. Distinguishing between attractive targets and a necessary market shakeout and being able to develop targets long-term is vital to succeed at the high-risk investments in distressed automotive targets.

WHAT DOES THE FUTURE HOLD FOR AUTOMOTIVE PE INVESTMENTS?

Venture capital is already significantly invested in automotive and mobility start-ups, supporting new technologies and alternative business models. Unicorns striving for multi-billion valuations and IPOs[8] are only a fraction of this new generation of automotive companies. They are currently still in their infancy – but sooner than later they will grow to maturity. Once the current industry transformation advances, we will see a major shift, these companies will reach higher market penetrations and turn their operative cashflows positive. Thereby, this new generation of automotive companies will fall right into the target criteria of growth and buyout investors – in that regard, VC can be considered a forerunner of PE.

Once the assets exit VC stage, growth investors come into play, positioning between VC and buyouts and preparing the assets to merge with strategic groups. Although some assets will try to skip the PE investment stage, many will require financing for further growth – not all startups succeed at widespread publicity and storytelling allowing an immediate IPO. The increasing prevalence of subscription and pay-per-use models will significantly raise the attractiveness to buyout funds, as stable cashflows at low capital expenditures can be expected.

Regulatory certainty and market transparency will also increase the attractiveness of automotive targets to PE investors. Cashflows and the timing of technological shifts will be more predictable, debt providers will gain trust and raise their automotive exposure and leverage-based investment models become viable again.

And what about turnaround investments? No need to worry about turnaround. The automotive industry has always been highly competitive and constantly evolving at a rapid pace - so, there will be no shortage of attractive distressed targets.

[8] Initial public offering

THE BERYLLS GROUP'S SERVICES are fully dedicated to the automotive industry. Our experts in Germany, China, Great Britain, South Korea, North America and Switzerland understand the industry's key challenges and are developing ways to achieve sustainable success in the automobility eco system. They use advanced digital strategies and other innovative approaches. Our professionals are networking across our four specialised units to offer our clients end-to-end support, from strategy development to the implementation. We call this network our Berylls Quartet:

Berylls Strategy Advisors – The expertise of our top management consultants extends across the complete value chain of automobility – from long-term strategic planning to operational performance improvements. Based on our automobility thought leadership Berylls Strategy Advisors stand out with their broad experience, their profound industry knowledge, their innovative problem-solving competence and, last but not least, their entrepreneurial thinking.

Berylls Digital Ventures – The development and operation of digital products or the implementation of new business models are increasingly required to drive the realization of our clients' strategic concepts. The Berylls Digital Ventures team takes up this challenge – working together with our clients end-to-end. Furthermore we invest in promising startups and bring digital solutions to market, turn-key ready for our clients. Always with a keen focus on automobility.

Berylls Mad Media – The radical digitalisation of the customer interface undermines the boundaries in the automotive sales model. Our Berylls Mad Media experts develop and operate tailored solutions, including data-driven marketing, integrated service designs, and including the agile realisation of integrated process and IT architectures. We strengthen customer loyalty, market exploitation, and profitability – taking vehicles and services to market digitally.

Berylls Equity Partners – is a private investment company, supported by strong anchor investors and pursuing an entrepreneurial approach. We carefully select, acquire, and improve operationally, companies with value potential in the mobility industry – with a long-term strategic direction.

The automotive industry is currently facing fundamental challenges. We have made it our mission to support industry players in accomplishing an effective and future-proof change process. The unique value we bring to the table is based on digitisation, technological innovation, market insights and renowned partnerships.
The Berylls Quartet is your high-performance engine to succeed on this exciting road.

The future will be, but different.

BERYLLS EQUITY PARTNERS

YOUR CONTACT PERSONS

T +49-89-710 410 40-0

info@berylls.com

Andreas Rauh
Managing Director
andreas.rauh@berylls.com

Hans-Jürgen Titz
Managing Director
hansjuergen.titz@berylls.com

Johannes Auch
Investment Analyst
johannes.auch@berylls.com