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**Initial Outside-in Analysis and Valuation of the company “TeamViewer” from the
Perspective of a Private Equity Buyer**

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Abstract

This paper analyses the company TeamViewer from the perspective of a private equity buyer and examines whether an investment is advisable at this point in time. In order to provide a clear perspective, an extensive company and market analysis in combination with a leveraged buyout model were developed. The data was further validated by four interviews held with experts. The paper suggests to not pursue an acquisition at this time due to the difficult overall market environment, increasing competition particularly in the SMB segment and suboptimal investor returns. However, a re-evaluation of entry at a later stage is recommended.

Keywords: Private Equity, TeamViewer, Leveraged Buyout, Valuation

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List of abbreviations

AVP:	Analysis at Various Prices
CAGR:	Compound Annual Growth Rate
CAPEX:	Capital Expenditures
e.g. :	for Example
etc. :	et cetera
FCF:	Free Cash Flow
FDSO:	Fully Diluted Shares Outstanding
IoT:	Internet of Things
IPO:	Initial Public Offering
IRR:	Internal Rate of Return
KPI:	Key Performance Indicator
LBO:	Leverage Buyout
NWC:	Net Working Capital
OT:	Operational Technology
PE:	Private Equity
SMB:	Small and medium-sized businesses
TMV:	TeamViewer
uFCF:	Unlevered Free Cash Flow
yoy:	year-on-year

1. Introduction

1.1 Background

Permira, one of the biggest Private Equity firms in Europe, made headlines in 2014 when it acquired the German startup “TeamViewer”, a leading global remote connectivity platform that enables users to connect anyone, anything, anywhere and anytime, from GFI Software for an Enterprise Value of approximately €870m (Smolka, 2014). Five years later in September 2019, Permira very successfully listed TeamViewer on the Frankfurter Stock index at €5.3bn Market Cap, and quickly started selling down large stakes after the expiration of the lock-up period (18.65% remaining ownership today) (Busvine, 2019). After initial extremely strong trading (c.+90% vs. IPO), TeamViewers’ share price fell drastically in early 2021 due to slower growth, aggressive sell-downs of Permira, significantly revised mid-term guidance, and expensive partnerships. TeamViewer is currently trading close to all-time lows (c.a. -60% vs. IPO, please find Appendix I), which opens an interesting window of opportunity for other Private Equity companies to assess investing in / taking TeamViewer private in a leveraged buyout (LBO¹).

1.2 Research Objectives and Structure

This paper would therefore like to provide an initial outside-in analysis and preliminary valuation of the company TeamViewer from the perspective of a private equity firm attempting to take TeamViewer private in a majority deal. As shown in the figure 1 below, this initial assessment is generally done as a second step in a typical investment process and is followed by negotiations with banks and the management team, as well as multiple rounds of extensive due diligence by external parties (experts, large consulting firms, banks, etc.).

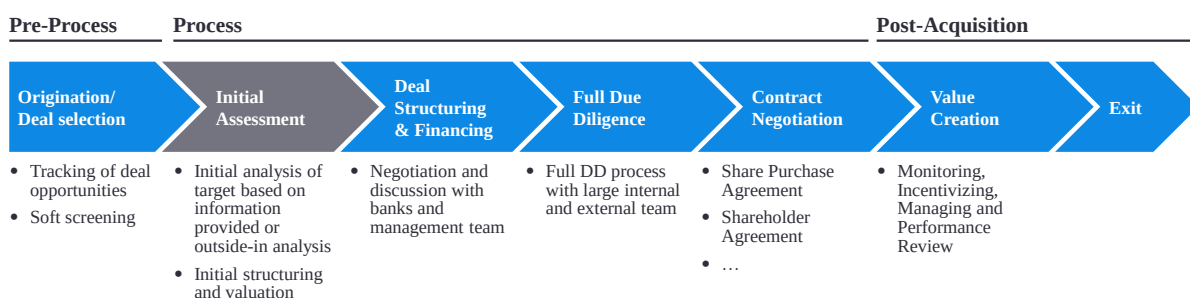


Figure 1: The Typical Investment Process

Source: own graphic, based on lecture of (Duarte, 2022, p. 58)

¹ According to Eisenthal-Berkovitz, Feldhütter and Vig, a leveraged buyout is an acquisition of a company using a significant amount of borrowed funds and is typically accompanied by the elimination of publicly held stock (2020).

The aim of this paper is therefore to determine whether TeamViewer is an attractive target to further pursue in a full investment process. To answer this question, this thesis will in a first step offer a comprehensive overview of the company and the market. In a second step, the investment thesis for TeamViewer will be developed and challenged, before potential value levers and the LBO valuation will be presented. It should be noted that the data used in this paper rely on publicly accessible information, as well as expert interviews conducted by the author (interview partners can be found in Appendix VIII).

2. Company Analysis

The following chapter aims to familiarize the reader with the company TeamViewer and create a common starting point for the further course of this thesis.

2.1 Company Overview

TeamViewer AG, founded in 2005 and headquartered in Göppingen, Germany, is a global technology company and leader in the field of remote connectivity solutions. Its software offering aims to connect people and devices across all types of operating systems, endpoints, and devices. TeamViewer also has adjacent offerings in Internet of Things (IoT) (device connectivity/ remote monitoring) and Augmented Reality (AR) (field support, frontline productivity). TeamViewer provides solutions to both private customers, who can use portions of the product portfolio free of charge (non-commercial users), and companies of different sizes and various industries (commercial users). TeamViewer sells its software solutions through its cloud-based platform via a subscription model, making it a so-called Software as a Service (SaaS) company with recurring revenues (100%). The company has a very strong financial profile with revenues of €501.1m in 2021 (+10% yoy), Adj. EBITDA of €257m, high cash generation, high growth, and formidable margins (~85% Gross Margin, ~50% Cash EBITDA). TeamViewer is currently installed on >2.5bn devices and has grown to more than 200 million active users worldwide. As of June 2022, it employs 1,322 people and is listed on the Frankfurt

Stock Exchange with a free float of 74.8% (refer Appendix II). The company is currently under leadership of Oliver Steil (CEO), previously partner at Permira and former CEO of both Sunrise Communications AG and Debitel, and Michael Wilkens (CFO), who spent more than 20 years in different positions at Deutsche Telekom AG before joining TeamViewer in September 2022.

2.2 Product Portfolio

The vast majority of TeamViewer's revenue comes from the sale of its own software solutions for both individual users, as well as companies of various sizes and industries. As mentioned above, these solutions have been sold on a subscription basis since fiscal year 2018, with the subscription period usually spanning twelve months. TeamViewers software solution portfolio can be divided into three different areas:

- **Immediate Remote Support Tools:** enable uncomplicated problem solving through instant and secure remote connectivity for all easy-to-connect IT devices, such as computers, servers, and mobiles. This is the most common use case among customers.
- **Managed Enterprise Connectivity:** In this segment, TeamViewer offers advanced secure solutions for companies looking to manage their entire IT and OT (Operational Technology) landscape. It includes all the functionalities of the Immediate Remote Support tools, but these can be individually adapted to the needs of the customer (e.g., also connect machines, robots, elevators, etc.). A particular focus of the software is placed on network, access security and manageability, as a greater number of devices are connected.
- **Operation Workflow Optimization:** TeamViewer also offers solutions for the optimization of business processes through AR and MR (mixed reality) supported workflows. It provides instant access to information or instructions, for example via smart glasses, and enables workflows that go beyond IT and machines.

In figure 2, TeamViewer's different products have been sorted into the categorization explained above to provide comprehensive and structured overview.

Use Case / Product		Description
Immediate Remote Support Tools Remote connectivity for individuals and businesses of all sizes	TeamViewer	Team Viewer's "core product". Offers secure connectivity, remote access and control across different device types; used for <u>remote IT support</u>
	TeamViewer Remote Management	Facilitates remote access to specific devices that are defined in advance. Also <u>used for data storage</u>
	TeamViewer Classroom	Classroom offers collaborative educational experience in <u>remote learning environments</u>
Managed Enterprise Connectivity Advanced secure solutions for SMB & Enterprise	TeamViewer Corporate	Allows for <u>larger number of users and parallel sessions</u>
	TeamViewer Tensor	Tensor allows to <u>manage, maintain & remotely control enterprise server</u> & remote work for employees
	TeamViewer IoT	IoT allows to remotely operate, manage and maintain devices <u>used outside of the traditional office environment</u> . Suitable for Industry 4.0 scenarios
Operation Workflow Optimization Digitalization across entire value chain through leading-edge technology	TeamViewer Frontline	Industrial AR solution to <u>streamline processes for frontline employees</u>
	TeamViewer Assist AR	AR platform that provides remote support, anywhere and anytime (e.g., <u>exact field of view of the mechanic</u>)
	TeamViewer Engage	Digital customer engagement platform for <u>online sales with an elevated experience</u>

Figure 2: Product overview

Source: own graphic, based on (Annual Report, 2021)

2.3 Go-to-market Strategy & Customer segments

TeamViewers attracts new users with a so-called “freemium” model that generates high organic traffic and high user engagement. Within the “freemium” model, customers can download the full version of TeamViewer’s core product (as shown in chapter 2.2) free of charge for personal use (classified as “non-commercial” users). TeamViewer states that “there are no fees, no time limits, and no subscriptions” (TeamViewer, 2022). As a result, the company has a very large installed customer base (2.5bn downloads, 283m active devices on the platform) and benefits from high brand awareness and strong brand loyalty. As opposed to its free personal product use, commercial use requires a subscription. In the “commercial” segment, TeamViewer further differentiates between two customer groups: small and medium-sized businesses (SMB) and large enterprise customers. The company defines SMB customers as customers with invoiced billings across all products and services of <10,000EUR, and Enterprise Customers with billings of >10,000EUR. As of FY2021, 83% of TeamViewer’s billings (~€455m, +11.6% yoy) came from SMB customers, 17% (€93m, +75.5% yoy) from Enterprise customers. TeamViewer’s strategy is to build on its position in the SMB segment, while further expanding into the attractive Enterprise segment (for further information, please see Appendix III). While TeamViewer historically relied on its low acquisition cost go-to-market model (freemium, word of mouth, webshop and inside sales) for its SMB clients, its recent increasing focus on

Enterprise customers also meant a shift in its sales strategy. Enterprise customers are additionally supported by resellers, distributors, and strategic partners, including but not limited to SAP and Google Cloud (Annual Report 2021, p. 28).

2.4 Financial Analysis

in €m	2018A	2019A	2020A	2021A	2022E	CAGR (18A-22E)
Billings	230	325	460	548	605	27%
YoY Growth	24%	41%	42%	19%	10%	
Revenue	258	390	456	501	545	21%
YoY Growth	86%	51%	17%	10%	9%	
Adj. EBITDA	121	182	261	257	295	25%
YoY Growth	12%	50%	44%	-2%	15%	
Margin (as % of Billings)	53%	56%	57%	47%	49%	

Table 1: Summary Financials

Source: own graphic, based on (Annual Report, 2019, 2020, 2021)

As shown in table 1, TeamViewer reported 2021A billings of €548m (+19% yoy), revenue of €501m (+10% yoy) and adjusted EBITDA margins of 47% (on billings). Billings represent the (net) value of invoiced goods and services billed to customers within a period and which constitute a contract as defined by IFRS 15. Billings are derived directly from customer contracts and are thus not affected by the timing of revenue recognition. Although TeamViewer has changed its business model from a perpetual license to a subscription model in fiscal year 2018, revenue in fiscal years 2020 and 2021 still include revenue from perpetual licenses as the license fees are recognized as revenue over three years (refer to table 2 below).

in €m	2020	2021
Billings	460.3	547.6
Change in deferred revenue recognised in profit or loss	-4.7	-46.5
of which from the subscription business	-50.9	-49
of which from perpetual licences	46.2	2.6
Revenue	455.6	501.1

Table 2: Change in Deferred Revenue

Source: own graphic, based on (Annual Report, 2019, 2020, 2021)

Billings are thus used as a key performance indicator by the company because they are no longer impacted by perpetual licenses. Overall, it can be seen that TMV has a long track record of strong billings growth (c.27% CAGR 18A-22E) but has seen a significant slowdown in 2021. According to TMV's CEO Oliver Steil, this slowdown must be put in perspective as the two last fiscal years were essentially atypical years: in 2020, TMV has seen unexpectedly high growth, largely driven by extraordinary demand for the company's remote connectivity

solutions due to the lockdowns caused by the COVID-19 pandemic (Capital Markets Day, 2021). A study by McKinsey & Company suggests that the pandemic led to a level of adoption rates within a very short time that would have otherwise taken several years to achieve (2020). These pull-forward effects, combined with a counterreaction on the customer side when lockdowns ended, caused a slowdown in growth in 2021, and brought contract volumes from the from the previous year to a more sustainable level. For a more detailed billings analysis, including subscriber numbers and churn rate, please consult Appendix IV. For a further split of billings into customer segments as well as into geographies, please see Appendices V and VI.

Adj. EBITDA (Cash EBITDA) margin: Cash EBITDA is calculated by adding the change in deferred revenue recognized in profit or loss, as well as other items for adjustment to the EBITDA. In table 1, it can be noticed that there was a sharp decline in the adj. EBITDA margin in 2021. One big factor is an unprecedented high marketing spend related to expensive sponsorship agreements (€96.1m spend in 2021, +150% yoy). On 19 March 2021, TMV and Manchester United announced a five-year partnership, which includes a range of advertising and technology cooperation projects to further strengthen TeamViewers global brand awareness. A similar five-year sponsorship agreement was announced with the Mercedes-AMG Petronas Formula 1 and Mercedes-EQ Formula E teams in May 2021. The investments in these strategic marketing partnerships resulted in high pressure on the adj. EBITDA margin (47% vs. 57% in 2020). The sponsorship agreements will terminate in 2026.

Free Cash Flow: Free Cash Flow (FCF) is defined as the cash a company generates after considering cash outflows that support its operations and maintain its capital assets (Kruschwitz & Loeffler, 2006). In this model, FCF was calculated as Cash flow from operations – Capex. As shown in table 3 below, Team Viewer’s FCF has been steadily growing over the past years. FCF is a very important metric for investors, as it shows not only how efficient a company is at

generating cash but the higher a company's FCF, the more it can allocate to pay down debt principals and make interest payments, which is very important in a leveraged buyout.

in €m	2019A	2020A	2021A	2022E
Cash Flow from Operations	93.7	191.6	173.1	231.0
CAPEX	-16.6	-26.2	-15.2	-14.4
Free Cash Flow	77.0	165.4	157.8	216.6
YoY Growth	51.8%	114.7%	-4.6%	37.2%

Table 3: Free Cash Flow

Source: own graphic, based on (Annual Report, 2019, 2020, 2021)

3. Market Analysis

3.1. Market Dynamics

In its capital markets day, TeamViewer presented a market study conducted by McKinsey, which showed TeamViewer's total addressable market (TAM) in 2021 to be €19bn (please see figure 3 below), which can be split into the three use cases discussed in chapter 2.2.: Immediate Remote Support Tools (48%), Managed Enterprise Connectivity (22%), and Operational

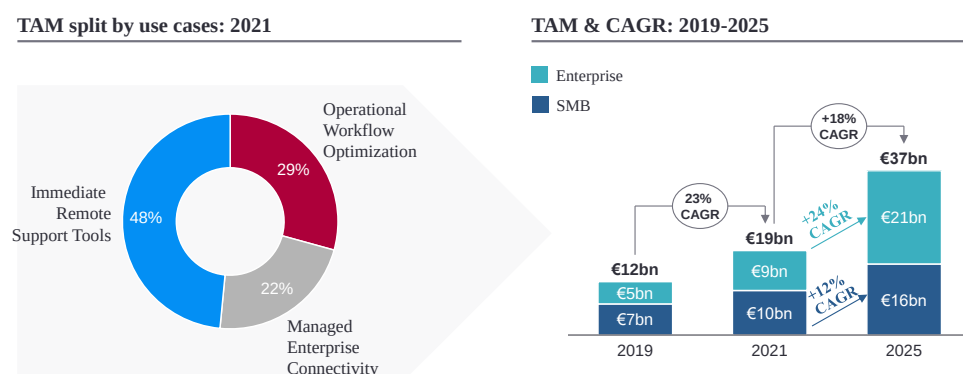


Figure 3: TAM & CAGR

Source: own graphic, based on TeamViewer's (Capital Markets Day, 2021)

Workflow Optimization (29%) (Capital Markets Day, 2021). TAM refers to “the overall revenue opportunity that is available to a product or service if 100% market share was achieved” (CFI, 2022). Going forward, it is expected that TeamViewer's TAM will reach an aggregated value of €37bn in 2025, which represents a CAGR of 18%. Figure 3 above shows TeamViewer's TAM split by customer segment (SMB and Enterprise). As can be seen, the growth will focus predominantly on the Enterprise segment, which is forecasted to grow at 24% CAGR between 2021-2025, compared to 12% CAGR in SMB in the same period. According to TeamViewer's CEO Oliver Steil, a lot of the digital transformation topics, as well as the use of AR and advanced technology are focus areas that are more prevailing in big enterprises than

small-to-medium businesses, which explains this increased growth in the segment (Capital Markets Day, 2021). However, according to the Q2 2022 quarterly statement by TeamViewer, the external market environment is getting more challenging. Against the background of the uncertain macroeconomic environment (rising inflation, fear of recession, war in the Ukraine, supply-chain issues), companies are more cautious on spending and prolong their decision making, which ultimately slows down pipeline conversion.

3.2. Market Growth Drivers

The growing demand for connectivity solutions is further accelerated by strong secular megatrends, including but not limited to (McKinsey Global Institute, 2020):

- **Hybrid work models (e.g., work from home):** Covid-19 and the ensuing lockdowns have pushed tens of millions of people to work from home, setting in motion a structural shift in where work takes place. Even after the pandemic, research by McKinsey suggests that hybrid models of remote work are likely to persist (McKinsey Global Institute, 2020).
- **Increasing number of smart devices:** The continuous proliferation of mobile technologies coupled with the fast adoption of IoT in commercial as well as in industrial applications is increasing the number of connected devices and endpoints at a staggering pace (J.P. Morgan, 2020). According to Cisco, the average number of networked devices per capita in North America in 2023 will be 13 compared to 8 in 2019 (Cisco, 2020).
- **Robotics and automation:** Many sectors (e.g., manufacturing) already use fully automated processes with robots. These processes can be monitored and operated remotely, hereby drastically reducing the need for physical human presence. According to IDC, the worldwide spending on robotic systems & drones will grow to \$241bn in 2023 compared to \$110bn in 2019 (IDC, 2021).
- **Augmented Reality:** According to ABI Research, a global tech market advisory firm, the AR market will surpass \$140bn in total market value in 2025 (ABI Research, 2020).

3.3. Competition

As mentioned above, TeamViewer’s historical core market is remote access/support/control software, but the company also keeps building on its increasingly important pillars of IoT and professional AR. Due to this unique coverage of the market, TeamViewer has limited direct competitors but rather competes with various providers across different categories. For a better overview, TeamViewer’s complex competitive landscape was split into the categories “use cases” and “customer segments” as shown in the figure 4 below.

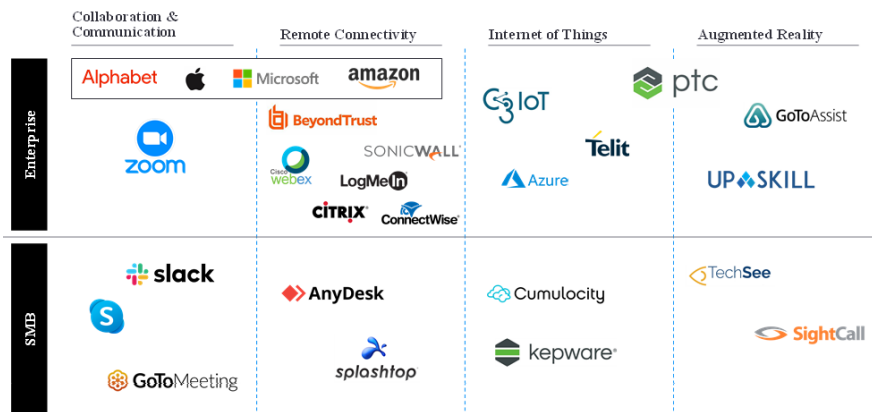


Figure 4: Competitive Landscape
Source: own graphic, based on (Capital Markets Day, 2021)

TeamViewer’s presence in the collaboration & communication use case is limited to its virtual meeting offering and direct messaging, where the direct competitors across the customer segments include Zoom, Skype, Slack, and GoToMeeting. The core segment, remote connectivity, on the other hand is highly fragmented and especially the SMB customer segment is to a certain extent vulnerable to new, affordable entrants such as AnyDesk and Splashtop. The Enterprise segment faces competition from more established players such as BeyondTrust and LogMeIn, as well as from legacy remote access providers such as Citrix, Cisco, and SonicWall but has a historically much lower churn rate than the SMB segment (refer to Appendix V). According to Team Viewer, the reason why the Enterprise segment is harder to penetrate by new entrants is that the switching costs of TMV’s offering increases with both the size of the customer and the number of connected devices (2021). Across both the collaboration & connectivity and the remote connectivity segment, TMV competes with large scale

technology platform providers such as Apple, Alphabet, Microsoft, and Amazon Web. In the IoT use case segment, there is a diverse set of players, including fully horizontal IoT providers and vertical specific providers. Lastly, the AR market is still rather immature with various players piloting with new use cases. TeamViewer was able to gain some traction and expand its presence in this segment through its aggressive acquisition strategy in the last two years (e.g., Ubimax and Upskill). Overall, it can be said that TMV competes across categories with strong and focused competitors but currently still has the following two advantages over competitors. First, TeamViewer offers the most complete solution offering when it comes to all kind of remote support use cases for individuals, mid-sized and large organizations. Secondly, TMV offers industry-leading security (rated within top 10% in the tech industry), which smaller competitors often cannot replicate yet, as it is highly cost intensive.

4. Investment Thesis

4.1. Key Attractions & Considerations

The goal of this chapter is to summarize the key attractions as well as key considerations of TeamViewer as a company. Those factors were derived directly from the extensive company and market analysis shown in chapter two and three of this paper.

Company Attractions:

- ✓ Globally leading champion in the remote support, access, and control market with strong, experienced, and capable management team in place
- ✓ Broadest product offering compared to competition in terms of use cases, customer segments and functionality
- ✓ Extremely strong brand awareness through freemium model as well as recent sport sponsorships (Manchester United and Mercedes-AMG Petronas Formula 1)
- ✓ Strong financial profile despite some volatility (27% CAGR FY'18-21, 100% recurring, high margins, and strong cash generation).
- ✓ Potential upside from geographical expansion and adjacent high-growth areas such as AR

Company Considerations:

- ? Historic growth rates likely boosted by several one-off factors (subscription conversion from perpetual license model, COVID-19)
- ? There are competitors in each product group (e.g., remote access/support, remote collaboration, IoT, and AR), which exclusively focus on one use case, while TeamViewer is present in all. Might lead to less focus/ innovation capabilities compared to competition
- ? Execution risk from the recent focus on Enterprise customers. Enterprise sales strategy is completely different to the prior core (SMB)
- ? Ability to win in new high-growth areas such as AR (not yet proven)

Market Attractions:

- ✓ Remote connectivity market expected to grow at 18% CAGR from 2021-2025 for both SMB and Enterprise
- ✓ Strong secular tailwinds – remote work, digitalization, increasing number of smart devices, which was further accelerated by COVID
- ✓ Fragmented competitive landscape across product offering with few players competing directly across all use cases, customer segments, and geographies
- ✓ High stickiness of the product in the Enterprise segment, as well as potential for further market penetration

Market Considerations:

- ? Low barriers to entry in the remote connectivity market, which attracts new entrants
- ? Risk of increased competition, in particular in the SMB segment. Highly competitive pressure from new, low-cost entrants (such as for example AnyDesk, and Splashtop), resulting in little leeway for further growth of existing players
- ? Risk of price erosion in particular in SMB segment (commoditization, free alternatives)
- ? Increasingly tougher macroeconomic environment could lead to lower demand especially from more price-sensitive SMB customers

4.2. Value Creation Strategies

Going forward, TMV plans on creating value by focusing on the following growth strategies:

Expanding into new, adjacent use cases: As seen in chapter 2.2, TeamViewer's solutions can be used to remotely connect, access, monitor, control, maintain and also repair all types of devices and machinery across all relevant operating system, which makes the potential application potential for its software almost unlimited. Because of its flexible platform and its high and proactive user engagement, it also has the ability to identify and respond quickly if new use cases emerge. Moreover, TMV's offering of new technologies, such as AR, mixed reality, IoT and AI could potentially give the company an important competitive advantage in the future as the digital transformation continues. However, at this point in time, there is no concrete data to prove TMV's success in this key growth segment in the future.

Coverage of customer segments: Historically, TeamViewer made most of its billings from SMB customers (83% in 2021). As the company has the most complete solution offering compared to new entrants and competitors, the SMB segment will continue to be an important pillar of TMV's growth. However, even prior to its IPO in 2019, the company has started building up its Enterprise business with its own connectivity product for large customers (Tensor Enterprise), which shows high growth from 2020 to 2021 (+75.5% yoy) (see Appendix IV). Going forward, TMV's strategy is therefore to build on its still strong position in the SMB segment, while further expanding into the more attractive Enterprise segment at the same time.

Geographic expansion and global brand recognition: TeamViewer is a highly international company with users and customers in almost all countries worldwide. It plans to build on its international success by continuing to add and expand local sales activity with dedicated teams in the future. According to TeamViewer, adapting more closely to local conditions will noticeably leverage the company's potential, especially in strategically important markets such as APAC. J.P. Morgan analysts believe that there are still further opportunities for TeamViewer

to expand in Americas and APAC, (please see Appendix VI), and even within EMEA (2020).

Improving Margins and Profitability: TeamViewer announced in its second quarter statement 2022 that it will not extend its sponsorship agreement with Manchester United beyond its term. The sponsorship agreement will thus end in 2026 and the reduction in marketing expenses will most likely lead to significant improvements in the company's margin and will ultimately increase its profitability. It should be considered that the termination of the sponsorship agreement could also lead to lower sales activity in 2027 and onwards. This is reflected in the Operating model presented in chapter 5.

4.3. Current Debt Financing Market

In a leveraged buyout, the acquisition of an operating company is financed with a significant amount of borrowed funds. However, the financing market environment has gotten increasingly difficult in the past year. The Russia-Ukraine war intensified the already existing risks associated with inflation and rising interest rates, and consequently the European high-yield market is set for the lowest first-half total since the global financial crisis (see figures 5 and 6 below). This is accompanied by a significant reduction in European high yield use in M&A/



Figure 5 & 6: European High Yield Market: Volume and Deal Count; Use of Proceeds
Source: Beeton 2022

LBO transactions (Beeton, 2022). Interview partner Verma, Leveraged Lending Key Risk Contact at Deutsche Bank, says that whenever there is a crisis, the total level of debt goes down. This can be seen for example in the graph above: when Covid-19 hit Europe in the second quarter of 2020, total deal volume and deal count went down significantly. However, because of all the interventions (e.g., state backed financing, etc.) the market recovered fast. According to Verma, the current crisis is different, as several things are happening at the same time. Firstly,

overall base rates have gone up significantly over the past year. Secondly, recession fear has banks worried about the revenue trajectory of the firm they are lending to. This, coupled with recent supply-chain issues that result in rising COGS for most companies, leads to significantly lower margins. Margin typically cover for the risk of default, which means that with the margin squeeze, credit spreads go up. The increase in both base rate and credit spread means that the cost of debt has doubled in the last two quarters. With debt being priced considerably higher, the total amount of debt a company can withstand also goes down, which ultimately leads to banks lending less. As capital markets really struggle at the moment, one of the alternatives to refinance or raise new debt could be to address direct lenders, says interview partner Fürntrath, Vice President at EQT Group. In general, the most important factor lenders look at when underwriting a deal is the financial profile of the target company. TeamViewer currently generates stable and recurring cash flows that can be used for interest and debt principal repayments, which helps the company to raise funds even in the more challenging environment.

5. Valuation and Transaction Structure

This chapter aims to summarize the key outputs and assumptions from the leveraged buyout model that was created for TeamViewer. In short, a leveraged buyout, or LBO, is a type of transaction in which a company is bought using a combination of equity and debt. The acquiring company, the PE fund, uses borrowed money to pay for the acquisition, and the acquired company's assets are used as collateral to secure the loan. This allows the PE firm to make the acquisition without having to commit as much of its own capital (Gilligan & Wright, 2020). According to interviews done with private equity professionals, the entry and exit multiple are usually the two assumptions with the most impact on returns, followed by the forecast of the company's key metrics in the far future as well as the debt assumptions made. Thus, the following subsections will cover these points in more detail.

5.1. The Operating Model

In the Operating Model, the target company's financial statements are projected until the end of the acquirer's holding period. The Operating model that was developed for TeamViewer is able to provide forecasts for three cases: a base case, an upside case, and a downside case. The base case is projected by following the company's historical financial trends, and typically includes realistic improvements that can be made by the acquirer during the holding period. It is thus considered to be the most reliable case (Fürnthrath, 2022). To account for different growth scenarios in the future, the upside and the downside case provide the investor with two additional reference points for sound decision making. The upside case shows the development of the key financial metrics if the company performs better than the base case expects, whereas the downside case provides the investor with a perspective of where the company would stand if impacted by negative events. In this section, the base case assumption will be explained in more detail, whereas the assumptions for the other cases can be found in Appendix IX, and an overview of all three cases is shown in Appendix XIV. To ensure that the assumptions made for the cases are realistic and in line with the current market view, they were compared to the latest broker reports of Goldman Sachs, Morgan Stanley, and Bank of America (BofA).

In order to forecast TeamViewer's Revenue until 2027, assuming a five-year holding period and an entry date of the 31.12.2022, it was in a first step necessary to identify the main drivers of revenue, which according to TeamViewer are the number of subscribers and the amount of billings per subscriber. The total number of subscribers can further be split into Renewal, New, and Migrated (from the previous perpetual license, which finished in Q4'20) subscribers. The company currently forecasts Renewal subscribers by multiplying the number of today's subscribers by the churn rate, which represents the number of subscribers who discontinue their subscription, to arrive at the new total. The base case assumes churn rates to continue following historical trends of 14.0% until the end of year 2024, and then to slowly decline, thus achieving less customer turnover, as TMV expands more into the Enterprise segment, which, as described

in chapter 3.3., typically has higher stickiness. The second type of subscribers, new subscribers, are forecasted on a %-yoy growth rate. According to TeamViewer's data, the total number of new subscribers went up exponentially during the Covid years, and thus the %-yoy growth rate has since slowed down and was negative from Q4'20 until today. The base case thus assumes that TeamViewer will continue to feel the pull-forward-effects of COVID (as detailed in chapter 2.4) but will slowly start seeing an increase in growth.

The amount of billings per subscriber was also forecasted based on TeamViewer's historical data. For Renewal subscribers, it was assumed that due to the increasing price pressure from low-end competitors in the SMB field, a slightly negative %-yoy growth will be expected until 2028 (-0.5% each year). The same will then apply to the forecast of New subscriber billings. With all the assumptions made above, total revenue in 2022 was forecasted to be €544.6m, and €781.5m at the end of the holding period in 2027. Those numbers are very closely in line with the forecast of Goldman Sachs, whereas Morgan Stanley and Bank of America forecast only slightly higher revenue numbers.

In order to forecast the rest of the P&L, the key line items (such as for example COGS, Sales, and G&A costs) were projected to be based on the average of the past three years as % of total revenue, as operating expense items usually grow in line with revenue (Kruschwitz & Loeffler, 2006). For R&D costs, a slightly higher spend than in the previous years was assumed, as differentiation against the increasing competition especially in the SMB segment will be of high importance for TMV. For Marketing expenses, the average of the past two years (since the announcement of the sponsorship agreements) was taken, with a decline to pre-sponsorship levels in 2026, when the agreements end. The end of the sponsorship might impact sales volume from 2026 onwards, and was thus reflected in the model (revenue growth decline from 8.3% in 2026 to 7.8% in 2027. Other important key metrics include Capital Expenditures and Changes in other Net Working Capital (NWC). Both follow TeamViewer's trends from 2019 onwards and are closely in line with broker forecasts of Goldman Sachs, Morgan Stanley and BofA.

5.2. Entry Assumption

In a leveraged buyout, it is critical for an investor to know how much he has to effectively pay for the company he wants to acquire. The two main ways to measure “company value” are Equity Value and Enterprise Value. If the target is publicly traded, then its current Equity Value = Shares Outstanding * Share Price. To calculate the company’s Enterprise Value, Net Debt (Debt – Cash) is added to the Equity Value. The Enterprise Value is considered to be the “true” cost of an acquisition, as the debt of the seller needs to be refinanced if a change in control happens (Gilligan & Wright, 2020). Thus, in order to calculate both metrics for TeamViewer, it is in a first step necessary to determine the price that is offered to the company’s shareholders for their shares. This price is a combination of the current share price and a premium that is paid on top, to incentivize shareholders to sell their shares.

Implied Premium: There are several different approaches that can be used to determine the implied premium to be paid on the current share price in a leveraged buyout transaction. In this thesis, a comparable company analysis in combination with an analysis at various prices (AVP) was done. A comparable company analysis is a method of valuing a company by comparing its financial metrics to those of similar companies in the same industry. The goal of this analysis is to identify the premium or discount at which the target company is trading relative to its peers, and to use this information to estimate the company’s intrinsic value (Bowman & Bush, 2007). Thus, a set of publicly traded comparable companies set was defined for TMV and can be found in Appendix XI. As observable, the median of the comparable companies on a TEV/CEBITDA (Total Enterprise/ Cash EBITDA) multiple is 16.7x. According to the interviews held, it is very important to also look at the peer set on a growth adjusted multiple bases, as rapidly growing companies trade at a much higher spot rate than already mature companies like TeamViewer. This is based on the formula: $\text{Company Value} = \text{Cash Flows} / (\text{Discount Rate} - \text{CF Growth Rate})$. The median TEV/CEBITDA growth adjusted multiple of peers lies at 1.57x, and TMV’s core competitor Zoom, which is best comparable in size as well

as in product offering, trades at a multiple of 2.12x. In a next step, the median multiples of peers were used to determine TMV's range of implied values. To do this, an Analysis at Various prices (AVP) was created. The AVP gives an overview of how TeamViewer's multiples would look like at various offer price levels (refer to Appendix XII). As shown, TMV is currently valued at a TEV/CEBITDA multiple of 1.51x. As mentioned above, the broader peer set trades at a growth adjusted multiple of 1.57x, which would imply that TMV is currently valued at a relatively fair price, meaning that an investor would not be able to pay a large share price premium. However, if the analysis were done based only on TeamViewer's core competitor Zoom, which currently trades at a 2.12x multiple, this would allow us to increase the share premium for TMV to a maximum of 30% and not overvalue TeamViewer. Thus, the maximum price premium a private equity firm would pay for TMV would be €16.33, which implies a 30% upside on current share price.

5.3. Debt and Equity Assumptions

In an LBO, the debt and equity assumptions are summarized in a so called Sources & Uses table. This table summarizes the total amount of funding required to complete the transaction (Uses) and explains how it is going to be funded (Sources). The Use side consists of the actual price the acquirer has to pay, which is the Enterprise Value (refer to chapter 5.1.), as well as transaction costs, such as legal fees and due diligence expense, Financing Fees and usually also includes a minimum of cash that is needed for the target company to continue its daily operation (Gilligan & Wright, 2020). The Sources Side explains how the deal is financed. According to interviews with PE professionals, deals in the current environment are usually financed with 70% of equity and 30% of debt, and this ratio was thus also applied to the model. It was further assumed that Equity is provided 87% by the PE fund, 1% by the management team, and 12% by an equity rollover from existing investors. According to the interviews with Verma and Fürnthrat, the total debt was assumed to consist of an unsecured revolver facility (undrawn at entry), Term Loan A (41%) and Term Loan B (34%) as well as a PIK note (25%). Please find

the overview of the Sources & Uses table and further information on the debt and equity assumptions in Appendix X.

It should be noted that in order to create a realistic Debt Repayment Schedule, which details how much debt can be repaid each year and also lists the respective interest payments, the effective interest rate needs to be calculated for each year. As the effective interest rate of debt depends on the EURIBOR, and because this metric is most likely going to increase in the coming years, an analysis of PMC Analytics, which forecasts the forward implied EURIBOR curve and is used by both investment banks as well as PE funds, was included. PMC Analytics forecasts EURIBOR to go from 2.2% in 2022 to up to 2.8% in 2027, thus leading to continuously higher interest rates during the transaction and affecting the debt repayment schedule (refer to the Debt Repayment Schedule in Appendix X).

5.4. Exit Assumption

The exit is the last step of the investment process and can greatly affect the final return on investment. In more conservative cases, the exit multiple is usually set equal to the purchase multiple, as, according to Bain & Company, a so-called “Multiple Expansion” is very hard to predict especially in the current high-inflation, and turbulent pricing environment (2022, p. 80). However, to ensure that the correct exit multiple was used, a fundamental analysis was developed to understand in detail how much TMV will be worth at the end of the holding period. The fundamental analysis is also known as discounted cashflow (DCF) analysis. The DCF is a valuation method that estimates the value of an investment using the expected future cash flows and discounting it back to the present (Kruschwitz & Loeffler, 2006):

$$Value = \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \dots + \frac{CF_\infty}{(1+i)^\infty} = \sum_{n=1}^{\infty} \frac{CF_n}{(1+i)^n}, \text{ where CF = Cash Flows; I = discount rate; n = time periods}$$

Thus, in a first step, TeamViewer’s unlevered free cash flows for years 1-5 after the holding period were forecasted by using the uFCF growth rate shown in year 2027 in the LBO model (7.8%). In order to discount the uFCF, the Weighted Average Cost of Capital (WACC) had to

be calculated, which amounted to 9.1% (refer to the Appendix XIII). To arrive at the Terminal Value, the discounted FCF was then divided by the discount rate minus the perpetual growth rate. The perpetual growth rate was assumed to be in line with the German GDP growth of 4%. Both the present value of the uFCF and the Present value of the terminal value were then added up to arrive at the total value of TeamViewer, which amounted to €8'529m (equal to an EBITDA multiple of 14.8x) (refer to Appendix XIII). According to Kruschwitz & Loeffler, discount rates are highly sensitive to changes in interest rates (2006). To account for this interdependency, two sensitivity tables were added to the model. The tables 4 and 5 below show the change of the TEV/FCF and TEV/CEBITDA multiple if interest rates were to change. Assuming a constant uFCF growth of 7.8%, it can be shown that in case of a 1%

Sensitivities														
Beta = 1.10		uFCF Growth												
FCF	21.0x	0.0%	2.0%	4.0%	6.0%	7.8%	9.8%	11.8%	13.8%	15.8%	17.8%	19.8%	21.8%	23.8%
Interest rate	2.0%	16.1x	17.3x	18.5x	19.8x	21.0x	22.5x	24.0x	25.6x	27.2x	29.0x	30.8x	32.8x	34.8x
	3.0%	13.7x	14.7x	15.7x	16.8x	17.8x	19.0x	20.2x	21.5x	22.9x	24.4x	25.9x	27.5x	29.2x
	4.0%	11.9x	12.8x	13.6x	14.5x	15.4x	16.4x	17.5x	18.6x	19.7x	21.0x	22.3x	23.6x	25.0x
	5.0%	10.6x	11.3x	12.0x	12.8x	13.6x	14.4x	15.3x	16.3x	17.3x	18.4x	19.5x	20.7x	21.9x
Beta = 1.10		uFCF Growth												
CEBITDA	14.8x	0.0%	2.0%	4.0%	6.0%	7.8%	9.8%	11.8%	13.8%	15.8%	17.8%	19.8%	21.8%	23.8%
Interest rate	2.0%	11.4x	12.2x	13.0x	13.9x	14.8x	15.8x	16.9x	18.0x	19.2x	20.4x	21.7x	23.1x	24.5x
	3.0%	9.7x	10.3x	11.0x	11.8x	12.5x	13.3x	14.2x	15.2x	16.1x	17.1x	18.2x	19.3x	20.5x
	4.0%	8.4x	9.0x	9.6x	10.2x	10.8x	11.5x	12.3x	13.1x	13.9x	14.8x	15.7x	16.6x	17.6x
	5.0%	7.4x	7.9x	8.5x	9.0x	9.5x	10.2x	10.8x	11.5x	12.2x	12.9x	13.7x	14.5x	15.4x

Table 4 & 5: Fundamental Analysis Sensitivities: TEV/FCF and TEV/CEBITDA multiple
Source: own graphic

interest rate increase from 2% to 3%, the corresponding TEV/CEBITDA multiple would fall from 14.5x to 12.5x which further highlights the high interdependencies of interest rates, discount rates and company value. According to the interviews, there is a strong consensus in the market that by 2029, interest rates will be around 3%-4%. This trend is also shown by PMC Analytics, which projected the forward implied curves to arrive at an interest rate of 2.9% in 2029 (refer to Appendix X). Therefore, this paper assumes a more conservative interest rate of 4% in the final year, which forecasts an CEBITDA exit multiple of around 10.83x, which is very closely line with the assumed entry multiple of 10.9x. Thus, based on the fundamental analysis and the above-mentioned research of Bain & Company (2021) the exit multiple in the case of TeamViewer was set equal to entry multiple.

5.6 Exit Strategy

The primary objective of PE investors is to maximize their return when selling the portfolio company at exit. According to Cummin and MacIntosh, the desire to secure the highest price for the investment affects both the timing and choice of the investor's exit strategy (2003). There are two main exit strategies in leveraged buyouts: Merger and Acquisitions (M&A), and Initial Public Offerings (IPO). In an M&A exit, the private equity firm (the sponsor) sells the holding company to another firm (called a sponsor to strategic exit), or to a different private equity firm (sponsor to sponsor deal). In an IPO, the sponsor takes the holding company public and sells off its stakes gradually over time. Of these strategies, PE firms overwhelmingly prefer the M&A exit, as shown in figure 7 by Bain & Company below (2022). It can also be observed

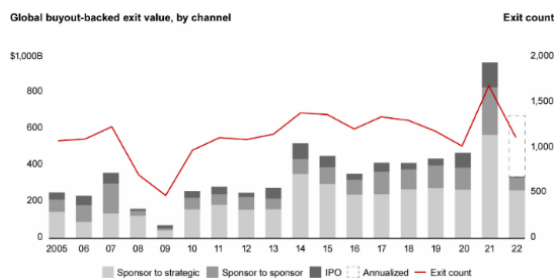


Figure 7: Global buyout-backed exit value, by channel
Source: Bain & Company (2022)

that within M&A exits, sales to strategic buyers are the most common in terms of exit count as well as exit value. Strategic buyers are more likely to pay higher prices for an asset, as they often achieve synergies within their portfolio, and are thus preferred by the private equity seller (Baker, Filbeck, & Kiymaz, 2015). What can also be observed in figure 7 is that the public market woes in 2022 already had an impact on the current exit strategies of private equity firms. According to Bain & Company, the market for IPOs has all but dried up and declined 73% compared to the first half of 2021 (2022). Therefore, in case of TeamViewer, an M&A exit to a strategic buyer would be preferable. Potential buyers could include large software players such as Microsoft, Alphabet, or direct competitors such as LogMeIn, or Webex.

5.5 Return Analysis

The Internal Rate of Return (IRR) and the Multiple of Money (MoM) are the most widely used ratios in private equity to measure the return on an investment (Gilligan & Wright, 2020). The MoM compares the amount of equity the investor is able to take out on the date of exit relative to their initial equity contribution, while the IRR is defined as the compounded rate of return on an investment (refer to the formulas below):

$$IRR = \left(\frac{\text{Future Value}}{\text{Present Value}} \right)^{\frac{1}{\text{number of periods}}} - 1 \quad ; \quad MoM = \frac{\text{Equity Proceeds}}{\text{Initial Equity Contribution}}$$

5.5.1 Base Case

At an entry share price premium of 30% and under the base case assumptions described in the upper paragraphs, the TeamViewer deal would achieve a 20% IRR and a 2.5x MoM.

According to the interviews held, an IRR of 20% is slightly below the acceptable threshold used by private equity firms in the present market. Especially in the current higher risk market environment, a deal should preferably show an IRR range of 22%-25%. Thus on a return basis alone, it is recommended not to pursue the deal further. To assess the results in more detail, a return sensitivity analysis was created, which allows for a direct comparison of the different metrics and their input factors. As shown in the sensitivity figure 8 below and discussed in chapter 5 above, the entry and exit assumptions are typically the biggest drivers of returns. It

5y Return Sensitivities - Entry vs. Exit												
				% Premium		0%	10.0%	20.0%	30.0%	40.0%	50.0%	60.0%
				Share Price (€)		€12.57	€13.82	€15.08	€16.33	€17.59	€18.85	€20.10
x Entry NTM						8.8x	9.5x	10.2x	10.9x	11.6x	12.3x	13.0x
Exit NTM Multiple	EV		uFCF	CEBITDA								
	4'555	11.2x	7.9x	20%	17%	15%	13%	11%	10%	8%		
	5'131	12.7x	8.9x	22%	20%	17%	15%	14%	12%	10%		
	5'707	14.1x	9.9x	25%	22%	20%	18%	16%	14%	13%		
	6'283	15.5x	10.9x	27%	24%	22%	20%	18%	16%	15%		
	6'859	16.9x	11.9x	29%	26%	24%	22%	20%	18%	16%		
	7'435	18.3x	12.9x	31%	28%	26%	24%	22%	20%	18%		
	8'011	19.8x	13.9x	33%	30%	28%	25%	23%	21%	20%		
				% Premium		0%	10.0%	20.0%	30.0%	40.0%	50.0%	60.0%
				Share Price (€)		€12.57	€13.82	€15.08	€16.33	€17.59	€18.85	€20.10
x Entry NTM CEBITDA						8.8x	9.5x	10.2x	10.9x	11.6x	12.3x	13.0x
Exit NTM Multiple	EV		uFCF	CEBITDA								
	4'555	11.2x	7.9x	2.5x	2.2x	2.0x	1.8x	1.7x	1.6x	1.5x		
	5'131	12.7x	8.9x	2.7x	2.5x	2.2x	2.0x	1.9x	1.8x	1.6x		
	5'707	14.1x	9.9x	3.0x	2.7x	2.5x	2.3x	2.1x	1.9x	1.8x		
	6'283	15.5x	10.9x	3.3x	3.0x	2.7x	2.5x	2.3x	2.1x	2.0x		
	6'859	16.9x	11.9x	3.6x	3.2x	2.9x	2.7x	2.5x	2.3x	2.1x		
	7'435	18.3x	12.9x	3.9x	3.5x	3.2x	2.9x	2.7x	2.5x	2.3x		
	8'011	19.8x	13.9x	4.2x	3.7x	3.4x	3.1x	2.8x	2.6x	2.5x		

Figure 8: 5-year Return Sensitivities – Entry vs. Exit
Source: own graphic

can be observed that both an increase in the assumed exit multiple (multiple expansion) as well as a decrease in the share price paid would allow investors to achieve higher IRR and MoM and pursue the deal. As discussed in chapter 5.4., a multiple expansion is highly uncertain in the current market environment. Thus, the only way for an investor to arrive at an IRR of 22%, assuming the same 30% premium paid on top of the share price and the same exit multiple, would be to invest if the share price of TeamViewer were to drop to a level of €11.5 per share. At this point, a re-evaluation of the deal is recommended.

5.5.2 Upside and Downside Case

As described in chapter 5.1., in addition to the base case, an upside and downside case were created to show the upper and lower limits of how the deal could potentially perform. As detailed in Appendix IX, the downside case assumes that TMV's move towards the Enterprise segment will be slower than the base case anticipates. Furthermore, it projects that TMV will continue to feel the in chapter 2.4 discussed pull-forward-effects of the Covid pandemic for longer, resulting in a slower growth of new customers going forward. The upside case assumes a faster penetration of the attractive Enterprise customer segment and a rapid recovery from the above-described pull-forward-effects. Furthermore, based on the fundamental analysis discussed in chapter 5.4., an exit multiple of 9.0x was forecasted for the downside case (compared to 10.9x in the base case). The upside case assumes a multiple expansion to 13.0x at exit. Based on the above-described assumptions, the range of outcomes for IRR lies between 12% (downside case) - 30% (upside case), with a MoM range of 1.8x - 3.7x. A direct comparison of the base case, downside and upside case assumptions and output overview can be found in Appendix XIV.

According to the interviews held, the analysis of different future scenarios of the target company helps investors understand the risk-return ratio in a potential acquisition and support them in their decision-making process of whether or not to do the deal.

6. Conclusion

The primary objective of this paper was to gain a comprehensive understanding of the company TeamViewer (TMV) and to determine whether it makes an attractive target for a private equity investor to acquire in a leveraged buyout. In order to provide a clear recommendation, an extensive company and market analysis in combination with a Leveraged Buyout model was developed. The data was further validated by four interviews held with experts. The in-depth analysis of TeamViewer has highlighted a number of positive findings. First, it became apparent that the company is a globally leading player in the remote support, access, and control market with extremely strong brand awareness. Secondly, the company's attractive financial profile with high recurring cashflows allow for fast debt repayment. Thirdly, it was shown that TeamViewer's current growth momentum is accelerated by strong secular tailwinds such as remote work and increasing number of smart devices. However, the paper also identified several negative findings. First, there is high competitive pressure from new, low-cost entrants particularly in the SMB segment, which will likely lead to a certain degree of product commoditization and thus price erosions going forward. Secondly, TeamViewer regards the segment AR and Mixed Reality as one of its core pillars of future growth. However, the company's ability to become a key player in this segment is currently highly uncertain, thus making the investment most speculative. Lastly, the leveraged buyout model showed that in the case of a 30.0% share price premium at entry, and assuming no multiple expansion at exit, the achievable IRR and MoM multiple lay below the acceptable threshold used by private equity firms in the market. Together with the difficult debt financing market environment with high inflationary pressure, and a downside case MoM of 1.8x and IRR of only 12%, the deal was found to be too risky at the current point in time. However, it is recommended to re-evaluate the deal at a later point in time, if success in the AR and mixed reality segment becomes more foreseeable or if TeamViewer's share price would further drop, thus making the deal cheaper and higher performance metrics achievable.

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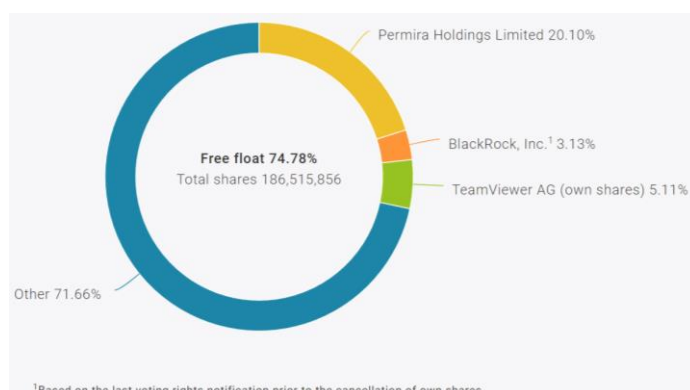
Appendix

Appendix I: Weekly Share Price trading since IPO



Source: FactSet Research Systems Inc. as of 05.11.2022

Appendix II: Shareholder Structure



Source: TeamViewer Investor Relations, Shareholder Structure as of 06.10.2022

Appendix III: Segment Overview

	SMB	SMB
Description	Customers with <€10k LTM billings	Customers with >€10k LTM billings
Billings in 2021	€455m (83% of billings)	€93m (17% of billings)
Quarterly Billings Growth	21% 7% 9% 10% Q1'21 Q2'21 Q3'21 Q4'21	33% 63% 135% 108% Q1'21 Q2'21 Q3'21 Q4'21
Customers	Small to Medium Enterprises	E.g.: Coca-Cola, Hellenic Bottling Company, Audi, BMW, DHL, Merck
# subscribers	~625,000 (7% growth LTM)	~2,700 (44% growth LTM)
Churn	<10% historically (from Equity research), ~15% in LTM	8% Churn
Market Growth	12% CAGR (FY21-FY25)	24% CAGR (FY21-FY25)
Products	TeamViewer / TMV Remote Management / TMV Classroom / TMV Engage / TMV Assist AR	TeamViewer Tensor / TeamViewer IoT / TeamViewer Frontline
GTM	Webshop / Inside Sales	Direct sales & partners

Source: own graphic, based on Annual Reports 2021

Appendix IV: Key KPIs by Quarter - Total

	2019				2020				2021			
€m	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Total Billings	68.6	73.1	82.7	100.6	119.7	105.9	106.4	128.1	146.5	121.6	125.8	153.7
% growth	24%	51%	63%	34%	74%	45%	29%	27%	22%	15%	18%	20%
Total Billings LTM	243.2	267.8	299.7	325	376.1	408.9	432.6	460.1	486.9	502.6	522	547.6
% growth				① 41%	55%	53%	44%	42%	29%	23%	21%	19%
# of subscribers (k)	317	368	432	464	514	534	567	584	603	623	628	627
% qoq growth	17%	16%	17%	7%	11%	4%	6%	3%	3%	3%	1%	0%
% yoy growth			101%	71%	62%	45%	31%	26%	17%	17%	11%	7%
Quarterly net adds (k)	46.0	51.0	64.0	32.0	50.5	19.9	32.4	17.7	18.1	20.1	5.5	-1.2
% qoq growth	-18%	11%	25%	-50%	58%	-61%	63%	-45%	2%	11%	-73%	-121%
Churn (subscriber level)	③						15.7%	15.1%	15.0%	15.5%	14.6%	14.0%
LTM NRR			④ 103%	102%	106%	105%	104%	103%	100%	95%	96%	98%
ASP	767	728	694	700	731	765	764	787	808	807	831	873
% growth					-5%	5%	10%	12%	11%	5%	9%	11%

1: Billings growth peaked at ~55% in the first Covid-19 wave (Q1 2020), but continuously declined since then to 19% in Q4 2021 LTM especially driven by decline in SMB segment by shifted focus towards Enterprise customers.

2: Quarterly subscriber adds, pre Covid-19 around 50k, slightly boosted in Q1 2021, but since then continuously decreasing – Q4 2021 first quarter with reduction in total number of subscribers.

3: No churn data reported, but Equity Research at IPO mentions <10%. Increased churn driven by right-sizing of Covid related additions. Churn is now stabilizing around 14%.

4: NRR pre-Covid above 100% - however in Q2-Q4 2021 for the first time below 100%

Appendix V: Key KPIs by Quarter – SMB/Enterprise

1: Given SMB is the largest part of TeamViewer; growth development of the segment is approximately in line with overall total (see Appendix X: Key KPIs by Quarter – Total). Limited further SMB growth expected given low likelihood of additional free-to-paid conversion, and strong competition in the segment. Also, up-selling of customers further explains the decline in growth numbers, as customers increasingly move from the SMB to the Enterprise segment within TeamViewer (please see Appendix X: Customer Upselling – SMB/Enterprise)

2: Churn significantly picked up in Q3 2020 to 16%, and stabilized at around 14-15% since then

Key KPIs by Quarter - SMB

	2019				2020				2021			
€m	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Billings					102.2	92.4	98.7	113.9	123.3	99.3	107.6	124.4
% growth									21%	7%	9%	9%
Billings LTM				307.6	345.1	368.3	388.2	407.2	428.4	435.3	444.2	454.6
% growth							32%		24%	18%	14%	12%
# of subscribers (k)	317	368	431	463	513	533	565	583	601	620	626	624
% qoq growth	17%	16%	17%	7%	11%	4%	6%	3%	3%	3%	1%	0%
% yoy growth			101%	71%	62%	45%	31%	26%	17%	16%	11%	7%
Quarterly net adds (k)	46	51	63	32	50	20	32	18	18	19	6	-2
% qoq growth	-18%	11%	25%	-50%	57%	-61%	64%	-46%	3%	11%	-73%	-119%
Churn (subscriber level)					9.1%	11.0%	15.8%	15.0%	15.1%	15.7%	14.7%	14.1%
ASP in EUR				664	672	691	687	699	713	702	710	728
% growth							5%		6%	2%	3%	4%

Key KPIs by Quarter - Enterprise

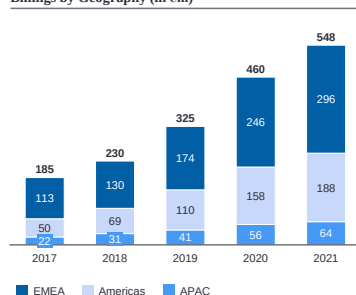
	2019				2020				2021			
€m	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Total Billings					17.5	13.6	7.7	14.2	23.2	22.2	18.1	29.5
% growth									33%	63%	135%	108%
Total Billings LTM				17.4	31.0	40.7	44.5	53.0	58.7	67.4	77.8	93.0
% growth							205%		89%	66%	75%	75%
# of customers	468	518	590	689	1183	1457	1658	1885	2058	2252	2419	2712
% qoq growth	12%	11%	14%	18%	69%	23%	14%	14%	9%	9%	7%	12%
% yoy growth			60%	67%	153%	181%	181%	170%	74%	55%	46%	44%
Quarterly net adds (k)	49	50	72	108	485	274	201	227	173	194	167	293
% qoq growth	-2%	2%	44%	50%	349%	-44%	-27%	13%	-24%	12%	-14%	75%
ASP				25	26	28	27	28	29	30	32	34
% growth							13%		9%	7%	20%	22%

3: Enterprise segment became relevant with the first Covid-19 wave from Q1 2020 onwards and more than doubled its customers within only 2 quarters. Net additions (Net adds) fluctuating around 200 per quarter, likely driven by migration from SMB segment.

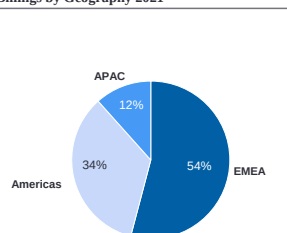
Appendix VI: Geographical Analysis

Geographically, TMV divides its sales markets into the EMEA (Europe, Middle East, and Africa), Americas (North, Central and South America), as well as APAC (Asia, Australia, and Oceania). EMEA was the largest region in 2021, accounting for ~54% of total billings with billings growth of 20.1%, followed by AMERICAS (~34%, +19.2% yoy), and APAC (~12%, +13.4%yoy).

Billings by Geography (in €m)



Billings by Geography 2021



Billings by geography	2017A	2018A	2019A	2020A	2021A
EMEA	112.9	129.5	174.0	246.4	296.0
YoY Growth %	8.5%	14.7%	34.4%	41.6%	20.1%
Americas	49.9	69.2	109.8	157.7	187.9
YoY Growth %	-5.0%	38.7%	58.7%	43.6%	19.2%
APAC	21.8	31.1	41.2	56.1	63.6
YoY Growth %	4.8%	42.7%	32.5%	36.2%	13.4%

Source: own graphic based on TeamViewer's Annual Reports

Appendix VII: Management Team



Oliver Steil (Chairman of the Executive Board and CEO)

- ▶ Appointed CEO in January 2018
- ▶ Internationally experienced manager with proven track record in building and successfully leading tech champions
- ▶ Previously partner at the Private Equity firm Permira and McKinsey & Company
- ▶ Former CEO of several communication companies



Michael Wilkens (Member of the Executive Board and CFO)

- ▶ CFO since September 2022
- ▶ Spent more than 20 years in different positions at Deutsche Telekom AG
- ▶ Prior to joining Deutsche Telekom AG, he held Finance positions at German telecom firms debitel AG and e-plus GmbH)



Michael Wilkens (Member of the Executive Board and CFO)

- ▶ CCO since July 2022
- ▶ Former CCO at Avast, a cybersecurity software company
- ▶ Previously held various Consumer and Marketing positions at Tiscali, Sainsbury's Bank and Orange, among others

Appendix VIII: Interview Partners

Amrita Verma	Capital Markets & Leveraged Lending at Deutsche Bank - Key Risk Contact at Deutsche Bank with over 15 years of experience in Capital Markets
Kerstin Fürntrath	Vice President at EQT Group - Has been with EQT for more than three years - Previously held various debt financing market positions at the Carlyle Group, Deutsche Bank and J.P. Morgan
Francesca Timpano	Associate at McKinsey & Company - Has been with the firm for over 2 years - Relevant experience in the technology and banking sector
X (names excluded due to confidentiality reasons)	Associate and Vice President at Permira - Currently still hold 20.1% of TeamViewer after acquiring it in 2014

Appendix IX: Assumptions Upside and Downside Case in the Operating Model:

Billings Drivers: Total Subscribers

- **Renewal:** Renewal of Subscribers was forecasted based on churn rates (explained in chapter 5) and calculated per Quarter. In a later stage, the Quarters were then added to the total year. As can be seen in the model, historical churn rates were 15.0% in Q1'21, 15.5% in Q2'21, 14.7% in Q3'21 and stable at 14.0% from Q4'21 until Q2'22. The base case thus assumed stable 14.0% churn until the end of 2024, with a slight decrease from there on, as the company would increase its presence in the Enterprise segment, which has higher stickiness and thus lower churn rates. The upside case assumes a faster penetration of the Enterprise segment than the base case and thus projects lower churn rates sooner than the base case. Therefore, a churn rate of 13.0% was assumed until year 2024 (-1%

compared to the base case). The downside case assumed a slower recovery and was projected with a 15.0% churn rate until end of 2024 (1% above base case). From 2024 onwards, the base case assumed a slow decline in churn rates, as the presence in the Enterprise segment increases, as mentioned above, and ends at 13.0% churn rate in 2027. The upside case arrives at a churn rate of 12.0% (1% below base case) and the downside case assumes a 14.5% churn rate. The downside case thus assumes that the move towards the Enterprise segment is slower than the base case anticipates and accounts for this by higher churn rates as SMB customers are not as sticky as Enterprise customers.

- New Subscribers: As mentioned in chapter 5, new subscribers were forecasted on a % year-on-year growth rate. As the number of new subscribers exponentially went up during the Covid years, the % yoy growth rate has been negative from Q4'20 until today. The base case thus assumes that TeamViewer will continue to feel the pull-forward-effects of COVID (as detailed in chapter 2.4) but will slowly start seeing an increase in growth. The upside case was built on the same reasoning but assumed a slightly faster increase in growth than the base case. The two cases only differentiate marginally, with the upside case being on average +1% point above the base case. The downside case assumes that TeamViewer will continue to feel the pull-forward-effect of COVID for longer than anticipated in the base case, which will result in a lower number of new subscribers going forward. Thus, in the downward case, a more conservative approach was assumed and a % yoy growth chosen that was on average -1% below the base case.

Year to Dec €mn	2019 Year	2020 Year	2021 Year	2022E Year	2023E Year	2024E Year	2025E Year	2026E Year	2027E Year
Total Subscribers									
Renewal	254'000	394'000	502'000	538'938	538'737	537'811	538'639	544'173	553'313
Base Case	254'000	394'000	502'000	538'938	538'737	537'811	538'639	544'173	553'313
Upside Case	254'000	394'000	502'000	545'490	545'001	544'065	547'979	551'696	559'673
Downside Case	254'000	394'000	502'000	532'950	532'472	531'558	535'525	539'157	543'773
% yoy	276%	55%	27%	7%	0%	0%	0%	1%	2%
% qoq									
% churn (BC)	6.3%	15.1%	14.0%	14.0%	14.0%	14.0%	13.5%	13.2%	13.0%
% churn (UC)									
% churn (DC)									
Migrated	36'000	19'000	0	0	0	0	0	0	0
Base Case	36'000	19'000	0						
Upside Case	36'000	19'000	0						
Downside Case	36'000	19'000	0						
% yoy		-47%							
% qoq									
Billings migrated	21	9	0	0	0	0	0	0	0
Billings per migrated subscriber	581	581	499	429	369	318	273	235	202
New	174'000	171'000	125'000	87'500	86'625	84'893	88'288	91'820	94'115
Base Case	174'000	171'000	125'000	87'500	86'625	84'893	88'288	91'820	94'115
Upside Case	174'000	171'000	125'000	93'750	93'750	92'813	97'453	102'326	107'442
Downside Case	174'000	171'000	125'000	81'250	79'625	77'236	78'781	80'357	81'964
% yoy (BC)	28%	-2%	-27%	-30%	-1%	-2%	4%	4%	2%
% yoy (UC)		-2%	-27%	-25%	0%	-1%	5%	5%	5%
% yoy (DC)		-2%	-27%	-35%	-2%	-3%	2%	2%	2%
% qoq									
Total Subscribers	464'000	584'000	627'000	626'438	625'362	622'704	626'927	635'992	647'428
Base Case	464'000	584'000	627'000	626'438	625'362	622'704	626'927	635'992	647'428
Upside Case	464'000	584'000	627'000	639'240	638'751	636'877	645'432	654'021	667'115
Downside Case	464'000	584'000	627'000	614'200	612'097	608'794	614'306	619'514	625'737
% yoy	71%	26%	7%	0%	0%	0%	1%	1%	2%
% qoq									

Source: own graphic based on TeamViewer's Annual Reports

- Billings per customer: As mentioned in chapter 5, the base case assumes first a recovery and then a slight decline in the % yoy growth of billings per renewal subscriber forecast. The upside case assumes the % yoy growth of billings per renewal subscriber will stay at FY21 level until 2024 and then slowly declines, always staying +1% point above the base case. The downside case follows the same logic as the base case but assumes a more conservative growth, always staying -1% below the base case. For the billings per new subscriber, the upside case stayed +1% above the base case and the downside case -1% below the base case, following the same logic.

Year to Dec €mn	2019 Year	2020 Year	2021 Year	2022E Year	2023E Year	2024E Year	2025E Year	2026E Year	2027E Year
Billings per Subscriber (€)									
Renewal	802	809	898	997	1'097	1'201	1'309	1'427	1'541
Base Case	802	809	898	997	1097	1201	1309	1427	1541
Upside Case	802	809	898	997	1107	1223	1350	1485	1619
Downside Case	802	809	898	988	1077	1169	1267	1368	1464
% yoy (BC)	-28%	1%	11%	11%	10%	10%	9%	9%	8%
% yoy (UC)	72%	1%	11%	11%	11%	11%	10%	10%	9%
% yoy (DC)	172%	1%	11%	10%	9%	9%	8%	8%	7%
Migrated	581	461							
% yoy		-21%							
New	566	755	753	738	709	687	674	660	654
Base Case	566	755	753	738	709	687	674	660	654
Upside Case	566	755	753	746	723	709	702	695	695
Downside Case	566	755	753	731	694	666	646	627	608
% yoy (BC)		33%	0%	-2%	-4%	-3%	-2%	-2%	-1%
% yoy (UC)		33%	0%	-1%	-3%	-2%	-1%	-1%	0%
% yoy (DC)		33%	0%	-3%	-5%	-4%	-3%	-3%	-3%

Source: own graphic based on TeamViewer's Annual Reports

Appendix X: LBO Assumptions Description:

Holding period: According to Bain & Company, the average amount of time PE firms hold assets has gone down from 5.8 years in 2014 to 4.4 years in 2021 (2021, p. 80). In our model, a holding period of 5 years was thus assumed.

Bank debt deductibility (% EBITDA): Bank debt deductibility refers to the ability of a company to deduct the interest paid on its bank debt from its taxable income. This can be a valuable tax benefit for companies with significant amounts of bank debt, as it can reduce their overall tax liability and improve their cash flow. According to German laws, and TeamViewer is based in Germany, only an amount of up to 30% of the EBITDA may be deducted from the excess interest on debt (Eversheds Sutherland, 2013). Thus, this threshold had to be modelled into our valuation.

Minimum Cash Balance: All companies need some minimum amount of cash to continue running their businesses and delivering products to customers. After various interviews with private equity professionals, the minimum cash balance was assumed to be at €100m.

Transaction Expenses: The company or the PE firm must pay for transaction fees, e.g., legal, and advisory fees, upfront, thereby increasing the purchase price. According to the interviews, the transaction expenses usually amount to approx. 2% of the total Enterprise value.

Sources and Uses:

Uses			Sources		
Entry Valuation	€m	%		€m	%
Current Share Price (€)	€12.57		Total Equity	2'508.1	70%
Implied Premium (%)	30%		o/w Sponsor	2'173.1	87%
Offer Price (€)	€16.33		t/o SHL	1'975.6	91%
FDSO (m)	177.0		t/o Ords	197.6	9%
Equity Value (€m)	2'890.8	85.0%	o/w Permira	300.0	12%
(+) Debt	600		t/o SHL	272.7	91%
(-) Cash	(89)		t/o Ords	27.3	9%
Enterprise Value	3'401.8	100.0%	o/w Mgmt.	35.0	1%
Transaction Costs	€68.0	2.0%	t/o Strip - SHL	9.0	26%
Financing Fees	38.3	1.1%	t/o Strip - Ords	0.9	3%
Min Cash	100.0	2.9%	t/o Sweet	25.1	72%
Total Uses	3'608.1		Total Debt	1'100.0	30%
			o/w Unsec. Rev. Facility (undrawn)	0.0	0%
			o/w Term Loan A	450.0	41%
			o/w Term Loan B	375.0	34%
			o/w PIK Note	275.0	25%
			Total Sources	3'608.1	100%

Source: own graphic

Equity Assumptions: As shown in the Sources and Uses table and discussed in chapter 5.3, 70% of the total purchase price was covered by Equity. It was assumed that 12% of the Equity was covered by an investor roll of Permira:

- **Investor Roll:** According to Bain & Company, it is not uncommon for existing investors (in TeamViewer's case the PE fund Permira) to roll over their shares to maintain some ownership in the new deal (2022). To add complexity to the and show how a roll-over of shares works, it was thus assumed that Permira will roll-over a total of €300m.

Of the 70%, 87% came from the Sponsor (the Private Equity firm) in the form of a shareholder loan and ordinary shares.

- **SHL (Shareholder loan):** a shareholder loan is a type of loan that is made by a shareholder of a company to the company itself. This type of loan can be useful for companies in variety of situations, such as when it needs to raise capital quickly but is unable to obtain a traditional loan from a bank or other financial institution (Bigus & Häfele, 2018). In the event of bankruptcy, the repayment of a shareholder loan may be

treated differently than other types of debt. In some cases, the loan may be considered a “preference” that was made to the shareholder within a certain time period before the bankruptcy, which could make it subject to being clawed back by the bankruptcy trustee (Gelter, 2006). It is thus observable in the model, that the SHL is repaid first after the exit of the PE firm (please see return calculation below):

Returns Calculations						
Exit Date	31.12.2023	31.12.2024	31.12.2025	31.12.2026	31.12.2027	31.12.2028
Yrs Hold	1.0	2.0	3.0	4.0	5.0	6.0
NTM CEBITDA x	10.9x	10.9x	10.9x	10.9x	10.9x	10.9x
NTM CEBITDA	338	366	491	534	576	621
EV	3'682	3'993	5'353	5'828	6'283	6'773
(+) Cash	169	239	323	449	730	1'164
(-) Debt	(1'086)	(976)	(859)	(706)	(661)	(740)
Exit Equity Value	2'765	3'255	4'817	5'570	6'352	7'197
(-) SHL	(2'528)	(2'832)	(3'171)	(3'552)	(3'978)	(4'456)
<i>o/w New Sponsor</i>	<i>(2'213)</i>	<i>(2'478)</i>	<i>(2'776)</i>	<i>(3'109)</i>	<i>(3'482)</i>	<i>(3'899)</i>
<i>o/w Permira Funds</i>	<i>(305)</i>	<i>(342)</i>	<i>(383)</i>	<i>(429)</i>	<i>(481)</i>	<i>(538)</i>
<i>o/w Management</i>	<i>(10)</i>	<i>(11)</i>	<i>(13)</i>	<i>(14)</i>	<i>(16)</i>	<i>(18)</i>
Ordinary	237	424	1'646	2'019	2'374	2'741
<i>o/w New Sponsor</i>	<i>187</i>	<i>334</i>	<i>1'296</i>	<i>1'590</i>	<i>1'870</i>	<i>2'159</i>
<i>o/w Permira Funds</i>	<i>26</i>	<i>46</i>	<i>179</i>	<i>219</i>	<i>258</i>	<i>298</i>
<i>o/w Management - St</i>	<i>1</i>	<i>2</i>	<i>6</i>	<i>7</i>	<i>9</i>	<i>10</i>
<i>o/w Management - Sv</i>	<i>24</i>	<i>42</i>	<i>165</i>	<i>202</i>	<i>237</i>	<i>274</i>
Total Proceeds	2'765	3'255	4'817	5'570	6'352	7'197
<i>o/w total New Sponso</i>	<i>2'399</i>	<i>2'812</i>	<i>4'072</i>	<i>4'699</i>	<i>5'351</i>	<i>6'059</i>
<i>o/w total Permira Fun</i>	<i>331</i>	<i>388</i>	<i>562</i>	<i>649</i>	<i>739</i>	<i>836</i>
<i>o/w total Managemen</i>	<i>35</i>	<i>55</i>	<i>183</i>	<i>223</i>	<i>262</i>	<i>302</i>
Metrics	31.12.2023	31.12.2024	31.12.2025	31.12.2026	31.12.2027	31.12.2028
NTM Billings	708	769	842	919	1'002	1'093
NTM Revenue	624	670	725	781	842	908
NTM Gross Profit	535	574	622	670	723	779
NTM EBITDA	203	216	323	347	374	403
NTM CEBITDA	338	366	491	534	576	621
NTM uFCF (pre-tax)	274	303	430	458	493	532
NTM uFCF (post-tax)	231	257	354	376	405	437
Implied Exit Multiples						
NTM Billings	5.2x	5.2x	6.4x	6.3x	6.3x	6.2x
NTM Revenue	5.9x	6.0x	7.4x	7.5x	7.5x	7.5x
NTM Gross Profit	6.9x	7.0x	8.6x	8.7x	8.7x	8.7x
NTM CEBITDA	18.2x	18.5x	16.6x	16.8x	16.8x	16.8x
NTM EBITDA	10.9x	10.9x	10.9x	10.9x	10.9x	10.9x
NTM uFCF (pre-tax)	13.4x	13.2x	12.4x	12.7x	12.7x	12.7x
NTM uFCF (post-tax)	15.9x	15.5x	15.1x	15.5x	15.5x	15.5x

Return calculation
Source: own graphic

Lastly, 1% of the total Equity was provided by Management.

Management Roll: The core management team of the target company typically gets to chance to roll-over their shares in a private equity deal. This reduces the total purchase price the PE firm will have to pay at entry and allows the management team to participate in the deal (Gilligan & Wright, 2020).

Management Sweet Equity (% of proceeds): Usually, the Private Equity firm includes a management option pool in the LBO, also called “sweet equity”, to incentivize the management team to perform well during the holding period of the PE firm. If a deal does well and the Exit Equity Value exceeds the investor's initial equity, a small percentage of the proceeds goes to the management, barely reducing the IRR for the PE firm while greatly increasing the IRR for the management team. If the deal does not perform well, and the Exit Equity Value is below the initial Investor Equity, the management received nothing (Gilligan & Wright, 2020). In the Return Analysis above, the return for both the management roll and management sweet equity are shown.

Debt Assumptions and Repayment Schedule:

In most deals, there are multiple types or “tranches” of debt. Private Equity firms use multiple tranches of debt because different investors have different “risk appetites” (Gilligan & Wright, 2020). For example, if PE firm is acquiring a company using 6x Debt/EBITDA, a conservative bank will not lend that much to fund the deal. Thus, the PE firm will need to find other investors that are willing to accept higher risk. These more aggressive investors might be hedge funds, or mezzanine funds. Broadly speaking, debt can be divided into “Secured Debt” and “Unsecured Debt”. The main differences are the following:

Secured Debt:

- Collateral: yes; if the company goes bankrupt, lenders can seize Assets used as collateral
- Interest Rate: Floating rate (e.g., EURIBOR + 500 = EURIBOR + 5%), thus rates may change over time
- Amortization: Possible, but often minimal
- Covenants: Maintenance covenants
- Prepayment: Early repayment of principal is generally allowed
- Maturity Period: 5-10 years
- Investors: Mostly banks and more conservative lenders

Unsecured Debt

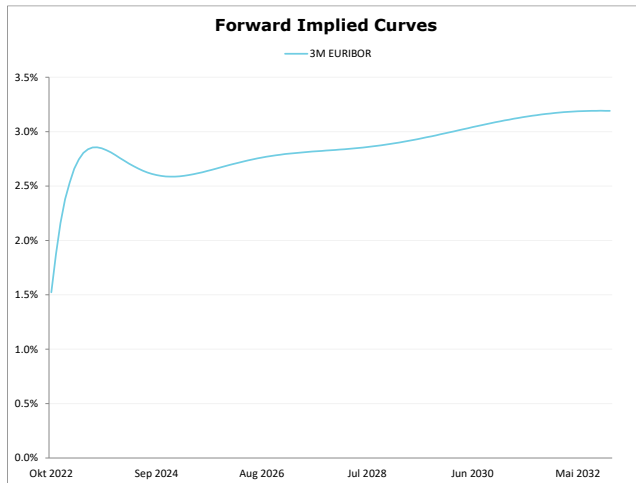
- Collateral: No
- Interest Rate: Higher and fixed interest rates (e.g., 12%); in PIK notes: interest is “Paid-in-Kind” and accrues to the principal rather than being paid in cash
- Amortization: No, the entire amount is due upon maturity (“bullet payment”)
- Covenants: Incurrence covenants
- Prepayment: Early repayment of principal is not allowed
- Maturity Period: 8-10 years
- Investors: Hedge funds, mezzanine funds

Following multiple interviews with Capital Markets experts as well as Private Equity professionals, the following debt assumptions were made for TeamViewer:

Instrument	LTM EBITDA	Amount	%	Rate	Effective	Floor	Amortization	Maturity	Cash Sweep	OID	€m Fee
Unsec. Rev. Facility	1.0x	175.0	14%	E + 500 bps	7.2%	0%	-	5 Yrs	-	97	(5.3)
Term Loan A	2.5x	450.0	35%	E + 575 bps	7.9%	0%	20.0%	5 Yrs	-	97	(13.5)
Term Loan B	2.0x	375.0	29%	E + 875 bps	10.9%	0%	-	7 Yrs	50%	97	(11.3)
PIK Note	1.5x	275.0	22%	12.0%	12.0%	NA	-	8 Yrs	-	97	(8.3)
Total	7.0x	1'275.0	100%	WACD:	10.0%						(38.3)

Source: own graphic, based on multiple interviews

As explained above, the “Senior Debt”, which in our table includes the Revolver, Term Loan A, and Term Loan B have floating rates, which means they depend on the EURIBOR which is likely to change in the upcoming years. Thus, an analysis by PMC Analytics was included in this thesis, which forecasts EURIBOR for the next years (please see table and graph below):



2022	2023	2024	2025	2026	2027	2028	2029
2.2%	2.7%	2.6%	2.6%	2.7%	2.8%	2.9%	2.9%

Source: PMC Analytics

In a next step, the effective rates for each of the different debt instruments with a floating rate were calculated and the respective interest expenses subtracted in each year in the Debt Repayment schedule. Please refer to the Debt Repayment Schedule shown on the next page:

Debt Schedule						
	Budget	Projections				Extrapolated
(in €m, FYE Dec 31)	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
						FY2028
EURIBOR (%)		2.7%	2.6%	2.6%	2.7%	2.8%
						2.9%
Revolver						
BoP Balance		0	0	0	0	0
(+/-) Revolver Drawdown / (Paydown)		0	0	0	0	0
EoP Balance		0	0	0	0	0
Total Revolver Capacity		175	175	175	175	175
BoP Available Capacity		175	175	175	175	175
EoP Available Capacity		175	175	175	175	175
Revolver Interest Rate		7.7%	7.6%	7.6%	7.7%	7.8%
Revolver Interest Expense		0	0	0	0	0
Unused Revolver Commitment Fee		2.7%	2.6%	2.6%	2.7%	2.8%
Unused Commitment Fee		(5)	(5)	(5)	(5)	(5)
Term Loan A						
BoP Balance		450	360	270	180	90
(-) Mandatory Amortization		(90)	(90)	(90)	(90)	(90)
(-) Cash Sweep		0	0	0	0	0
EoP Balance		360	270	180	90	0
Term Loan A Interest Rate		8.5%	8.4%	8.4%	8.5%	8.6%
Term Loan A Interest Expense		(34)	(26)	(19)	(11)	(4)
Term Loan B						
BoP Balance		375	306	236	152	26
(-) Mandatory Amortization		0	0	0	0	0
(-) Cash Sweep		(69)	(70)	(84)	(126)	(26)
EoP Balance		306	236	152	26	0
Term Loan B Interest Rate		11.5%	11.4%	11.4%	11.5%	11.6%
Term Loan B Interest Expense		(39)	(31)	(22)	(10)	(2)
PIK Notes						
BoP Balance		375	420	470	527	590
(+) PIK Interest		45	50	56	63	71
EoP Balance		420	470	527	590	661
PIK Notes Interest Rate		12.0%	12.0%	12.0%	12.0%	12.0%
PIK Notes Interest Expense		(45.0)	(50.4)	(56.4)	(63.2)	(70.8)

Debt Repayment Schedule
Source: own graphic

Debt/Interest Summary

	Projections					Extrapolated
	FY1	FY2	FY3	FY4	FY5	FY6
Interest Expense Summary						
Total Cash Interest Expenses	(78)	(62)	(46)	(27)	(10)	(5)
Total PIK Interest Expenses	(45)	(50)	(56)	(63)	(71)	(79)
Total Interest Expenses	(123)	(112)	(102)	(90)	(81)	(84)
Total Cash Interest Income	4	5	7	11	17	27
Net Interest Expenses	(120)	(107)	(95)	(79)	(65)	(57)

Interest Expense Summary

Sen. Sec. Debt	666	506	332	116	0	0
PIK Debt	420	470	527	590	661	740
Total Debt	1'086	976	859	706	661	740
Total Net Debt	916	737	536	258	(69)	(424)

Credit Stats

Senior Net Debt / LTM EBITDA	3.5x	2.5x	1.5x	0.4x	0.0x	0.0x
Net Debt / LTM EBITDA	5.7x	4.8x	4.0x	2.2x	1.9x	2.0x
Cash Interest Coverage	1.7x	2.3x	3.3x	9.6x	26.4x	59.9x
Cash Flow Coverage	5.5x	5.4x	5.4x	6.8x	6.5x	6.2x

SHL

	Projections					Extrapolated
	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
<i>(in €m, FYE Dec 31)</i>						
SHL						
BoP Balance	2'257.3	2'528.2	2'831.6	3'171.4	3'551.9	3'978.2
(+/-) Change	270.9	303.4	339.8	380.6	426.2	477.4
EoP Balance	2'528.2	2'831.6	3'171.4	3'551.9	3'978.2	4'455.5
SHL Interest Rate	12%	12%	12%	12%	12%	12%
SHL Interest Expense	(270.9)	(303.4)	(339.8)	(380.6)	(426.2)	(477.4)

Source: own graphic

Appendix XI: Peer Valuation: Overview and Core Competitor Description

Peer Valuation		Operating metrics											TEV / NTM				TEV / NTM				TEV / NTM			
		NTM											Spot				Spot - Growth Adjusted				10-Year Average			
		Company		TEV	Revs	Growth	Rev	Gross Margin	CEBITDA Margin	Rec. %	Net Reten.	Rev	GP	CEBITDA	uFCF	Rev	GP	CEBITDA	uFCF	Rev	CEBITDA	uFCF		
Core Comps	TeamViewer AG	2'689	623	11.2%	87.0%	53.0%	100.0%	98%		4.3x	5.0x	8.1x	10.5x	0.39x	0.45x	0.73x	0.94x					n.a.		
	Adobe Inc.	158'721	19'240	9.4%	89.5%	52.2%	92.3%	n/a		8.2x	9.2x	15.8x	20.8x	0.88x	0.98x	1.68x	2.22x				10.0x	20.9x	25.1x	
	Workday, Inc.	40'653	7'084	17.6%	77.8%	35.5%	88.5%	95%		5.7x	7.4x	16.2x	22.0x	0.33x	0.42x	0.92x	1.25x				12.7x	48.4x	65.2x	
	Atlassian Corporation	33'072	3'828	24.1%	83.3%	22.8%	92.5%	n/a		8.6x	10.4x	37.9x	44.7x	0.36x	0.43x	1.57x	1.86x				n.a.	n.a.	n.a.	
	Veeva Systems Inc.	27'836	2'410	15.1%	74.6%	44.3%	80.2%	121%		11.6x	15.5x	26.1x	29.2x	0.77x	1.03x	1.73x	1.93x				n.a.	n.a.	n.a.	
	Zoom Video Communications, Inc.	17'222	4'560	5.3%	79.1%	33.5%	100.0%	118%		3.8x	4.8x	11.3x	15.5x	0.71x	0.90x	2.12x	2.91x				n.a.	n.a.	n.a.	
	HubSpot, Inc.	14'034	2'033	21.5%	82.3%	15.9%	96.7%	119%		6.9x	8.4x	43.4x	46.2x	0.32x	0.39x	2.02x	2.15x				n.a.	n.a.	n.a.	
	Twilio Inc.	5'852	4'400	18.2%	51.2%	8.0%	100.0%	131%		1.3x	2.6x	16.7x	26.9x	0.07x	0.14x	0.92x	1.47x				n.a.	n.a.	n.a.	
	RingCentral, Inc.	5'090	2'297	17.3%	78.6%	18.4%	92.9%	99%		2.2x	2.8x	12.0x	11.7x	0.13x	0.16x	0.69x	0.68x				n.a.	n.a.	n.a.	
	PagerDuty, Inc.	1'796	442	25.0%	84.5%	15.0%	100.0%	122%		4.1x	4.8x	27.1x	41.9x	0.16x	0.19x	1.08x	1.68x				n.a.	n.a.	n.a.	
Mean		33'808	5'144	17.1%	77.9%	27.3%	93.7%	115%		5.8x	7.3x	22.9x	28.8x	0.41x	0.52x	1.41x	1.79x				11.3x	34.6x	45.2x	
Median		17'222	3'828	17.6%	79.1%	22.8%	92.9%	119%		5.7x	7.4x	16.7x	26.9x	0.33x	0.42x	1.57x	1.86x				11.3x	34.6x	45.2x	
European Software Comps	Dassault Systèmes SE	46'008	6'098	9.2%	84.2%	37.7%	70.4%	n/a		7.5x	9.0x	20.0x	24.4x	0.82x	0.98x	2.18x	2.65x				7.1x	19.5x	25.9x	
	Hexagon AB (publ)	32'251	5'366	5.2%	65.5%	28.4%	40.0%	119%		6.0x	9.2x	21.2x	45.4x	1.16x	1.76x	4.07x	8.73x				5.0x	18.6x	28.0x	
	AVEVA Group plc	10'206	1'433	6.9%	79.1%	27.5%	66.4%	n/a		7.1x	9.0x	25.9x	50.5x	1.04x	1.31x	3.78x	7.36x				n.a.	n.a.	n.a.	
	Nemetschek SE	5'282	864	8.4%	96.4%	25.4%	61.1%	0%		6.1x	6.3x	24.1x	28.5x	0.72x	0.75x	2.86x	3.38x				7.2x	23.6x	30.4x	
	Darktrace plc	2'537	607	29.2%	89.8%	27.2%	100.0%	0%		4.2x	4.7x	15.4x	54.5x	0.14x	0.16x	0.53x	1.87x				n.a.	n.a.	n.a.	
	Enea AB (publ)	1'991	935	(0.8%)	64.9%	12.8%	50.0%	0%		2.1x	3.3x	16.6x	n.m.	n.m.	n.m.	n.m.	n.m.				2.8x	13.3x	15.0x	
	Software Aktiengesellschaft	1'982	1'013	8.8%	78.3%	20.0%	75.1%	0%		2.0x	2.5x	9.8x	15.8x	0.22x	0.28x	1.11x	1.79x				2.6x	10.0x	15.1x	
	Exclusive Networks SA	1'786	3'549	11.5%	12.4%	4.9%	89.9%	0%		0.5x	4.1x	10.2x	48.5x	0.04x	0.35x	0.89x	4.21x				n.a.	n.a.	n.a.	
	Esker SA	862	178	13.4%	75.4%	16.9%	94.6%	n/a		4.9x	6.4x	28.7x	n.m.	0.36x	0.48x	2.14x	n.m.				4.1x	28.0x	98.0x	
	Mean		11'434	2'227	10.2%	71.8%	22.3%	71.9%	20%		4.5x	6.0x	19.1x	38.2x	0.56x	0.76x	2.19x	4.28x				4.8x	18.8x	35.4x
Median		2'537	1'013	8.8%	78.3%	25.4%	70.4%	0%		4.9x	6.3x	20.0x	45.4x	0.54x	0.62x	2.16x	3.38x				4.5x	19.0x	26.9x	
Mean		22'621	3'685	13.6%	74.8%	24.8%	82.8%	71%		5.2x	6.7x	21.0x	32.9x	0.48x	0.63x	1.78x	2.88x				6.4x	22.8x	37.8x	
Median		8'029	2'353	12.5%	78.8%	24.1%	91.1%	99%		5.3x	6.4x	18.4x	28.8x	0.36x	0.43x	1.68x	2.04x				6.0x	20.2x	26.9x	

Source: own graphic, based on numbers from Torch Partners IB Limited

Two peer sets were developed: core companies and broader European Software companies.

As there are a lot of US companies in the core company segment and the US valuation sometimes differs quite heavily from the EU, a broader EU software peer set was taken to be able to calibrate if it had been necessary. However, as described in chapter 5, this was not necessary and only the core companies were used in the actual analysis. Please find below a description of the core companies used in the peer evaluation set:

Company	Description
Adobe	One of the largest software companies from its content and productivity software platforms. From PostScript to PDF, PhotoShop to Flash, Adobe develops the tools that drive these industry standards. With the Macromedia acquisition, Adobe assembled the pieces to capitalize on the next platform: Rich Internet Applications.
Atlassian	Atlassian provides a suite of products for the enterprise and SMB markets focused on collaboration. The Company's products include JIRA for team planning and project management; Confluence for team content creation and sharing; HipChat for team messaging and communications; Bitbucket for team code sharing and management, and JIRA Service Desk for team services and support applications.
RingCentral	RingCentral: is a provider of software-as-a-service (SaaS) solutions for business communications. RingCentral Office, the Company's flagship service, is a multi-user, enterprise-grade communications solution that enables its customers and their employees to communicate through voice, text and fax, on multiple devices, including Smartphone's, tablets, personal computers (PCs) and desk phones.
ServicNow	ServiceNow: is a leading provider of cloud-based services to automate enterprise information technology operations. ServiceNow offers a suite of applications built on a proprietary platform that enable customers to automate and standardize business processes, consolidate IT across the global enterprise, integrate related business processes, establish a single system of record, lower operational costs, and enhance efficiency. ServiceNow's customers can also leverage the company's extensible platform to build custom applications for automating activities unique to their business requirements.
Twilio	Twilio: is a cloud based communications platform as a service (CPaaS) company that allows developers to programmatically make, send, and receive phone calls and text messages and perform other communications functions using web based service APIs.
Veeva	Veeva: sells SaaS solutions for the Life Sciences industry, achieving early success with Sales Force Automation solutions, and more recently rolling out solutions for Content Management and Data Management. The company plans to broaden its product footprint over time to address other technology needs specific to the Life Sciences industry, which spends \$44B on IT annually.
Workday	Workday: is a leading enterprise Software-as-a-Service provider of human capital management (HCM), payroll, financial management, time tracking, procurement and employee expense management solutions. Workday's applications are built on a unified proprietary technology platform that enables rapid innovation and highly adaptable solutions for global enterprises to managed complex operations.
Zoom	Zoom is a cloud-based video conferencing platform that can be used through a computer desktop or mobile app, and allows users to connect online for video conference meetings, webinars, and live chat.
HubSpot	HubSpot is a cloud-based CRM designed to help align sales and marketing teams, foster sales enablement, boost ROI and optimize the inbound marketing strategy to generate more, qualified leads.
PagerDuty	A business-class incident response service that can be integrated with ITOps and DevOps monitoring stacks for improving operational reliability and agility. It is designed to enhance the safety and performance of IT operations by reducing the disorder in the entire lifecycle.

Appendix XII: Analysis at Various Prices

Analysis at Various Prices										
FYE Dec 31		Unaffected			Offer Price					
Share Price		€12.57	€13.82	€15.08	€16.33	€17.59	€18.85	€20.10	€21.36	€22.62
% Premium - Unaffected	Metric:	0%	10%	20%	30%	40%	50%	60%	70%	80%
% Premium - 30 Day VWAP		€11.28	11%	23%	34%	45%	56%	67%	78%	100%
% Premium - 90 Day VWAP		€10.10	24%	37%	49%	62%	74%	87%	99%	124%
FDSO		177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0	177.0
Equity Value		€2'224	€2'446	€2'668	€2'891	€3'113	€3'336	€3'558	€3'780	€4'003
Plus: Debt		600	600	600	600	600	600	600	600	600
Less: Cash & Equivalents		(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)
Net Debt		€511	€511	€511	€511	€511	€511	€511	€511	€511
TEV		€2'735	€2'957	€3'179	€3'402	€3'624	€3'847	€4'069	€4'291	€4'514
x Revenue		Metric (€M)								
2022 (LTM)	€545	5.0x	5.4x	5.8x	6.2x	6.7x	7.1x	7.5x	7.9x	8.3x
2023 (NTM)	€584	4.7x	5.1x	5.4x	5.8x	6.2x	6.6x	7.0x	7.4x	7.7x
NTM Growth Adjusted	7%	0.65x	0.70x	0.76x	0.81x	0.86x	0.91x	0.97x	1.02x	1.07x
x Gross Profit		Metric (€M)								
2022 (LTM)	€466	5.9x	6.3x	6.8x	7.3x	7.8x	8.3x	8.7x	9.2x	9.7x
2023 (NTM)	€501	5.5x	5.9x	6.3x	6.8x	7.2x	7.7x	8.1x	8.6x	9.0x
NTM Growth Adjusted	7%	0.73x	0.79x	0.85x	0.91x	0.97x	1.03x	1.09x	1.15x	1.20x
x CEBITDA		Metric (€M)								
2022 (LTM)	€295	9.3x	10.0x	10.8x	11.5x	12.3x	13.0x	13.8x	14.6x	15.3x
2023 (NTM)	€312	8.8x	9.5x	10.2x	10.9x	11.6x	12.3x	13.0x	13.8x	14.5x
NTM Growth Adjusted	6%	1.51x	1.64x	1.76x	1.88x	2.01x	2.13x	2.25x	2.38x	2.50x
x uFCF (post-tax)		Metric (€M)								
2022 (LTM)	€216	12.7x	13.7x	14.7x	15.8x	16.8x	17.8x	18.8x	19.9x	20.9x
2023 (NTM)	€208	13.2x	14.2x	15.3x	16.4x	17.5x	18.5x	19.6x	20.7x	21.7x
NTM Growth Adjusted	-4%	(3.37x)	(3.65x)	(3.92x)	(4.19x)	(4.47x)	(4.74x)	(5.02x)	(5.29x)	(5.57x)

Source: own graphic

Appendix XIII: Fundamental Analysis and Calculation of WACC

Fundamental Valuation																	
Exit Multiple Build-up																	
Scenario		Inputs	DCF	Years	1	2	3	4	5								
Cash-flow metrics in year 6			Years 1-5 growth	8%													
Unlevered FCF (after tax/ WC)	405		Terminal FCF		405	437	471	508	547								
CF Conversion to EBITDA	70%		Discounted FCF		372	367	363	359	355								
Implied EBITDA	576																
Valuation metrics																	
WACC	9.1%		Stable FCF	547													
Perpetual growth	4%		Terminal value	10'817													
Terminal Value in year 5	8'010																
No of years	5.0		Present Value of FCF	1'816													
PV of Terminal Value	5'191		Present Value of TV	6'713													
Expected Return			Value of Firm:	8'529													
WACC	9.1%		EBITDA multiple	14.8x													
			uFCF multiple	21.0x													
Equity return:	10.0%		Sensitivities														
Riskfree rate	2.0%																
Beta (levered)/ Relative volatility	1.3																
Market Risk Premium	6.0%																
Systematic Equity Return	8.0%																
Tax adjusted Cost of Debt:	7.0%		Beta = 1.10	uFCF Growth													
Margin over Rf	8.0%		FCF	21.0x	0.0%	2.0%	4.0%	6.0%	7.8%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%
Cost of Debt (all-in)	10.0%	10.0%	Interest rate	2.0%	16.1x	17.3x	18.5x	19.8x	21.0x	22.6x	24.1x	25.7x	27.4x	29.2x	31.0x	33.0x	35.0x
Tax Rate	30.0%	0.0%		3.0%	13.7x	14.7x	15.7x	16.8x	17.8x	19.1x	20.3x	21.7x	23.1x	24.5x	26.1x	27.7x	29.3x
				4.0%	11.9x	12.8x	13.6x	14.5x	15.4x	16.5x	17.6x	18.7x	19.9x	21.1x	22.4x	23.8x	25.2x
				5.0%	10.6x	11.3x	12.0x	12.8x	13.6x	14.5x	15.4x	16.4x	17.4x	18.5x	19.6x	20.8x	22.0x
Debt / Cap	30.5%																
Debt / Equity	0.4																
Unlevered Beta	1.02		Beta = 1.10	uFCF Growth													
Levered Beta (predicted)	1.3		CEBITDA	14.8x	0.0%	2.0%	4.0%	6.0%	7.8%	10.0%	12.0%	14.0%	16.0%	18.0%	20.0%	22.0%	24.0%
			Interest rate	2.0%	11.4x	12.2x	13.0x	13.9x	14.8x	15.9x	17.0x	18.1x	19.3x	20.5x	21.8x	23.2x	24.6x
				3.0%	9.7x	10.3x	11.0x	11.8x	12.5x	13.4x	14.3x	15.2x	16.2x	17.3x	18.3x	19.5x	20.6x
				4.0%	8.4x	9.0x	9.6x	10.2x	10.8x	11.6x	12.4x	13.1x	14.0x	14.8x	15.8x	16.7x	17.7x
				5.0%	7.4x	7.9x	8.5x	9.0x	9.5x	10.2x	10.9x	11.5x	12.3x	13.0x	13.8x	14.6x	15.5x

Fundamental Analysis, Source: own graphic

For the WACC calculation below, it should be noted that several key inputs were provided by my interview partners and used in the below calculation. The data as well as the detailed calculation can be found in the Excel model in the tabs “ERPs_by_Country”, “EU_Beta”, “MRT_by_Country”; and “Comps_Beta”

$WACC = (E/V \times Re) + ((D/V) \times Rd) \times (1-T)$, where:

E = Market Value of the Firm's equity (market cap)

D = Market Value of the firm's debt

V = total value of capital (equity plus debt)

E/V = percentage of capital that is equity

D/BV = percentage of capital that is debt

Re = cost of equity

Rd = cost of debt

T = Tax rate

$Re = \text{Risk free rate} + \text{levered Beta} \times (\text{Systemic Equity Return} - \text{Risk free rate}) = 2\%$

- Risk free rate: 10-year German Government bonds are currently at 1.8%, thus this was used as the risk-free rate
- Levered Beta: $\text{Unlevered Beta} \times (1 + (1 - \text{tax rate}) \times \frac{D}{E})$
 - Unlevered Beta: Unlevered Beta is provided by FactSet, which takes the core European Software companies and takes the 5-year average of comps beta
 - Marginal corporate tax rate for Germany is at 30%
 - Debt/Equity ratio is currently at 0.4
- Market Risk Premium: currently at 6.1% for Germany

$Rd = \text{Cost of debt} \times (1 - \text{tax rate}) = 7\%$

- Cost of debt = Margin over Risk-free rate (8.0%) + Risk-free rate (2%)

Therefore, WACC was calculated as follows:

$$WACC = 10\% \times (1 - 0.3) + (7.0\% \times 30.5\%) = 9.1\%$$

Appendix XIV: Return Analysis of Downside, Base and Upside Case

FAN OF OUTCOMES / RISK-RETURN PROFILE

All in €m		Downside Case	Base Case	Upside Case
Entry	Price	3,402	3,402	3,402
	NTM uFCF pre-tax x	11.4x	10.9x	10.1x
Returns (4Y & 5Y exit)		<i>MoM x</i> 1.6x 1.8x <i>IRR %</i> 12% 12% 3Y 5Y	2.2x 2.5x 21% 20% 3Y 5Y	3.2x 3.7x 34% 30% 3Y 5Y
Key assumptions	Revenue CAGR ('22-'27)	6%	7%	10%
	CEBITDA CAGR ('22-'27)	10%	13%	17%
	Post-tax uFCF CAGR ('22-'27)	9%	12%	16%
Metrics at Entry ('22)	Revenue (% NTM growth)	530 (6%)	545 (7%)	555 (10%)
	CEBITDA (% margin)	287 (54%)	295 (54%)	300 (54%)
	Post-tax uFCF (% margin)	210 (40%)	216 (40%)	220 (40%)
Metrics at Entry ('27)	Revenue (% NTM growth)	703 (6%)	781 (8%)	913 (10%)
	CEBITDA (% margin)	471 (67%)	534 (68%)	652 (71%)
	Post-tax uFCF (% margin)	328 (47%)	376 (48%)	466 (51%)
Exit valuation	Exit TEV	4,490	6,283	9,356
	CEBITDA x	9.0x	10.9x	13.0x
	CEBITDA x g.a.	1.49x	1.49x	1.25x
	Post-tax uFCF x	12.9x	15.5x	18.2x
	Post-tax uFCF x g.a.	2.94x	2.49x	1.90x

Source: own graphic