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VALUATION FOR M&A –  
ANALYSIS OF A PRIVATE DIGITAL TRANSFORMATION COMPANY

MICHEL BOHNE

Work project carried out under the supervision of:

Ekaterina Gavrilova

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## **Abstract**

This paper evaluates the theoretical and practical aspects of a private company valuation for a mergers and acquisitions scenario. Based on the case study of Cloudflight, a valuation range was assessed via intrinsic and relative approaches to estimate an appropriate purchase price. In addition, this paper examines potential synergies with a strategic investor. The key findings are: (1) Private companies provide lower comparability due to restricted data disclosure. (2) Corporate valuations are highly sensitive to key input variables, and underlying assumptions are subject to uncertainty. (3) Mergers and acquisitions can accelerate inorganic growth beyond transactions due to arising synergies.

## **Key words**

Private Company Valuation; Intrinsic Valuation; Relative Valuation; Mergers & Acquisitions; Synergy Effects

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## List of abbreviations

bps	Basis Points
BS	Balance Sheet
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CCA	Comparable Company Analysis
CF	Cash Flow Statement
CTA	Comparable Transaction Analysis
DACH	Germany/Austria/Switzerland
D&A	Depreciation And Amortization
DCF	Discounted Cash Flow
EBIAT	Earnings Before Interest After Taxes
EBIT	Earnings Before Interests, Taxes
EBITDA	Earnings Before Interests, Taxes, Depreciation and Amortisation
EV	Enterprise Value
FY	Fiscal Year
HGB	German Commercial Code
IS	Income Statement
IT	Information Technology
KD	Cost of Debt
KE	Cost of Equity
M&A	Mergers & Acquisitions
MRP	Market Risk Premium
NOL	Net Operating Loss
NWC	Net Working Capital
PV	Present Value
rf	Risk-Free Rate
TMT	Technology, Media, and Telecommunication
TS	Tax Shield
TV	Terminal Value
UFCF	Unlevered Free Cash Flow
WACC	Weighted Average Cost of Capital
YOY	Year-Over-Year
$\beta$	Beta Coefficient

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## **1. Introduction**

Evaluating the fair market value of private companies is a major objective in academic research and in practice. In line with a quote by Warren Buffet, “*Price is what you pay, value is what you get.*”, this paper outlines the two sides of the same coin in terms of corporate finance. Price and value highly impact the market dynamics of corporate takeovers and, thereby, the whole economy. Considerations usually include intrinsic and relative valuation methods and synergy effects for transactions with strategic investors. Hence, this paper introduces a private company valuation for a *mergers and acquisitions* (M&A) scenario based on the case study of Cloudflight GmbH, hereafter Cloudflight.

In general, private company valuation intends to estimate an approximate value of an unlisted firm. It is crucial to differentiate private from public firms to define the use case of a private company valuation. The main distinguishing features lie in ownership status and funding sources (Tatahi 2006). “*Private*” refers to unlisted companies held by private owners, which usually rely on private funding. “*Public*” defines companies listed on stock exchanges with access to public capital markets. Moreover, they differ in formal obligations of public disclosure and regulations. Given the record year of M&A transactions in 2021, high amounts of investor capital, and rising interest rates (PwC 2022), the current market conditions underline the importance of adequate valuations for private companies. In the context of M&A, valuation is a prerequisite step before a buyer and seller can negotiate an appropriate transaction price for a target company (Haley 2018). Under the assumption of a strategic investor, the buy-side considers synergy effects beyond the pure transaction price (Damodaran 2005). This notion assumes that post-transaction synergies can create value exceeding the monetary amount necessary to pay to acquire another company (Feldman & Hernandez 2021).

### **1.1. Problem definition and objective**

A private company valuation aims to determine the fair market value of an unlisted firm (Haley 2018). Given the sensitive characteristics of financial data, private firms may refrain from reporting their financials and internal information without the legal obligation of public disclosure. Capron (2007) argues that the lack of information can increase the risk of inappropriate valuation. Further, restricted

data availability could lead to lower firm comparability (Petersen et al. 2006). As financial data and comparableness are integral factors for intrinsic and relative valuation methods, this paper reviews potential restrictions for private company valuation.

A *discounted cash flow* (DCF) valuation aims to examine the value of a company based on its fundamental financial data (Ross et al. 2002). This intrinsic valuation method analyzes the historical financial performance and the underlying market environment to estimate a realistic development in the future (Rosenbaum & Pearl 2009). The forward-looking nature indicates a relatively high number of predictions and forecasts (Vayas-Ortega et al. 2020). Academic research argues that minor adjustments in theoretical assumptions about cash flows and future market conditions will directly influence the valuation result and are subject to uncertainty (French & Gabrielli 2005). This paper assesses predicted input factors and determine their impact on the intrinsic valuation output based on the analysis of Cloudflight.

Besides intrinsic valuation, relative valuation methods can estimate the implied value of a firm. Key methods are *comparable company analysis* (CCA) and *comparable transaction analysis* (CTA). Both valuation approaches utilize reference values to indicate price ranges (Rosenbaum & Pearl 2009). Academic literature emphasizes that CCA and CTA valuations are highly dependent on truly comparable input because dissimilar reference values and skewed sample selection lead to a biased estimation (Plenborg & Pimentel 2016; Wolpin 2002). Therefore, it is essential to identify a realistic set of comparable companies and transactions to ensure the methods validity.

In competitive markets, M&A can be an efficient approach to expand operations and leverage synergy potential via inorganic growth (Hoberg & Phillips 2008). Companies may be incentivized to acquire another firm to implement a revenue upside potential or a cost reduction opportunity (Damodaran 2005). Matching attributes of acquirer and target are assumed to create value (Feldman & Hernandez 2021). To assess synergy effects, this paper analyzes operating and financial sources and their magnitude based on potential a acquisition case.

## **1.2. Structure and methodology**

In the following, the overall structure and methodology of this paper are explained. Firstly, the three major valuation methods are introduced in Section 2. Secondary literature, such as peer-viewed journal articles, corporate finance books, and research papers, was analyzed. Thereby, this paper distinguishes between intrinsic valuation, including DCF and other methods, and relative valuation, e.g., CCA and CTA. Section 3 introduces the topic of synergies in M&A because of its value creation potential beyond transactions. Secondary research literature was examined to provide brief insights into operating and financial synergies with strategic investors. After this, the case study of Cloudflight developed for this paper is presented in Section 4. The applied methodology is outlined, and the main results are presented and discussed. In Section 5, three key findings are drawn. Afterwards, Section 6 broaches the issue of limitations and future research, and Section 7 outlines a conclusion. The validity and inadequacies of private company valuations and synergy effects in M&A will be evaluated.

## **2. Introduction to corporate valuation**

In this section, this paper conducts a high-level review of key of corporate valuation concepts. Determining an accurate firm value is arguably the most essential application of corporate valuation (Finnerty & Emery 2004). Valuation methods are a fundamental element of corporate finance and are crucial for assessing solid and weak performing business units, optimizing financing structures, or identifying growth potential (Koller et al. 2010). Corporate valuation methods offer this necessary framework and enable optimal decisions for companies at critical crossroads, e.g., in the process of M&A (Ross et al. 2002).

### **2.1. Intrinsic valuation methods**

Current academic literature has intensely reviewed and discussed intrinsic valuation approaches like the DCF to determine a company's *enterprise value* (EV) and equity value (French & Gabrielli 2005; Koller et al. 2010; Jennergren 2011; Vayas-Ortega et al. 2020). The origin of intrinsic valuation can be found in accounting (Thomas & Gup 2009). For corporate finance, Graham & Dodd (1934) laid the foundation in the 1930s. Their hypotheses of “*intrinsic value*”, derived from fundamental data instead

of relative market-perceived interpretations, shaped corporate finance theories in the following decades. Nowadays, corporate valuations evolved but still evaluate public and private companies based upon intrinsic characteristics.

### **2.1.1. Discounted cash flow valuation**

Simplified, a DCF valuation allows to examine the risk and reward characteristics of a company via the *present value* (PV) of future cash flows (Haley 2018). Especially for private companies, where no equity research reports and public valuations are available, the DCF is an appropriate tool to define a price limit for a takeover candidate (Rosenbaum & Pearl 2009). This method fundamentally requires actual and forecasted financial statements to provide a robust value estimation (Jennergren 2011). From the three accounting statements, i.e., *income statement* (IS), *balance sheet* (BS), *cash flow statement* (CF), the current and future operating performance, non-operating performance, and capital structure can be extracted as a valuation basis (Ross et al. 2002). The implied EV can be derived via discounting expected *unlevered free cash flows* (UFCF) based on historical values and a set of assumptions (Rosenbaum & Pearl 2009). After incorporating non-operating assets, added to the EV, and the deduction of non-equity claims, the implied equity value is determined (Damodaran 2006).

### **2.1.2. Other intrinsic valuation methods**

It is important to note that many other applicable intrinsic valuation methods exist, e.g., the leveraged buyout method, the dividend discount model, or the adjusted present value approach. In practice, before M&A transactions take place, banks and advisory firms apply several valuation methods to compare and validate the results. However, this paper will only focus on the intrinsic DCF and the following two relative valuations.

## **2.2. Relative valuation methods**

Relative valuations determine a company's value based on how the market prices comparable parameters (Damodaran 2006). Two fundamental approaches are CCA and CTA, which incorporate the concept of valuation multiples. In corporate finance, multiples are measurement tools to evaluate financial metrics (Rosenbaum & Pearl 2009). Goedhart et al. (2005) underline this by stating that the

appropriate execution of multiples analysis can enable a more precise financial forecast. In general, multiples aim to utilize a measure of value in the numerator and a financial statistic in the denominator (Rosenbaum & Pearl 2009). This can include variables such as the EV of a company in the numerator compared to its sales, *earnings before interest, tax, depreciation, and amortization* (EBITDA) or *earnings before interest, and tax* (EBIT) in the denominator.

### **2.2.1. Comparable company analysis**

The CCA approach is premised on the assumption that similar companies provide a relevant reference value for evaluating a target (Twain 1995). This relative valuation method presumes that comparable companies, or “*trading comps*”, share essential operational and financial characteristics, performance drivers, and risks. It determines multiples based on related peers (Sommer & Wöhrmann 2011). The framework assesses a valuation range based on how similar assets are priced in prevailing market conditions (Sharma & Prashar 2013). This can enable to value private companies, where financial data are limited available or undisclosed (Liu et al. 2000). Moreover, providing a precise relative valuation can be utilized to validate intrinsic valuations. The underlying use case can be applied for M&A considerations to understand market dynamics and benchmarks in a sector (Damodaran 2006).

### **2.2.2. Comparable transaction analysis**

Besides DCF and CCA, CTA is a key approach employed in M&A for determining and validating an implied valuation range for a target company. The relative valuation method examines precedent transactions of similar companies to derive a potential purchase price (Rosenbaum & Pearl 2009). This can be primarily relevant for valuations of private companies because the valuation reflects what was objectively paid in past M&A deals (Trugman 2008). The market-oriented approach assumes that firms with comparable operating models, geographical coverage, and financial characteristics should have similar risk and return profiles which are represented in their transaction prices (Twain 1995). While CTA multiples also consider acquisition premia for control and potential synergies (Trugman 2008; Pratt 2009), this paper focuses on the latter.

### **3. Introduction to synergies in mergers and acquisitions**

A fundamental idea of M&A is to create economic value via inorganic growth (Bruner 2004). This section defines synergies and explains why they are an essential driver for M&A dynamics. Besides pure inorganic growth, many transactions consider synergy effects (Dewanger & Bauer 2000). In strategic M&A deals, synergy potential is considered as an essential factor for decisions (Mukherjee et al. 2004). Damodaran (2005, 3) states that: “*Synergy is the additional value that is generated by combining two firms, creating opportunities that would not been available to these firms operating independently.*” Additional value is created via matching attributes of acquirer and target (Feldman & Hernandez 2021). This can lead to several positive outcomes, e.g., revenue enhancement, cost reduction, lower taxes, or lower cost of capital (Ross et al. 2002). This paper groups synergies into operating and financial synergies and categorize different sub-sources.

#### **3.1. Operating synergies**

Operating synergies are cash flow related synergies arising from improved operations (Devos et al. 2009). These synergies enable companies to enhance their current operating income or accelerate their operating progression, or both. Thus, operating synergies can affect margins, returns, and growth, and through these, the value of the companies involved in M&A transactions (Rosenbaum & Pearl 2009).

#### **3.2. Financial synergies**

Compared to operational synergies, financial synergies relate to a lower cost of capital and arise from improved efficiency of financing activities (Ross et al. 2002). Further, they can also lead to higher cash flows due to enhanced profitability (Damodaran 2005). Financial synergies depend on several factors, e.g., tax rate, default costs, relative size, riskiness and correlation of cash flows (Leland 2007).

### **4. Case study: Cloudflight GmbH**

While prior studies have examined the relevance of valuations or synergy analysis in the context of M&A separately, this paper builds the bridge between them. For the following analysis, Cloudflight, an IT service company headquartered in Munich, was chosen. The company operates in the *technology, media, and telecommunication* (TMT) sector and was founded in 2019. The company

was established through the merger of the Austrian Catalysts GmbH and the German Crisp Research AG. The private equity investor Deutsche Beteiligungs AG owns a majority stake in Cloudflight and invested into the firm via a growth financing in 2019. The merger of Catalyst and Crisp aimed to enable operating and financial synergies to follow a European growth strategy backed by the financial sponsor (Deutsche Beteiligungs AG 2022). Their operating model focuses on the business-to-business end market and generates recurring revenues (see Figure A1). Cloudflight provides software development, cloud architecting, digital strategies, penetration testing, infrastructure designing, and other related services. The key geographical coverage of Cloudflight is defined in the IT services segment with an emphasis on digital transformations in *Germany/Austria/Switzerland* (DACH) via cloud usage.

#### **4.1. Applied methodology**

For the following study, data from the annual reports, Capital IQ, and equity research reports were collected and analyzed. The applied methodology is structured into four parts via DCF, CCA, CTA, and synergy analysis to examine Cloudflight.

The **DCF valuation** utilized published accounting data of Cloudflight as an input (Jennergren 2011). The available historical financial statements from 2019 to 2020 are translated from German to English (see Table A2, A3, and A4). Based on Damodaran (2006), this paper applies the DCF valuation via five key steps (see Table A1). **Step (I):** The DCF initiates with **forecast assumptions and the reorganization of historical financial statements** (Koller et al. 2010) for Cloudflight to constitute a realistic future scenario via the 3-statement model (projection period: FY2021e until FY2030e). The time horizon was chosen as a reasonable valuation basis, given the young nature of the company (Nunnally 2006) A long-term period was examined, considering that Cloudflight was in FY2020A still EBIT negative. Relevant assumptions for the forecast and reorganization are described in Appendix B1, B2, and B3. **Step (II):** The DCF proceeds with **valuing the operating assets via discounting projected UFCFs** of the IT service company (Koller et al. 2010). Based on the adjusted business plan, Cloudflight's UFCFs are assumed to be generated by the operating business minus undertaken

reinvestments into the company (Ross et al. 2002). The DCF model of UFCF calculations is outlined in Table A5, and A6. The capital structure independent cash flows are calculated via the EBIT path described by Ruback (2000) and available to equity and debt holders as well as other non-equity investors. Estimated corporate taxes are deducted from EBIT to derive *earnings before interest after taxes* (EBIAT) values (Jennergren 2011). The effective tax rates in FY2021e to FY2023e are affected by *net operating losses* (NOL). The loss carried forward diminishes tax burdens for the EBIAT calculations for the first three years of the forecast until the loss is assumed to be fully recovered (Koller et al. 2010). From FY2024e onwards, the effective tax rate of Germany of 30.00% was presumed (KPMG 2021). Afterward, EBIAT values are adjusted to derive UFCFs from the forecasted accounting data, including add-back of amortization, depreciation, and impairments, which are deducted previously from EBITDA to calculate the EBIT (Damodaran 2006). These non-cash expense items reduce reported earnings, but do not decrease UFCF, and need to be added back to the EBIAT value (Rosenbaum & Pearl 2009). Moreover, the *year-over-year* (YOY) increases in NWC are subtracted (Ruback 2000). No changes in provisions are predicted for Cloudflight. In addition, the EBIAT values are adjusted by subtracting capital expenditure for each year (Koller et al. 2010). Afterwards, the UFCFs are discounted to derive their PV. The underlying DCF model utilizes the *weighted average cost of capital* (WACC) to discount UFCFs (Koller et al. 2010).

$$(1) \quad WACC = K_E \times \frac{E}{E + D} + K_D \times \frac{D}{E + D}$$

The WACC calculations are illustrated via diagrams for an average and median calculations (see Figure A2 and A3). For this case study, the arithmetic mean was utilized for average calculations. Median values constitute the 50<sup>th</sup> percentile, i.e., the middle point of data sets. Formula (1) depicts the *cost of equity* ( $K_E$ ) and post-tax *cost of debt* ( $K_D$ ) with respect to their relative weight in the capital structure. For Cloudflight, WACC was calculated by deriving the  $K_E$  via the *capital asset pricing model* (CAPM), and the  $K_D$  via a synthetic rating estimation. The CAPM utilized for Cloudflight was based on the theories and assumptions of Sharpe (1964), Lintner (1965), and Mossin (1966). Given the

high-growth, high-uncertainty status of Cloudflight with respect to its historical unprofitability, the traditional equilibrium model of the CAPM was augmented by a *venture capital premium* ( $VCP_i$ ). The  $VCP_i$  follows the idea of a size premium, first mentioned by Banz (1981). Damodaran (2009), and Sahlman and Scherlis (1987) suggest applying significantly increased discount rates for firms with unestablished, high-risk characteristics.

$$(2) \quad K_E = R_f + \beta_{LiM} \times (R_m - R_f) + VCP_i$$

The  $K_E$  determination via CAPM includes a *risk-free rate* ( $R_f$ ), a *levered company beta* ( $\beta_{LiM}$ ), a *market risk premium* (MRP), and the  $VCP_i$ . In the case of Cloudflight located in Munich, the  $R_f$  of 0.81% was based on the yield curve rate of a 30-year German treasury bond. The MRP of 4.24% was based on NYU Stern data for country risk premiums. The equity risk premium for Germany was chosen. For the financial sponsor-backed Cloudflight, the calculation assumed a  $VCP_i$  of 35.00% demanded by equity investors. Another key item of the  $K_E$  equation is the  $\beta_{LiM}$ . The  $\beta_{LiM}$  for Cloudflight was derived via a peer group approach proposed by Rosenbaum and Pearl (2009) (see Table A7). The unlevering and relevering procedure is described in-depth in Appendix B4.

For the  $K_D$  derivation, a synthetic rating estimation in line with assumptions of Damodaran (2009) was considered. With no bond rating to measure default risks, private companies like Cloudflight are assumed to rely on estimates (Topyan 2021). An interest coverage ratio was utilized to estimate a synthetic rating and related *default spread* ( $DS_i$ ) (see Table A12). The calculated EBIT was divided by the sum of interest expenses in FY2020A. The derived interest coverage ratio defined the estimated rating and  $DS_i$ , which was added to the  $R_f$  times the *tax shield* (TS) to calculate the post-tax  $K_D$ .

$$(3) \quad K_D = (DS_i + R_f) \times (1 - T_C)$$

For the final after-tax WACC calculation, all derived values are plugged into Formula (1). The relative weights in the capital structure for  $K_E$  and  $K_D$  values are defined via the peer group. The underlying

DCF model then considers WACC for a two-stage PV approach, containing the 10-year projected period from FY2021e until 2030e and a terminal period afterward.

$$(4) \quad EV_t = \sum_{\tau=1}^T \frac{UFCF_{t+\tau}}{\prod_{j=1}^{\tau} (1 + WACC_{t+\tau})} + \frac{UFCF_{T+1}}{WACC_{T+1} - g} \times \frac{1}{\prod_{j=1}^T (1 + WACC_{t+j})}$$

Post-tax WACC values are time-adjusted applied to derive discounted UFCFs as illustrated by the first part of Formula (4). The sum of all cash flows depicts the PV of UFCFs. To calculate the PV of the *terminal value* (TV), a stable *growth rate* ( $g$ ) was incorporated. In the second part of Formula (4), the model applies the perpetual growth method to calculate the PV of the TV (Damodaran 2009). The DCF model determines a TV, which defines the value of Cloudflight's cash flow generation in a normalized steady state forever (Behr et al. 2018). The model uses the expected gross domestic product growth of Germany, equal to 3.05%, to discount the terminal year UFCF by the time-adjusted discount factor derived via WACC minus  $g$ . The sum of PV calculations for UFCFs and TV depicts the implied EV of Cloudflight. To examine how WACC adjustments and changes in terminal growth rates affect the implied EV, two sensitivity analyses are performed (see Table A13 and A14). **Step (III):** Afterward, **non-operating assets are added** (Damodaran 2006). For Cloudflight, this includes cash and cash equivalents, other non-core assets, and the NOL of FY2020A. These items are not reflected in the operating cash flows but still carry value for a potential acquisition case. **Step (IV):** In a fourth step, **non-equity claims are subtracted**. Given the private status of Cloudflight, no publicly traded debt instruments are given. The applied approach considers the book values as an appropriate proxy. From Cloudflight's implied EV, the total interest-bearing debt, lease commitments and unfunded pension obligations are deducted (Damodaran 2006). The private firm has no preferred shares outstanding and reported no non-controlling interest. No future litigation payouts or other non-equity claims are assumed. **Step (V):** Ultimately, the **implied equity value** of the IT service firm is determined (see Table A15 and A16). The applied DCF omits further steps for Cloudflight due to its status as a non-listed company with no shares outstanding.

The **CCA valuation** aims to depict the most realistic comparable set of peers to derive appropriate valuation multiples for evaluating Cloudflight (Twain 1995). This case study applied a general market-based approach for selecting comparable firms (Bhojraj & Lee 2002). In the following, this paper defines the CCA process for Cloudflight in five steps (Rosenbaum & Pearl 2009). **Step (I):** The CCA initiates with **identifying an adequate set of trading comps**, including a profound understanding of the target firm's business model. This step is required to avoid misperception and biased valuation estimates (Plenborg & Pimentel 2016). Primarily business profile filters and subordinated financial profile criteria are defined to filter trading comps. For the business profile, criteria contain the underlying industry, end markets, and products and services, as well as geography to develop peer group buckets. In line with Cloudflight's corporate strategy, the underlying CCA only considers TMT-related companies operating in business-to-business end markets. The products and services filter focuses on comps within IT services, such as cloud applications, software development, and digital consulting. Therefore, this study examines four peer groups (n=22) of comparable companies sorted by four buckets (see Table A17). Bucket 1 includes DACH-based IT service firms (n=6), Bucket 2 incorporates global IT services (n=4), Bucket 3 contains offshore IT services (n=7), and Bucket 4 considers outsourced software development firms (n=5). For the financial profile, measures are primarily determined by the size based on market capitalization. This filter criterion was only applied to peers from Bucket 1 to examine only firms below a market capitalization EUR 6 billion. Given the novel and highly specialized business model, the financial profile constraints of size were omitted for trading comps of Bucket 2, 3, and 4. Pre-defined growth rates or profitability restrictions are also excluded. **Step (II):** Afterward, **key financial information** are obtained, based on historical or expected future financial information (Sharma & Prashar 2013). Data of FY2020A, *last twelve months* (LTM), and FY2021e until FY2023e was collected. Financial information and analytics of S&P Capital IQ are utilized for this CCA. In addition, for expected future performance, equity research reports of Deutsche Bank (2022) and UBS (2022) were reviewed to countercheck forecasted data from

S&P Capital IQ. **Step (III):** Thereafter, the CCA calculates **key statistics and trading multiples**. For Cloudflight, this paper focuses on three enterprise multiples: the sales-based metric of EV/Sales, and the profitability-based metrics of EV/EBITDA, and EV/EBIT. Equity multiples using a share price as numerator, e.g., *price-to-earnings*, are excluded given the analysis of an unlisted company. The key output is derived via Excel for FY2020A, LTM and FY2021e (see Table A18 to A21). For the case study, multiples are defined uniformly across the trading comps set (Sharma & Prashar 2013). Mean and median values are calculated for all buckets. **Step (IV):** The CCA determines a target **benchmark of comparable companies** and closest peers for Cloudflight. A detailed examination of the chosen trading comps, and calculates trading multiples to determine a relative benchmark and omit outliers. In this step, upper bound and lower bound for the final valuation output are generated. **Step (V):** Ultimately, the calculated and assessed multiples define the framework for Cloudflight to **derive a valuation range**. Mean and median calculations of the defined closest peers can be applied to derive an implied valuation range (Rosenbaum & Pearl 2009) (see Table A18).

The **CTA valuation** for Cloudflight is performed in five steps (Rosenbaum & Pearl 2009). Cloudflight's CTA applies valuation multiples of "*transaction comps*" to derive an enterprise value (Chamberlain et al. 2004). Disclosed past deals serve as reference values (Walker 2009). **Step (I):** First, the **selection of transaction comps** is required, based on an in-depth comprehension of Cloudflight and its operating model, the IT service sector, and a defined timeframe. The identification process includes the understanding of TMT deal dynamics and underlying conditions to derive the most suitable set of comparable transactions (Walker 2009). Pursuant to the objective to provide a valid data set for the CTA, the screening was executed via S&P Capital IQ under considerations of six parameters: Parameter 1 considers announced dates of transactions that took place within April 2017 to April 2022 to provide a recent timeframe. Parameter 2 includes transactions only if the status was defined as "*announced*", "*closed*", "*effective*", or "*successful*" to depict relevant market activity. Parameter 3 incorporates a filter of the transaction type, where only M&A deals were included.

Parameter 4 observes M&A deals with an acquisition of a majority stake, i.e., only transactions where more than 50% equity was acquired. Parameter 5 reviews transactions where the target or issuer fulfilled the industry classifications IT service. Parameter 6 filters transactions for which the target or issuer met the criterion of a suitable operating model via the feature business description, including the keywords “*cloud*”, “*cloud consulting*”, “*cloud services*”, or “*software consulting*”. No distinguishing filter for geographical locations of buyers or targets in DACH or Europe was included to have a more extensive data set. **Step (II):** The next step focuses on **transaction-related key information**. Locating the financial information of past M&A transactions comprises deals of public and private firms via S&P Capital IQ. **Step (III):** The CTA for Cloudflight calculates **key statistics and transaction multiples**. After collecting all available information, the available, relevant transaction data are plugged into Excel. In total, 76 historical relevant transactions are illustrated considered (see Table A22 and A23), and mean and median values were calculated. **Step (IV):** Afterward, a **benchmark of comparable transactions** for Cloudflight is identified. Further relevant deal circumstances and dynamics are scrutinized (Rosenbaum & Pearl 2009). The CTA determines ten transactions as a benchmark (see Table A24). In addition, the key transaction comps are illustrated by Figure A4 to A6. **Step (V):** In the last step, the chosen transaction comps **derive an implied valuation range** for Cloudflight. The transaction comps statistics from the benchmark are applied for final output and can now validate valuation results from the intrinsic DCF and relative CCA valuations (Rosenbaum & Pearl 2009).

The following **synergy analysis** examines an acquisition scenario of Cloudflight as a target with Bechtle as a strategic buyer. Bechtle, a Germany-based IT service provider, offers a highly complementary operating model and depicts an established, mature firm. In line with Cloudflight, its business segment contains several IT solutions, including cloud implementation and applications, software development, digital consulting, and managed IT services. In addition to the similar business model, the company was chosen based on the four key reasons size, capital structure, cash reserves,

and key geographical coverage. Based on publicly available data from S&P Capital IQ, Bechtle is valued at a standalone EV of more than EUR 5.6 billion and provides under capital market conditions of March 2022 an indicated a market capitalization of approximately EUR 5.4 million. The company provides a capital structure with a high equity proportion of approximately 98% (see Table A7). Moreover, Bechtle provided on their BS in FY2020A more than EUR 363 million in cash and cash equivalents, which could be employed for an acquisition (Bechtle AG 2021). Given the revenue split of Bechtle (see Figure A7), more than 70% of total revenues were generated in the DACH region. In summary, Bechtle is assumed to be highly complementary for an acquisition case. The following analysis is divided into operating and financial synergies. The high-level approach aims to assess fundamental sources qualitatively and quantitatively. This paper examines three key **operating synergies** and two essential **financial synergies** for a potential acquisition of Cloudflight by Bechtle.

**Operating synergy (I):** Some M&A transactions aim to create value through **economies of scale**-related synergies. The theory behind this concept presumes that if the average cost of production diminishes while the level of production increases, the effect of the economy of scale occurs (Ross et al. 2002). This operating synergy, arising post-transaction, is assumed to be applicable for Bechtle after acquiring Cloudflight. To examine this operating synergy, potential operating improvements are measured via a standalone DCF model of Bechtle and a combined entity model (see Tables A25 and A26). **Operating synergy (II):** The effect of increased **pricing power**, resulting from reduced competition and higher market share was also considered. This synergy type assumes a strategic benefit of higher margins and operating income post-transaction (Damodaran 2005). The adjusted EBIT and EBIT margin of Bechtle were examined pre- and post-transaction (see Table A27). The underlying approach considered a goodwill and intangible asset-adjusted EBIT value for Cloudflight. This adjustment is implemented to depict the EBIT value of Cloudflight in FY2020A without one-time effects. The underlying items are assumed to be not relevant for Bechtle's operations in the long term, as Cloudflight will not make any further acquisitions and the two items will be fully written off in year

FY2028e (see Appendix B2). Based on the unequal company sizes, an EV-weighted approach was chosen to evaluate the quantified effects. **Operating synergy (III):** In addition, the synergy type of **higher growth in new or existing markets** was analyzed. This additional value creation can appear when a large IT service company, here Bechtle, acquires an up-and-coming company, such as Cloudflight. A potential change in Bechtle's expected top-line growth was considered for the synergy analysis via a value-weighted approach. Based on the implied EV values, the significance of this synergy type was measured. **Financial synergy (I):** Some transactions can create financial synergy when a company with excess cash and limited project prospects acquires a company with high-return projects and restricted cash access (Damodaran 2005). The liquid financial funds of excess cash are also called **cash slack** (Lu et al. 2021). The synergy scenario was examined because it usually occurs when a large, cash-rich company like Bechtle acquires a small, cash-reliant company like Cloudflight. The value of this synergy type was calculated by considering the changes in EV, revenue growth and the reinvestment rate of Bechtle pre- and post-acquisition. It examines if the combined entity values can exceed the added stand-alone values (see Table A27). **Financial synergy (II):** Another potential source of gain for Bechtle arise from **tax benefits**. Jensen and Ruback (1983) outlined that companies may lead toward corporate transactions to utilize tax shields and fully exploit other tax advantages. Damodaran (2005) states that tax benefits occur from shielding income by taking advantage of NOLs. Given the above-mentioned decreased effective tax rate of Cloudflight due to NOLs, potential tax benefits were examined for Bechtle (see Table A27).

## **4.2. Results and discussion**

In the following, the applied DCF, CCA, and CTA results and potential synergies of an acquisition of Cloudflight as a target by Bechtle as a strategic acquirer are outlined and discussed. Due to page constraints, the determined results will be discussed directly.

### **4.2.1. Discounted cash flow analysis**

The underlying results of the DCF valuation rely on five contributing factors: significant top-line growth, growing EBIT margins, decreased tax obligations due to NOLs, growing, stable UFCFs

generation, and a substantially high WACC rate. Underlying assumptions are, inter alia, an increase in demand for IT Services in the DACH region, and Cloudflight's historical growth of 104.79 % from FY2019A to FY2020A (BNP Paribas Exane 2022). Accelerated by the rising need for digital transformation, Cloudflight represents a TMT firm with an asset-light business model, a growing business-to-business client base, and a strong network via its financial sponsor. In line with the significant growth assumption, industry averages of comparable tech firms with scalable, recurring revenues, e.g., via cloud services, justify the hypothesis of a long-term low double-digit total revenue growth (UBS 2022). The DCF valuation also considers the substantial improvement in operations, depicted by growing EBIT margins, due to changed conditions of strong top-line growth, stable fixed and variable costs, and the decrease of D&A in relative terms compared to total revenue (see Appendix B1). In addition, Cloudflight shows net losses between FY2019A and FY2021e, which can be utilized to lower tax obligations (Koller et al. 2010). The NOLs are carried forward to diminish tax burdens, which results in lower effective tax rates for the EBIAT calculation between FY2021e to FY2023e. Between FY2021e and FY2030e, EBIAT values are assumed to grow significantly from EUR 5.7 million to EUR 40.9 million. To derive UFCFs, the EBIAT values are adjusted (Koller et al. 2010). The addition of amortization, depreciation, and impairments provide a slow decrease over time. The deduction of increases in NWC are relatively stable NWC (see Appendix B2). The subtraction of capital expenditure is derived via a PP&E schedule (see Appendix B3), and is forecasted based on a percentage of sales of Cloudflight of 5.27%, which leads to a constant increase. The EBIAT adjustments lead to growing, stable UFCFs generation from EUR 18.9 million in FY2021e to EUR 41.4 million in the terminal year. The fifth crucial input factor of the DCF valuation is the estimated WACC. To derive the PV of UFCFs and the TV, a notably high WACC rate of 38.21% and 37.90% (see Figures A4 and A4) is applied for the discount factor. The examined abnormal cost of capital of Cloudflight is based on the three main parameters: the  $\beta_{L_{iM}}$  and augmented  $VCP_i$  for the  $K_E$  equation, and the estimated  $DS_i$  for the  $K_D$ . Based on the stock return regression statistics, five out of six IT

service peers show levered equity beta coefficients of above 1.00 (see Tables A10 and A11). All derived beta coefficients are statistically significant at the significance level of 1%, given the related p-values of approximately zero. Mullins (1982) assumes that companies with beta values greater than 1.00 have a high systematic risk. Given the linear regression results, under the assumption of the SDAX as a reference value is mean-variance efficient in line with the theories of Markowitz (1959), the peer group is assumed to be very sensitive to market changes. In the underlying sample, the examined dispersion of returns demonstrates high volatility and high risk, which explains the beta coefficients above 1.00. In contrast, under the assumption that higher R-squared values indicate a stronger correlation of stock returns to the performance of their benchmark, the average R-squared value of 0,3947 is relatively low, indicating a weak correlation of returns to the SDAX. After un- and relevering of asset beta, the average approach estimated a  $\beta_{LIM}$  of 1.20 and the median approach a value of 1.13 signal high systematic risk (Mullins 1982). Given the currently unprofitable, high-uncertainty status of Cloudflight, this study included a  $VCP_i$  of 35.00% in the  $K_E$  estimation of Formula (2), as an extended version of the size premium (Banz 1981). Based on the assumptions of Damodaran (2009), the calculation considers Cloudflight as an expanding second-stage company with a high risk of default or financial distress (see Figure A8). The risk adjustment aims to define a premium, which is high enough to offset the associated uncertainty risks for equity investors. The third main parameter is the  $DS_i$ , Cloudflight's synthetic rating estimation, leads to the lowest rating with D2/D with a  $DS_i$  estimate of 17.44% (see Table A12). The defined pre-tax  $K_D$  value, the sum of the  $DS_i$  plus  $R_f$  of 0.81%, of 18.25% is notably high. For the average-based approach, the final WACC value is 38.21%, and 37.90% for the median approach. The applied relative weights of the capital structure are based on mean and median values of peers, with derived equity weights of above 90% (see Figures A3 and A4). The highly increased risks of Cloudflight drive the WACC significantly upward and reasonably justify the estimation. The constantly high amount of equity provides evidence of the low leverage in the capital structure of trading comps. This is in line with studies from Koller et al. (2010), stating that

high-growth industries like software historically tend to use low amounts of debt. Therefore, the exalted WACC is not based on the high-uncertainty characteristics of Cloudflight can rather than a default risk based on too much debt. Considering that the company provides no successful historical operations and actual NOLs, debt and equity investors are assumed to demand a higher cost of capital yield (Damodaran 2009). The PV of UFCFs is assumed to depict a value range of EUR 64.2 million to EUR 64.7 million. The evaluated PV of TV varies from EUR 53.3 million to EUR 54.5 million. The implied EV is determined at EUR 117.5 million and EUR 119.3 million for mean and median WACC-discounted PVs (see Table A5 and A6). Outlined by the sensitivity analysis of the EV (see Tables A13 and A14), it can be concluded that the higher the WACC, the lower the EV. By keeping the terminal growth rate constant at 3.05%, the determined EV varies between EUR 123.3 million and EUR 112.2 million for underlying mean derived WACC values of 37.21% to 39.21% (Table A13). Therefore, each change in WACC by 50 *basis points* (bps) correlates to a decrease in EV of more than EUR 2.6 million for Cloudflight. Applying the same method to the median derived WACC in relation to a constant terminal growth, each step of a changed WACC by 50 bps leads to a change in EV of more than EUR 2.7 million. Naturally, on the opposite, in line with academic estimates, the higher terminal growth rate positively affected the EV calculation. Higher values lead to higher company value for Cloudflight. Afterward, by adding non-operating assets of EUR 32.9 million and subtracting EUR 89.2 million from non-equity claims, and interest-bearing debt are subtracted, Cloudflight's implied equity value is assumed between EUR 61.2 million or EUR 62.9 million (see Table A15 and A16). Key items of the EV to equity bridge are the NOL of EUR 21.9 million added to the EV, and the total long-term debt of EUR 88.8 million subtracted from the EV.

#### **4.2.2. Comparable company analysis**

The CCA examines a total peer group (n=22) of comparable companies sorted by four buckets (see Table A17). The results of the CCA analysis are presented by multiples of FY2020A, LTM, and FY2021e (see Table A18 to A21). The closest peer group of DACH-focused IT services (n=6) provides the most conservative EV/Sales multiples. The mean and median values of Bucket 1 are significantly

lower compared to global, offshore, and outsourced peer multiples. All other global regions provide twice to five times higher mean and median values for FY2020A, LTM, and FY2021e sales multiples. This could indicate that DACH-based IT service firms region depict a more attractive investment for potential investors, given their potentially undervalued price range based on EV/Sales (Damodaran 2006). Contrastingly, the low EV/Sales multiples of Cloudflight's closest peers could imply that revenue expectations fall short compared to global peers. The reason for higher traded firms of Bucket 2 to 4 might underly in their expected edge in the future in the IT service industry (Goedhart et al. 2005). Comparing the operating margins and growth prospects of Bucket 1 with lower-tiered trading comps, this is not the case. DACH-based peers provide the second-highest mean and median sales growth YOY of the four buckets. For EV/EBITDA and EV/EBIT multiples, given the fact that peers with varying fiscal years and different accounting standards are chosen, contrasts in fiscal periods and reporting measures are adjusted to mitigate the risk of dissimilar calculations and biased valuation estimates for trading comps (Damodaran 2006). LTM multiples solve calendarization discrepancies and are chosen for the final valuation output (Rosenbaum & Pearl 2009). In contrast, with the usually employed EV/Sales approach for valuing young TMT firms, the derived results indicate that LTM values of EV/EBITDA are more applicable. EV/EBIT values are not suitable for the novel IT firm, given the high D&A expenses and negative EBIT value of FY2020A. The lower (13.6x) and upper bound (14.7x) of a valuation range are based on the mean and median of LTM EV/EBITDA multiples, considering the conspicuous low EV/Sales multiples of Bucket 1. Even if the EV/EBITDA values of Bucket 1 also rank the lowest compared to peers from Bucket 2 to 4, relative differences were less significant. The implied valuation range for Cloudflight's EV is EUR 118.4 million and EUR 128.6 million (see Figure A9). The LTM CCA range validates the high-growth estimates of the DCF results, as the valuations differ by under EUR 9.4 million.

#### **4.2.3. Comparable transaction analysis**

For Cloudflight's CTA, two precedent transaction sets are outlined. An extensive CTA (n=76) includes transactions with partially and fully undisclosed deal information (see Tables A22 and A23), and a

benchmark CTA (n=10) with complete available financial information (see Table A24). Given the restricted data circumstances for the broader set of historical deals, benchmark CTA multiples serve as reference values (Walker 2009). For comparability with DCF and CCA valuations, the determined EV/EBITDA multiples of 14.0x and 14.8x are applied for the boundaries of a final valuation range. In line with academic theory, Cloudflight's determined CTA multiples are higher compared to CCA values (Rosenbaum & Pearl 2009), resulting in the highest implied EV of the three valuations, with a range of EUR 122.4 million to EUR 129.7 million (see Figure A9). After reviewing the deal dynamics of Cloudflight's CTA, the underlying multiples can be explained by the incorporated premia paid for control and synergies in line with the theories of Trugman (2008) and Pratt (2009). It is important to mention that benchmark transactions consider a global deal frame, and that the extensive CTA (n=76) would have led to a lower value estimate.

#### **4.2.4. Synergy analysis**

The synergy analysis assumes an acquisition case of Cloudflight, where the created value considerably exceeds the sum of combined EVs. The synergy analysis examines a standalone and combined entity DCF model to quantify results (see Table A25 and A26). Given the derived results for Bechtle, this paper assumes a net synergy creation of EUR 158.6 million (see Table A27). The underlying results are derived by comparing Bechtle's standalone values pre- and post-acquisition of Cloudflight. Ascertained key factors for this estimate are two operational and two financial sources, defined by the growth rate increase, EBIT margin improvement, tax benefits, and WACC deterioration. On an operational scale, the expected top-line growth of Bechtle is assumed to rise by 12 bps if the acquisition takes place. For the combined entity, the underlying result is calculated via an EV-weighted approach. The expected growth rate of 13.65% of Cloudflight, given its CAGR, increases the acquirer's YOY expansion from 7.50% to 7.62%. The previously already high growth prospect for Bechtle was based on a long-term forecast of BNP Paribas Exane (2022). The EBIT margin improvement of 9 bps was also calculated via the EV weighted value. Notably to mention is that an adjusted EBIT value for Cloudflight is utilized, which omits one-time effects. The two operational synergies can be justified by

an economy of scale effect, augmented market power, and higher growth in existing markets. Related to the horizontal mergers, synergies from economy of scale enable a more profitable and cost-efficient operational structure for Bechtle (Damodaran 2005). Moreover, given the potential competitive price advantages and enlarged market power, Bechtle is expected to gain significant influence in IT services in the DACH region after the acquisition (Fisher et al. 1989). The third underlying reason for the cash flow-related synergies is the enhancement of the established distribution network, the well-known brand name of Bechtle, and the outlined enlargement in existing markets due to leveraging Cloudflight's high-growth potential. The synergy analysis also examines changes in financial characteristics. The results reveal that a tax benefit of 44 bps and a cost of capital degradation of 2 bps are forthcoming in case of a successful acquisition. The tax benefit is entirely driven by the diminished effective tax rate of Cloudflight due to NOLs. The net losses are assumed to be carried forward to decreased tax obligations for the combined entity and to shelter positive earnings in the future (Damodaran 2009). Therefore, Bechtle is assumed to benefit from the NOL of the target and decrease its tax rate from 28.87% to 28.43%. In contrast, the decrease in WACC is a central negative point. Even a marginal reduction of 2 bps leads to a perceptible impact on the discount factor and, consequently, the UFCFs of the combined entity (see Table A26). As outlined in the sensitivity analysis of Cloudflight's EV, each minor adjustment in WACC can significantly impact the EV calculation (see Tables A13 and A14). The analysis also considers cash slack as a reliable source of financial synergy, which will enable further inorganic growth for Bechtle's (Lu et al. 2021). Hence, an acquisition premium based on synergy would be reasonable.

## **5. Key findings**

The results of this paper provide an in-depth analysis of Cloudflight, contributing to the research stream and practical approach of private company valuation. Three essential findings can be outlined:

**(1) Private companies provide lower comparability due to reduced data disclosure.** This finding is primarily supported by the DCF and CTA analyses of Cloudflight. For the DCF, several crucial

metrics and financial information were based on estimations, including the EV, the equity value, or the last five-year beta coefficient. For publicly listed company such as Bechtle, all necessary information could be collected from S&P Capital IQ, Bloomberg, and the more comprehensive annual report. The equity value, approximated via five carefully considered steps in the DCF for Cloudflight could be directly gathered via market capitalization. In Germany, listed companies underlie explicit information obligations to provide transparency for stakeholders, regulatory authorities, and potential investors. For the CTA, the inadequacies of comparability due to reduced data disclosure could be noticed directly in the high number of deals with limited or without any publicly announced information (see Tables A22 and A23). In summary, data for Cloudflight as an example for a private firm was significantly less transparent for valuation purposes and considerably more dependent on own judgment than for Bechtle as a public sample, which underlines the lower comparability and transparency. **(2) Corporate valuations are highly sensitive to key input variables, and underlying assumptions are subject to uncertainty.** A critical finding of the study is that defined input parameters highly impact the valuation and are hardly ever definite or unbiased. The sensitivity analysis of Cloudflight's EV based terminal growth and WACC (see Tables A13 and A14) show that the change of one input factor by as little as 50 bps can lead to correlating monetary change of EUR 2.6 to EUR 2.7 million. Moreover, underlying assumptions by the researcher can be generally biased or distorted. Fundamental data assumptions independent of the source, e.g., top-line growth, estimated WACC rates or forecasted EBIAT and UFCF values, are not completely reliable. In addition, provided in the CCA and CTA, key input reference values can always be based on a biased sample selection. Even with comparable financial data as an integral factor for an appropriate valuations, specific metrics always underly assumptions and are therefore subject to uncertainty. **(3) Mergers and acquisitions can accelerate inorganic growth beyond transactions due to arising synergies.** As outlined in the synergy section, expected value creation post-transaction can exceed the combined standalone values of both IT service companies. Operating and financial synergies enabled the inorganic growth of Bechtle as a strategic

investor (Ross et al. 2002). The case of Cloudflight by Bechtle indicates a long-term improvement in operations due to positive effects of economies of scale, a more significant pricing power, and higher growth in new or existing markets for the acquirer. From a financial point of view, the positive impact on taxes positively influenced UFCFs over the ten-year forecast. Therefore, the acquisition of the high-growth case Cloudflight was determined as a pivotal moment for growth in excess of opportunities that would have not been available to Bechtle operating independently (Damodaran 2005).

## **6. Limitations and future research**

The underlying corporate valuation methods and synergy analysis of this case study are subject to several limitations. For example, the researcher may choose the input data of DCF valuations in a biased manner, using favourable data (Viedienieiev 2021). A completely different scenario could have been depicted, especially for young and unestablished firms like Cloudflight. In the underlying DCF model, a highly optimistic development was illustrated, whereas future research could also investigate a financial distress case based on another assumption set. Compared to public companies, another major drawback of the DCF can be observed in the example of the private company Cloudflight, since several estimation-based values were utilized for the valuation. Besides the inadequacies of data, the high number of predictions is a central deficit for the “*intrinsic*” valuation method. Marginal change in a single assumption can significantly impact the DCF, which makes it subject to uncertainty. Minimal variations in input data, e.g., top-line growth, WACC rates, or terminal growth, would have led to significantly different results. For the relative valuations of CCA and CTA, sample selection biases and lack of precision can restrict the validity of the methods (Wolpin 2002). A further restraint is that valuation depends on perspective and use (see Figure A10). Arguably, valuation multiples are based on inaccuracies of comparable company selection (Saputro and Hartono 2017). Moreover, two companies are never the same, leading to concern that trading characteristics of similar companies may fail to accurately capture a given company’s true value and risk (Rosenbaum & Pearl 2009). For CTA multiples, time lag constraints are also controversial. Precedent transactions priced in historical and not

prevailing market conditions. Future studies may complement the results by examining another set of comparable peers and transactions for the target company. The synergy analysis was based on several value estimations. Pre-transaction, the quantified magnitude of synergy value can only be assumed. Therefore, the next step in the analysis would require determining how synergies can be successfully realized through the acquirer Bechtle by post-merger integration. Future studies may add to the findings of this paper by considering potential risks for the acquirer, e.g., unexpected costs or regulatory risk.

## **7. Conclusion**

This paper has provided an in-depth analysis of the potential takeover of Cloudflight, a private equity-backed German IT services provider, by Bechtle as a strategic investor. By conducting the three corporate valuations DCF, CTA, and CCA, the intrinsic and relative methods depict different EVs (see Figure A9). Overall, all results are in line within an implied valuation range of EUR 117.5 million to EUR 129.7 million and assumed to validate each other's accuracy. This paper evaluates Cloudflight with an implied EV range of EUR 118.5 to EUR 126.0 million, considering its uncertain high growth characteristics. In addition, a quantitative and qualitative synergy analysis reveal potential operational and financial synergies effects worth in total approximately EUR 158.6 million. In general, the synergy analysis finds that Bechtle would yield a net surplus resulting from the acquisition. However, a higher WACC is identified to negatively impacts the PV of UFCFs. Three key findings were drawn by reviewing the case study of this paper. First, private companies provide lower comparability due to reduced data disclosure, as a natural limitation of unlisted companies. Second, corporate valuations are highly sensitive to key input variables because limitations of the case study indicate that assumptions for valuations are subject to uncertainty. Third, mergers and acquisitions can accelerate inorganic growth beyond pure transaction value due to arising operational and financial synergies, as shown by the acquisition case of Cloudflight by Bechtle.

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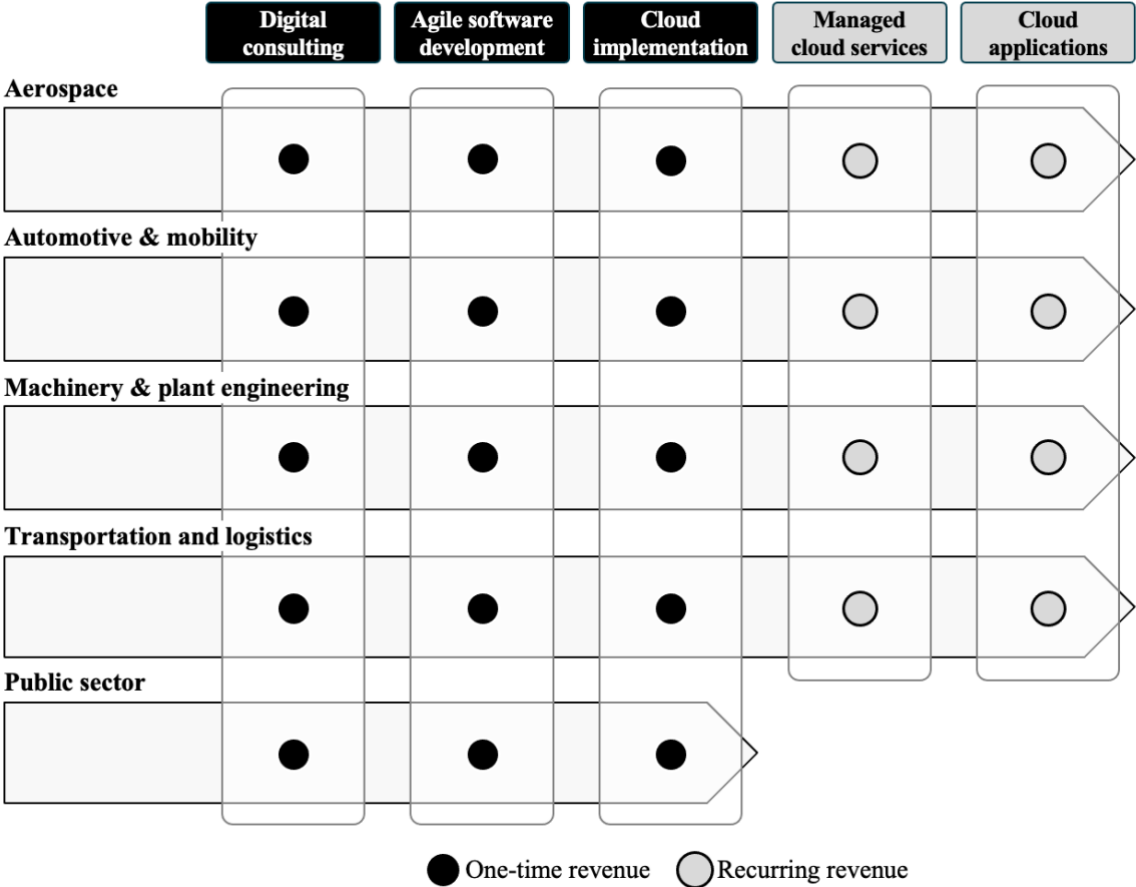
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Appendices

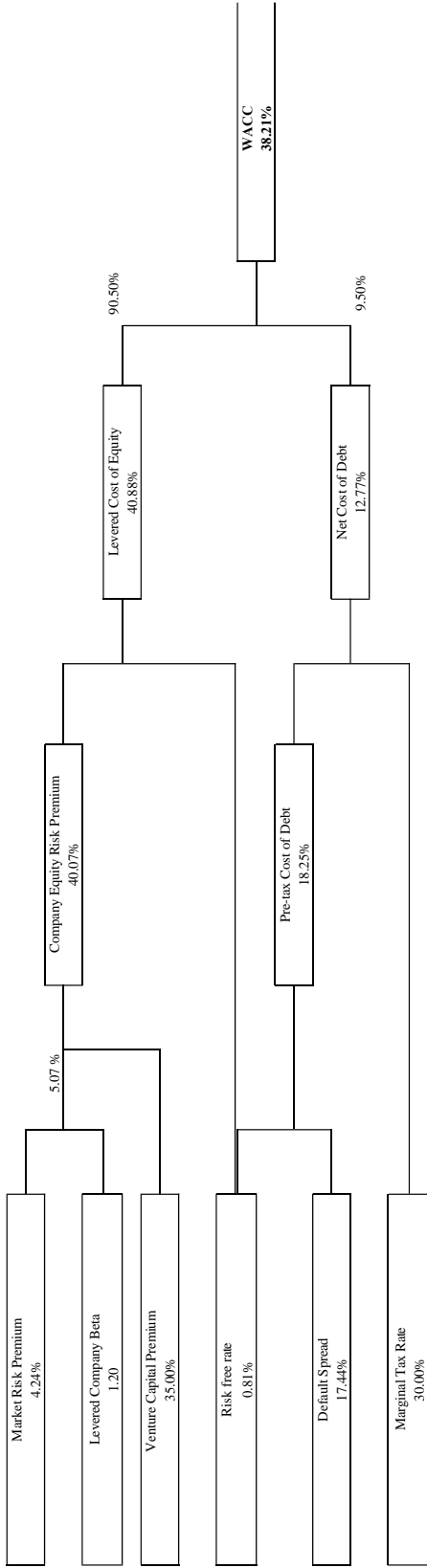
Appendix A: Figures

Figure A1 – Cloudflight: Operating Model



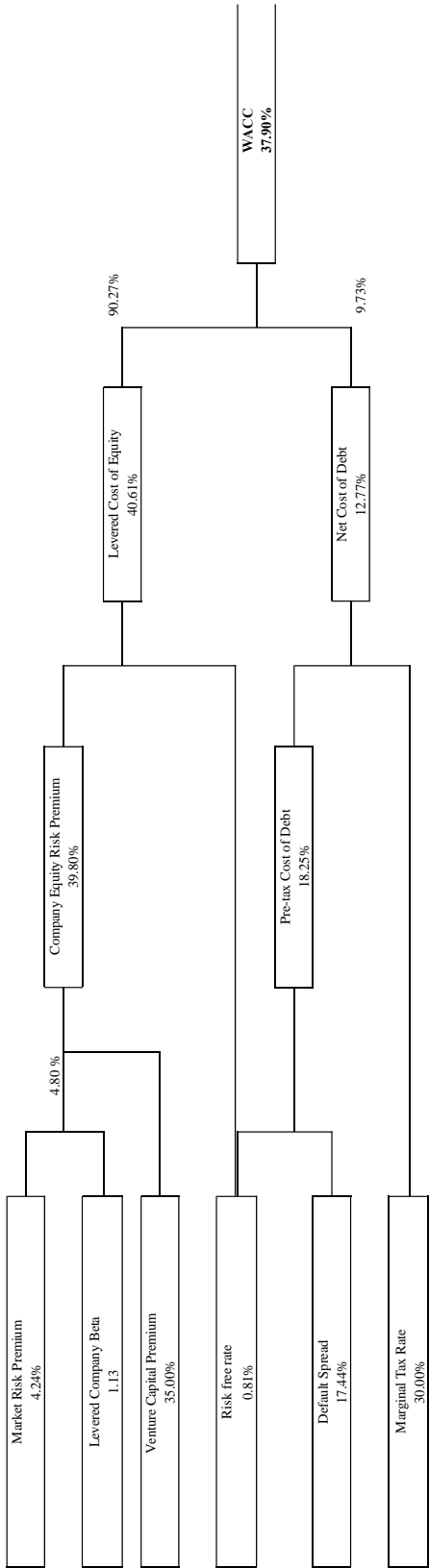
Source: Cloudflight GmbH. 2022. Own illustration of operating model.

**Figure A2 – Cloudflight: Cost of Capital Calculation (Mean-based WACC)**



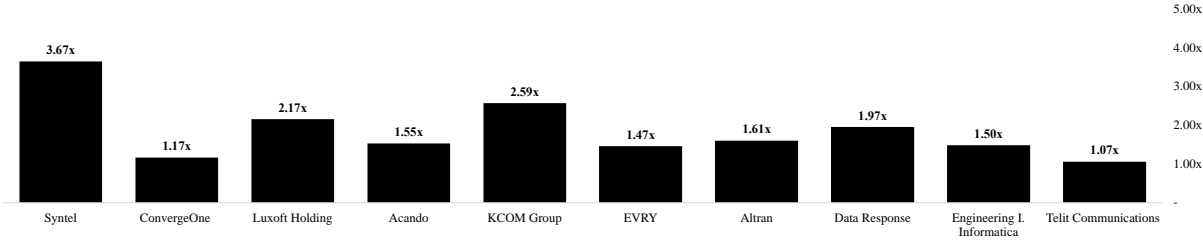
**Source:** Own illustration based on excel estimation.

**Figure A3 – Cloudflight: Cost of Capital Calculation (Median-based WACC)**



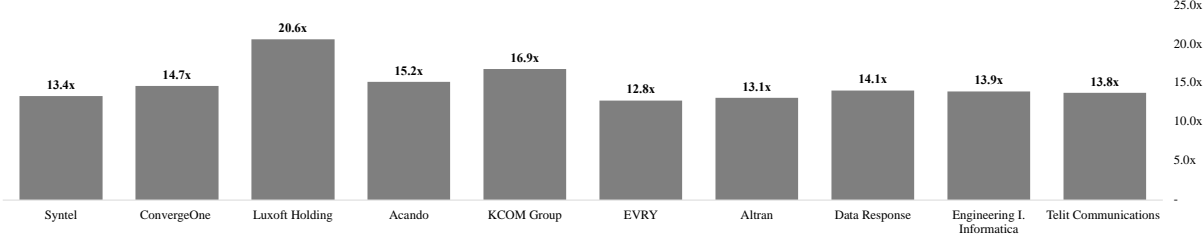
Source: Own illustration based on excel estimation.

**Figure A4 – CTA: Benchmark Transactions (EV/Sales Multiples)**



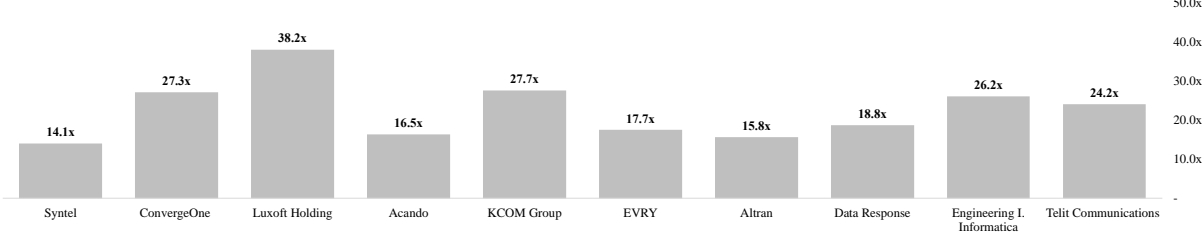
Source: Own illustration based on excel estimation.

**Figure A5 – CTA: Benchmark Transactions (EV/EBITDA Multiples)**



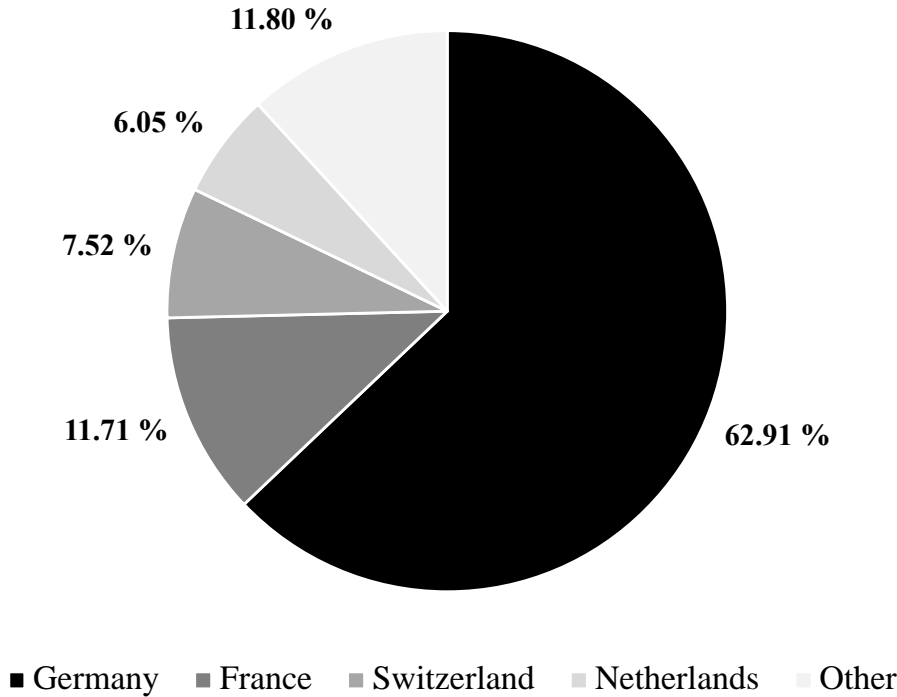
Source: Own illustration based on excel estimation.

**Figure A6 – CTA: Benchmark Transactions (EV/EBIT Multiples)**



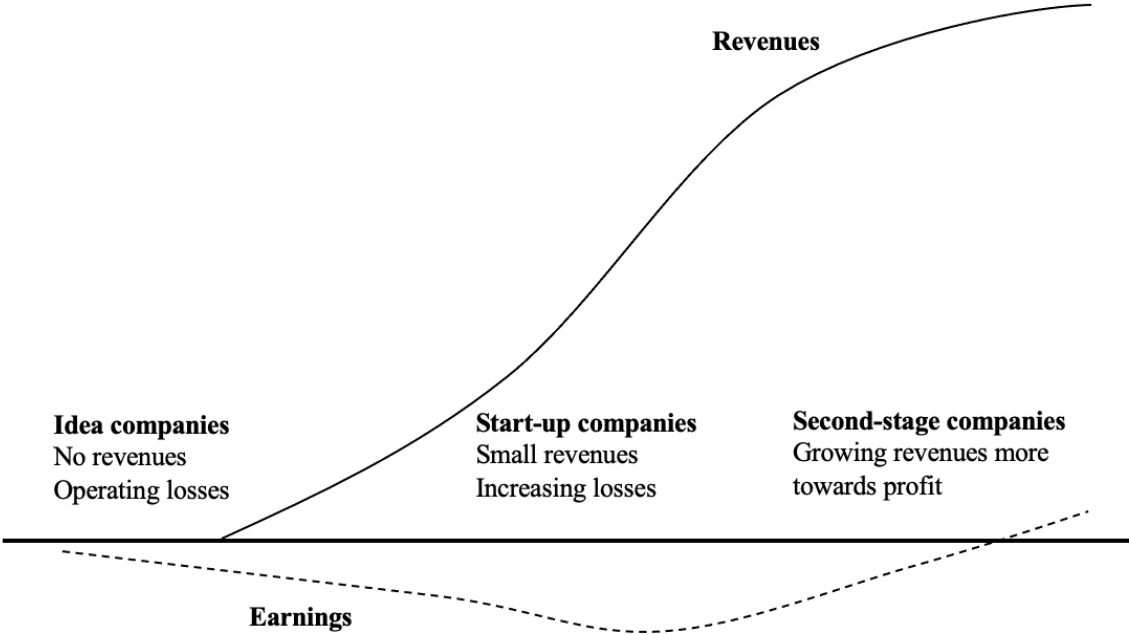
Source: Own illustration based on excel estimation.

**Figure A7 – Bechtel: Revenue Split (FY2020A)**



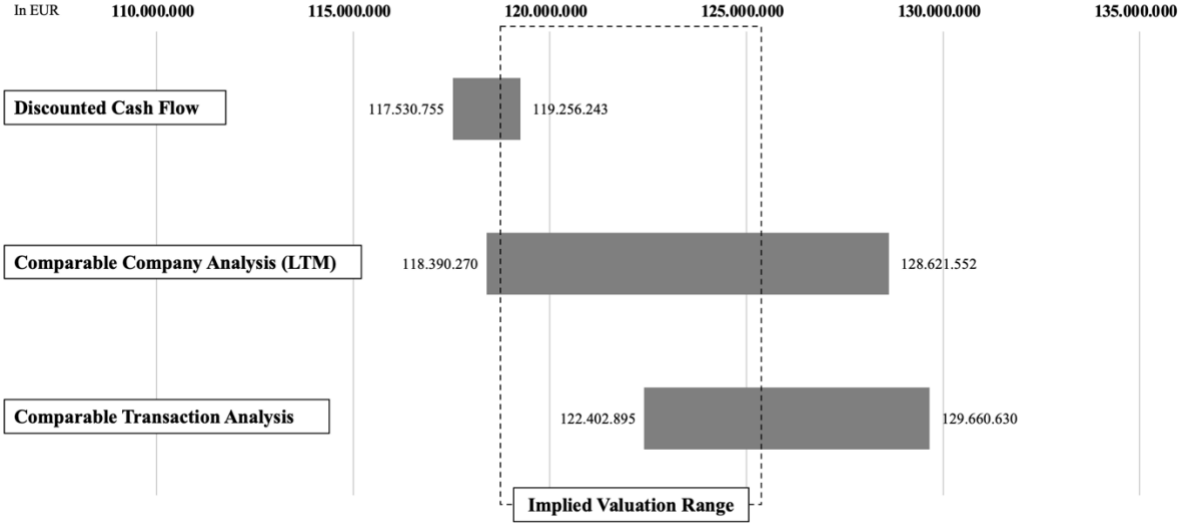
**Source:** Bechtel AG. 2021. *Annual Report 2020*. Neckarsulm: Bechtel GmbH & Co. KG IT System House.

**Figure A8 – Early Stages of Company Life Cycle**



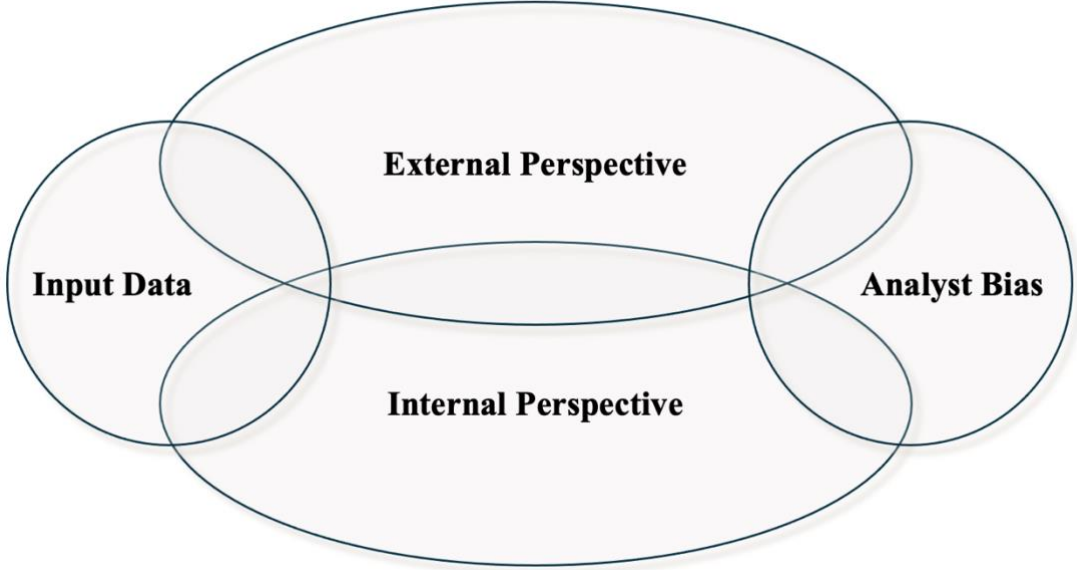
**Source:** Damodaran, Aswath. 2009. *Valuing Young, Start-Up and Growth Companies: Estimation Issues and Valuation Challenges*. New York: Stern School of Business, 1–67.

**Figure A9 – Cloudflight: Implied Valuation Range**



**Source:** Own depiction based on valuation output from DCF, CCA, and CTA.

**Figure A10 – Valuation Output Factors**



**Source:** *Own illustration based on Thomas & Gup (2009).*

## Appendix A: Tables

**Table A1 – Five key steps of the DCF valuation**

Step	Output
(1) Forecast assumption for historical accounting data	Valuation basis with the current and future operating performance, non-operating performance, and capital structure
(2) Discount UFCF with cost of capital, i.e., WACC	Value of operating assets of the firm
(3) Add value of all assets whose earnings are not related to operating income	(+) Cash and cash equivalents (+) Marketable securities (+) Equity Investments (+) Other Non-Core Assets (+) Net Operating Losses
(4) Subtract non-equity claims of the company	(-) Value of interest-bearing debt (-) Estimated value of minority interests in consolidated companies (-) Unfunded health care or pension obligations (-) Expected litigation payouts (-) Lease commitments
(5) Receive equity value	= Value of equity

**Source:** Damodaran, Aswath. 2006. *Own depiction based on “Damodaran on Valuation”*.

**Table A2 – Cloudflight: Consolidated Income Statement (2019A – 2020A)**

<b>Consolidated Income Statement</b>		
in EUR	<b>2019A</b>	<b>2020A</b>
<b>Revenue</b>	19,682,638.92	36,793,851.45
Increase or decrease in inventories of finished goods and work in progress	-1,650,138.31	215,197.20
Other operating income	1,100,507.85	2,177,505.02
<i>Thereof income from currency exchange</i>	1,489.32	4,580.37
<b>Cost of materials</b>		
a) Cost of raw materials, consumables and supplies and of purchased goods	37,013.28	14,277.68
b) Cost of purchased services	1,336,411.04	2,529,840.53
<b>Personnel expenditures</b>		
a) Wages and salaries	7,414,382.09	18,650,820.63
b) Social security contributions and expenses for pensions and other employee benefits	2,029,595.26	4,153,594.56
<i>Thereof pension obligations</i>	148,193.42	269,623.11
<b>Amortization and depreciation of intangible assets and property, plant and equipment</b>	10,641,682.75	14,159,446.91
Other operating expenses	7,289,256.21	5,136,937.67
<i>Thereof expenses from currency exchange</i>	19,281.42	39,872.15
Income from investments in associates	52,974.47	126,097.00
Other financial income	32,005.36	31,582.23
Other interest income	2,723.84	17,795.32
Amortization of financial assets	0.00	145,000.00
Interest and other related expenses	3,117,141.31	5,945,546.57
<i>Thereof expenses from investments in associates</i>	1,554,359.59	3,080,185.04
<b>Income tax expenses</b>	-1,459,976.10	-724,038.68
<i>Thereof from changes in recognised deferred taxes</i>	2,607,780.18	883,087.01
<b>Earnings after taxes</b>	-11,184,793.71	-10,649,397.65
Other taxes	8,669.20	10,701.84
<b>Net income (loss)</b>	-11,193,462.91	-10,660,099.49
Loss from prior years	-1,094.98	-11,194,557.89
<b>Loss carried forward</b>	-11,194,557.89	-21,854,657.38

**Source:** Cloudflight GmbH. 2020. *Consolidated financial statements for the financial year from 01.01.2020 to 31.12.2020.*

Cologne: Bundesanzeiger, DuMont Mediengruppe GmbH & Co. KG.

**Table A3 – Cloudflight: Consolidated Balance Sheet (2019A – 2020A)**

<b>Consolidated Balance Sheet</b>		
<b>Assets</b>		
in EUR	<b>2019A</b>	<b>2020A</b>
<b>Non-current assets</b>		
Intangible assets		
Concessions, industrial property rights and similar rights and assets acquired for consideration, as well as licences to such rights and assets	10,921,210.08	6,467,176.50
Goodwill	71,296,076.52	62,606,292.05
<b>Property, plant and equipment</b>		
Land, land rights and buildings, including buildings on third-party land	529,618.21	1,075,319.83
Other equipment, operating and office equipment	1,198,176.17	1,628,491.23
Prepaid expenses on constructions in progress	0.00	80,275.33
<b>Financial assets</b>		
Investments in associated companies	336,944.49	463,041.49
Long-term securities	884,526.51	541,823.03
Other long-term loans	20,000.00	1,270,366.46
<b>Current assets</b>		
Inventory		
<i>Work in progress</i>	118,809.60	334,006.80
Receivables and other assets		
Trade receivables	5,540,736.22	4,717,451.22
Intercompany receivables	51,922.21	0.00
Receivables from associated companies	364,900.00	183,420.26
Other assets	2,376,036.66	2,111,275.24
Cash and cash equivalents	5,243,613.26 13,577,208.35	8,718,337.85 13,696,017.95
<b>Deferred expenses and accrued income</b>		
	335,672.64	549,887.95
<b>Net loss not covered by equity</b>	0.00	7,105,127.34
<b>Total assets</b>	<b>99,218,242.57</b>	<b>97,852,292.58</b>
<b>Liabilities and equity</b>		
in EUR	<b>2019A</b>	<b>2020A</b>
<b>Shareholders equity</b>		
Subscribed capital	25,000.00	25,000.00
Capital reserves	14,734,110.84	14,734,110.84
Equity difference from currency translation	-4,810.85	-9,580.80
Loss carried forward	-11,194,557.89	-21,854,657.38
<i>Thereof not covered</i>	0.00	7,105,127.34
<b>Book equity</b>	<b>3,559,742.10</b>	<b>0.00</b>
<b>Provisions</b>		
Tax provisions	913,003.24	952,392.10
Other provisions	2,208,267.79	1,644,712.67
<b>Liabilities</b>		
Loans	45,742,083.33	45,623,208.33
Advance payments	42,500.00	22,500.00
Trade payables	1,365,936.62	1,215,927.69
Payables attributable to shareholders	40,056,692.12	43,136,877.16
Other liabilities	3,544,968.98	3,343,455.37
<i>Thereof taxes</i>	1,376,942.38	2,424,090.68
<i>Thereof related to social security contributions</i>	429,494.88	462,684.47
<b>Deferred income and accrued expenses</b>	<b>474,183.80</b>	<b>1,485,441.69</b>
<b>Deferred tax liability</b>	<b>1,310,864.59</b>	<b>427,777.57</b>
<b>Total liabilities and equity</b>	<b>99,218,242.57</b>	<b>97,852,292.58</b>

**Source:** Cloudflight GmbH. 2020. *Consolidated financial statements for the financial year from 01.01.2020 to 31.12.2020.*

Cologne: Bundesanzeiger, DuMont Mediengruppe GmbH & Co. KG.

**Table A4 – Cloudflight: Consolidated Cash Flow Statement (2019A – 2020A)**

<b>Consolidated Cash Flow Statement</b>		
in EUR	<b>2019A</b>	<b>2020A</b>
<b>Operating cash flow</b>		
Net loss	-11,193,462.91	-10,660,099.49
Amortization, depreciation and impairments	10,641,682.75	14,304,446.91
<i>Thereof depreciation</i>	374,538.92	1,015,628.86
Additions (consumptions) of provisions	-422,808.04	115,993.22
Income (loss) related to investing activities	2,320.86	48,465.74
Decrease (increase) in inventories, trade receivables and other current assets	721,549.03	-560,241.69
Increase (decrease) in trade payables and other current liabilities	1,967,695.91	645,078.31
Interest expenses (interest income)	3,114,417.47	5,927,751.25
Other income from investments in associates (-)	-84,979.83	-157,679.23
Change in deferred taxes	-2,607,780.18	-883,087.01
Income taxes paid	-1,414,003.46	-64,006.41
<b>Total operating cash flow</b>	<b>724,631.60</b>	<b>8,716,621.60</b>
<b>Investing cash flow</b>		
Proceeds from disposals of property, plant and equipment	10,416.51	103,040.69
Additions to property, plant and equipment	-955,781.05	-2,172,183.57
Proceeds from disposals of financial assets	105,732.55	369,925.61
Additions to financial assets	-6,604.82	-50,000.00
Additions to consolidated companies and other business units	-76,182,937.01	-520,500.00
Interests received	2,723.84	17,795.32
Dividends received	7,888.23	259.20
<b>Total investing cash flow</b>	<b>-77,018,561.75</b>	<b>-2,251,662.75</b>
<b>Financing cash flow</b>		
Proceeds from equity contributions	14,746,610.84	0.00
Proceeds from financial loans	67,598,772.53	3,025,680.64
Repayment of long-term debt	0.00	-3,025,680.64
Interests paid	-813,246.64	-2,984,236.53
<b>Total financing cash flow</b>	<b>81,532,136.73</b>	<b>-2,984,236.53</b>
<b>Cash and cash equivalents at end of period (Consolidated Statements of Financial Position)</b>		
Change in cash and cash equivalents (Sum 1 - 3)	5,238,206.58	3,480,722.32
Changes in cash and cash equivalents due to exchange rate, scope of consolidation and valuation changes	-5,998.34	-5,997.73
Cash and cash equivalents at the beginning of the period	11,405.02	5,243,613.26
Cash and cash equivalents at the end of the period	5,243,613.26	8,718,337.85
<b>Composition of cash and cash equivalents</b>		
Cash and cash equivalents	5,243,613.26	8,718,337.85
Cash and cash equivalents at the end of the period	5,243,613.26	8,718,337.85

**Source:** Cloudflight GmbH. 2020. *Consolidated financial statements for the financial year from 01.01.2020 to 31.12.2020.*

Cologne: Bundesanzeiger, DuMont Mediengruppe GmbH & Co. KG.

**Table A5 – Cloudflight: Discounted Cash Flow Valuation (Mean-based WACC)**

in EUR	Projected Period										
	FY2021e	FY2022e	FY2023e	FY2024e	FY2025e	FY2026e	FY2027e	FY2028e	FY2029e	FY2030e	
<b>Total Revenue</b>	66,609,354.61	89,922,628.72	105,659,088.75	121,507,952.06	136,696,446.07	151,733,055.14	166,906,360.65	181,927,933.11	196,482,167.76	210,628,883.84	
<i>Growth rate (in %)</i>	70.00 %	35.00 %	17.50 %	15.00 %	12.50 %	11.00 %	10.00 %	9.00 %	8.00 %	7.20 %	
<b>EBITDA</b>	20,776,323.35	28,227,881.78	33,379,079.27	38,628,957.07	43,730,969.60	48,844,842.36	54,063,139.32	59,292,677.72	64,429,056.28	69,489,206.10	
<i>EBITDA margin (in %)</i>	31.19 %	31.39 %	31.59 %	31.79 %	31.99 %	32.19 %	32.39 %	32.59 %	32.79 %	32.99 %	
- Amortization, depreciation and impairments	15,050,686.93	13,635,886.06	12,557,466.58	13,622,292.91	14,784,114.74	16,059,727.75	17,462,482.43	11,340,041.54	10,327,220.04	11,070,779.89	
<b>EBIT</b>	5,725,636.42	14,591,995.73	20,821,612.70	25,006,664.16	28,946,854.86	32,785,114.61	36,600,656.89	47,952,636.18	54,101,836.23	58,418,426.21	
<i>EBIT margin (in %)</i>	8.60 %	16.23 %	19.71 %	20.58 %	21.18 %	21.61 %	21.93 %	26.36 %	27.54 %	27.74 %	
- Taxes on EBIT	-	-	657,010.99	7,501,999.25	8,684,056.46	9,835,534.38	10,980,197.07	14,385,790.86	16,230,550.87	17,525,527.86	
<i>Effective tax rate in %</i>	0.00%	0.00%	3.16%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	
<b>EBIAT</b>	<b>5,725,636.42</b>	<b>14,591,995.73</b>	<b>20,164,601.71</b>	<b>17,504,664.91</b>	<b>20,262,798.40</b>	<b>22,949,580.23</b>	<b>25,620,459.82</b>	<b>33,566,845.33</b>	<b>37,871,285.36</b>	<b>40,892,898.35</b>	
+ Amortization, depreciation and impairments	15,050,686.93	13,635,886.06	12,557,466.58	13,622,292.91	14,784,114.74	16,059,727.75	17,462,482.43	11,340,041.54	10,327,220.04	11,070,779.89	
-/+ Change in working capital	(910,733.13)	(1,661,192.21)	(1,121,304.74)	(1,129,314.06)	(1,082,259.31)	(1,071,436.72)	(1,081,177.05)	(1,070,365.28)	(1,037,065.03)	(1,008,027.21)	
-/+ Change in provisions	-	-	-	-	-	-	-	-	-	-	
- Capital expenditures	(955,781.05)	(2,172,183.57)	(3,510,076.59)	(4,738,603.40)	(5,567,858.99)	(6,403,037.84)	(7,203,417.57)	(7,995,793.50)	(8,795,372.85)	(9,586,956.41)	
<b>Unlevered FCF</b>	<b>18,909,809.17</b>	<b>24,394,506.00</b>	<b>28,090,686.95</b>	<b>25,259,040.37</b>	<b>28,396,794.84</b>	<b>31,534,833.42</b>	<b>34,798,347.64</b>	<b>35,840,728.09</b>	<b>38,366,067.53</b>	<b>41,368,694.62</b>	
<i>Discount factor</i>	0.7235	0.5235	0.3788	0.2741	0.1983	0.1435	0.1038	0.0751	0.0544	0.0393	
Discounted cash flows	13,682,190.61	12,771,120.67	10,640,641.97	6,922,943.83	5,631,340.33	4,524,821.82	3,612,751.20	2,692,308.02	2,085,276.74	1,626,884.49	
<b>PV of UFCF</b>	<b>64,190,279.68</b>										
<b>PV of TV</b>	<b>53,340,475.12</b>										
<b>EV</b>	<b>117,530,754.81</b>										

Source: Own illustration based on excel estimation.

**Table A6 – Cloudflight: Discounted Cash Flow Valuation (Median-based WACC)**

in EUR	Projected Period									
	FY2021e	FY2022e	FY2023e	FY2024e	FY2025e	FY2026e	FY2027e	FY2028e	FY2029e	FY2030e
<b>Total Revenue</b>	66,609,354.61	89,922,628.72	105,659,088.75	121,507,952.06	136,696,446.07	151,733,055.14	166,906,360.65	181,927,933.11	196,482,167.76	210,628,883.84
<i>Growth rate (in %)</i>	70.00 %	35.00 %	17.50 %	15.00 %	12.50 %	11.00 %	10.00 %	9.00 %	8.00 %	7.20 %
<b>EBITDA</b>	20,776,323.35	28,227,881.78	33,379,079.27	38,628,957.07	43,730,969.60	48,844,842.36	54,063,139.32	59,292,677.72	64,429,056.28	69,489,206.10
<i>EBITDA margin (in %)</i>	31.19 %	31.39 %	31.59 %	31.79 %	31.99 %	32.19 %	32.39 %	32.59 %	32.79 %	32.99 %
- Amortization, depreciation and impairments	15,050,686.93	13,635,886.06	12,557,466.58	13,622,292.91	14,784,114.74	16,059,727.75	17,462,482.43	11,340,041.54	10,327,220.04	11,070,779.89
<b>EBIT</b>	5,725,636.42	14,591,995.73	20,821,612.70	25,006,664.16	28,946,854.86	32,785,114.61	36,600,656.89	47,952,636.18	54,101,836.23	58,418,426.21
- Taxes on EBIT	8.60 %	16.23 %	19.71 %	20.58 %	21.18 %	21.61 %	21.93 %	26.36 %	27.54 %	27.74 %
- Effective tax rate in %	0.00%	0.00%	3.16%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
<b>EBIAT</b>	<b>5,725,636.42</b>	<b>14,591,995.73</b>	<b>20,164,601.71</b>	<b>17,504,664.91</b>	<b>20,262,798.40</b>	<b>22,949,580.23</b>	<b>25,620,459.82</b>	<b>33,566,845.33</b>	<b>37,871,285.36</b>	<b>40,892,898.35</b>
+ Amortization, depreciation and impairments	15,050,686.93	13,635,886.06	12,557,466.58	13,622,292.91	14,784,114.74	16,059,727.75	17,462,482.43	11,340,041.54	10,327,220.04	11,070,779.89
-/+ Change in working capital	(910,733.13)	(1,661,192.21)	(1,121,304.74)	(1,129,314.06)	(1,082,259.31)	(1,071,456.72)	(1,081,177.05)	(1,070,365.28)	(1,037,065.03)	(1,008,027.21)
-/+ Change in provisions	-	-	-	-	-	-	-	-	-	-
- Capital expenditures	(955,781.05)	(2,172,183.57)	(3,510,076.59)	(4,738,603.40)	(5,567,858.99)	(6,403,037.84)	(7,203,417.57)	(7,995,793.50)	(8,795,372.85)	(9,586,956.41)
<b>Unlevered FCF</b>	<b>18,909,809.17</b>	<b>24,394,506.00</b>	<b>28,090,686.95</b>	<b>25,259,040.37</b>	<b>28,396,794.84</b>	<b>31,534,833.42</b>	<b>34,798,347.64</b>	<b>35,840,728.09</b>	<b>38,366,067.53</b>	<b>41,368,694.62</b>
<i>Discount factor</i>	0.7252	0.5259	0.3813	0.2765	0.2005	0.1454	0.1054	0.0765	0.0554	0.0402
Discounted cash flows	13,712,617.00	12,827,984.54	10,711,787.78	6,984,730.39	5,694,234.18	4,585,532.14	3,669,365.92	2,740,579.62	2,127,384.97	1,663,427.27
<b>PV of UFCF</b>	<b>64,717,643.82</b>									
<b>PV of TV</b>	<b>54,538,599.08</b>									
<b>EV</b>	<b>119,256,242.90</b>									

Source: Own illustration based on excel estimation.

**Table A7 – Levered Beta Estimation**

Beta Estimation	Market Values		Capital Structure (in %)		Effective tax rate	Measured equity beta 5Y (Regression Analysis)	Unlevered Beta Implied Asset Beta	Relevered Beta
	Country	Market value (in EUR mn) of Equity "E" and Debt "D"	D / E	D / (D+E)				
Comparable Companies								
Allgeier	Germany	389.851	18.67 %	15.73 %	30.00 %	1.88	1.66	1.78
S&T	Austria	770.113	12.87 %	11.41 %	25.00 %	1.21	1.11	1.19
All for One Group	Germany	303.902	10.08 %	9.16 %	30.00 %	1.02	0.95	1.03
adesso	Germany	1257.945	11.31 %	10.16 %	30.00 %	1.36	1.26	1.35
DATAGROUP	Germany	656.519	10.25 %	9.30 %	30.00 %	0.75	0.70	0.75
Bechtle	Germany	5376.420	1.28 %	1.27 %	30.00 %	1.01	1.00	1.07
<b>Mean</b>			<b>10.78%</b>	<b>9.50%</b>	<b>29.17%</b>	<b>1.20</b>	<b>1.11</b>	<b>1.20</b>
<b>Median</b>			<b>10.78%</b>	<b>9.73%</b>	<b>30.00%</b>	<b>1.12</b>	<b>1.05</b>	<b>1.13</b>

Source: Own illustration based on excel estimation.

**Table A8 – Monthly Historical Adjusted Closing Prices**

	Monthly Historical Adj. Closing Prices (in EUR)						Reference Index (in Points)
Dates	Allgeier SE	S&T AG	All for One Group SE	adesso SE	DATAGROUP SE	Bechtle AG	SDAX
Apr-2017	17.4231	12.4233	54.3489	52.1335	30.8109	16.6853	10,675.9600
May-2017	16.2791	12.2845	57.9422	60.6743	35.5536	18.0948	11,110.2197
Jun-2017	18.2062	12.6050	54.9111	52.6862	34.9316	17.8177	10,846.6699
Jul-2017	20.4270	14.2313	57.1076	49.5756	34.7512	19.5271	11,086.5400
Aug-2017	18.9344	16.3807	57.1164	44.6278	37.9178	18.5964	11,401.2402
Sep-2017	18.8803	17.9469	57.1515	49.0896	39.3800	20.3389	11,909.9297
Oct-2017	20.5036	15.9903	52.7411	50.0616	39.1664	21.9595	11,961.9199
Nov-2017	20.5713	17.0698	54.2434	52.9487	38.8957	23.0089	11,806.7197
Dec-2017	22.8710	17.3349	57.5820	53.1431	38.0744	22.3093	11,886.8496
Jan-2018	24.5304	21.3590	61.1490	52.8807	42.3946	23.5544	12,333.0498
Feb-2018	23.8089	19.9710	61.8519	60.0740	41.9199	22.5115	12,139.4902
Mar-2018	23.2678	17.3204	59.7433	58.1298	39.8785	21.1155	11,927.9199
Apr-2018	23.8089	20.6264	59.7217	53.9499	37.5117	22.5436	12,272.6396
May-2018	24.3500	19.6626	60.6157	54.9220	35.9767	24.1802	12,449.7002
Jun-2018	24.8912	21.2819	57.0396	54.2415	37.7995	21.2118	11,949.6396
Jul-2018	30.4826	23.5738	56.5031	55.9879	38.3751	24.9341	12,407.2402
Aug-2018	31.8717	24.6021	55.0727	63.1332	34.7295	29.1250	12,519.3604
Sep-2018	30.8614	24.4663	53.2846	62.3502	37.3198	28.4103	11,863.5000
Oct-2018	29.5755	21.3231	47.0263	57.8476	33.9620	25.5027	11,032.5596
Nov-2018	25.8096	18.8881	43.8972	51.2896	32.1392	22.9524	10,494.5703
Dec-2018	23.0542	15.3375	43.0926	46.1019	28.3496	22.0428	9,509.1504
Jan-2019	27.4629	19.3150	48.9932	51.4854	34.2978	22.5301	10,551.9805
Feb-2019	23.6971	20.5470	47.2052	53.9324	33.4343	24.4956	10,804.8496
Mar-2019	22.5949	21.6336	46.1323	52.0727	34.6815	26.8184	10,932.2598
Apr-2019	23.4216	23.3216	46.4899	51.9748	39.0808	29.6936	11,753.1504
May-2019	22.4112	19.2180	44.2020	48.5979	42.1058	32.6824	10,824.1504
Jun-2019	23.8808	20.1894	42.5548	50.6808	40.9348	33.1117	11,377.7002
Jul-2019	21.5846	20.9583	38.4366	47.5194	45.8139	33.0789	11,136.7998
Aug-2019	19.6665	18.7698	35.0505	50.2856	45.8139	29.5055	10,804.3604
Sep-2019	20.0411	17.9910	37.3384	50.1868	47.3751	30.6038	11,026.8203
Oct-2019	22.1015	18.8684	41.4566	46.6796	51.4247	31.8495	11,435.4805
Nov-2019	26.7840	20.5640	43.8360	48.6555	58.3529	39.1440	12,158.5098
Dec-2019	31.7474	20.9780	47.5881	52.8542	63.8174	41.0454	12,511.8896
Jan-2020	30.6236	24.0143	49.9675	56.5095	62.9392	42.8485	12,251.3604
Feb-2020	5.9812	19.5683	41.0905	55.3240	53.8642	38.9800	11,330.8203
Mar-2020	4.7888	17.0446	32.5655	42.3328	49.7658	38.3244	9,248.0098
Apr-2020	5.8052	19.7556	35.7666	48.2109	53.4313	43.3403	10,352.9404
May-2020	6.3330	23.2651	38.7392	54.3361	51.8511	51.9625	11,349.7197
Jun-2020	6.5089	22.4764	44.2048	54.3361	52.7399	51.8768	11,535.8301
Jul-2020	8.5417	22.7919	41.7117	56.5728	55.1103	54.4872	11,747.7695
Aug-2020	12.0014	23.0876	49.4787	73.3056	51.2585	55.9080	12,595.4697
Sep-2020	10.2031	17.6558	51.5883	72.7080	44.0487	57.1306	12,487.5703
Oct-2020	10.6183	15.3490	44.7802	63.7440	38.4685	48.6717	11,620.7500
Nov-2020	16.2950	18.9078	51.9719	93.6240	44.6413	60.3687	13,782.1904
Dec-2020	18.2463	19.0261	58.4923	96.6120	49.4807	58.9479	14,764.8896
Jan-2021	21.3281	21.3526	57.5334	115.0380	55.8016	57.8575	15,210.3398
Feb-2021	23.6762	21.8455	59.2594	112.5480	63.8015	51.6455	15,109.9600
Mar-2021	23.9697	20.8991	59.8348	108.0660	60.4435	52.8350	15,447.6797
Apr-2021	23.5294	22.2596	63.3545	121.5120	62.4188	55.9575	16,161.0596
May-2021	22.9913	20.3077	61.9857	129.0816	63.5052	52.0750	16,310.0303
Jun-2021	23.4805	19.0261	64.7232	141.0000	64.1965	51.7611	16,021.0303
Jul-2021	23.8000	21.4200	65.5054	155.0000	65.1842	58.0500	16,531.1602
Aug-2021	26.1000	19.4300	70.7849	183.4000	76.5420	61.2200	17,076.1406
Sep-2021	23.7000	22.5400	66.4831	175.2000	78.2210	59.3000	16,509.3301
Oct-2021	28.3500	20.7800	66.6786	192.6000	74.8630	64.8000	17,034.4609
Nov-2021	36.9500	19.0700	66.6786	187.2000	82.0728	63.7800	16,227.8701
Dec-2021	55.8000	14.6600	70.3938	209.0000	95.8010	62.9400	16,414.6699
Jan-2022	46.6500	16.1900	67.6563	181.8000	84.7394	52.7200	15,111.4297
Feb-2022	38.4500	14.0800	60.8125	202.5000	86.8135	46.0500	14,474.5303
Mar-2022	45.1000	16.9700	64.7232	185.6000	81.6778	51.2000	14,248.0000
Apr-2022	43.0500	16.2000	63.0000	187.0000	79.2000	44.3200	13,826.6904

Source: Own illustration based on excel estimation.

## Table A9 – Monthly Historical Stock Price Returns and Excess Returns

Dates	Monthly Historical Stock Price Returns (in %)						Index Return (in %)	Risk-free Rate (in %)	Excess Return
	Algeier SE	S&T AG	All for One Group SE	adesso SE	DATAGROUP SE	Bechtle AG	SDAX	RF	Market Return - RF
Apr-2017									
May-2017	-6.57 %	-1.12 %	6.61 %	16.38 %	15.39 %	8.45 %	4.07 %	0.81 %	3.26 %
Jun-2017	11.84 %	2.61 %	-5.23 %	-13.17 %	-1.75 %	-1.53 %	-2.37 %	0.81 %	-3.18 %
Jul-2017	12.20 %	12.90 %	4.00 %	-5.90 %	-0.52 %	9.59 %	2.21 %	0.81 %	1.40 %
Aug-2017	-7.31 %	15.10 %	0.02 %	-9.98 %	9.11 %	-4.77 %	2.84 %	0.81 %	2.03 %
Sep-2017	-0.29 %	9.56 %	0.06 %	10.00 %	3.86 %	9.37 %	4.46 %	0.81 %	3.65 %
Oct-2017	8.60 %	-10.90 %	-7.72 %	1.98 %	-0.54 %	7.97 %	-0.44 %	0.81 %	-0.37 %
Nov-2017	0.33 %	6.75 %	2.85 %	5.77 %	-0.69 %	4.78 %	-1.30 %	0.81 %	-2.11 %
Dec-2017	11.18 %	1.55 %	6.15 %	0.37 %	-2.11 %	-3.04 %	0.68 %	0.81 %	-0.13 %
Jan-2018	7.26 %	23.21 %	6.19 %	-0.49 %	11.35 %	5.58 %	3.75 %	0.81 %	2.95 %
Feb-2018	-2.94 %	-6.50 %	1.15 %	13.60 %	-1.12 %	-4.43 %	-1.57 %	0.81 %	-2.38 %
Mar-2018	-2.27 %	-13.27 %	-3.41 %	-3.24 %	-4.87 %	-6.20 %	-1.74 %	0.81 %	-2.55 %
Apr-2018	2.33 %	19.09 %	-0.04 %	-7.19 %	-5.94 %	6.76 %	2.89 %	0.81 %	2.08 %
May-2018	2.27 %	-4.67 %	1.50 %	1.80 %	-4.09 %	7.26 %	1.44 %	0.81 %	0.63 %
Jun-2018	2.22 %	8.24 %	-5.90 %	-1.24 %	5.07 %	-12.28 %	-4.02 %	0.81 %	-4.82 %
Jul-2018	22.46 %	10.77 %	-0.94 %	3.22 %	1.52 %	17.55 %	3.83 %	0.81 %	3.02 %
Aug-2018	4.56 %	4.36 %	-2.53 %	12.76 %	-9.50 %	16.81 %	0.90 %	0.81 %	0.10 %
Sep-2018	-3.17 %	-0.55 %	-3.25 %	-1.24 %	7.46 %	-2.45 %	-5.24 %	0.81 %	-6.05 %
Oct-2018	-4.17 %	-12.85 %	-11.74 %	-7.22 %	-9.00 %	-10.23 %	-7.00 %	0.81 %	-7.81 %
Nov-2018	-12.73 %	-11.42 %	-6.65 %	-11.34 %	-5.37 %	-10.00 %	-4.88 %	0.81 %	-5.68 %
Dec-2018	-10.68 %	-18.80 %	-1.83 %	-10.11 %	-11.79 %	-3.96 %	-9.39 %	0.81 %	-10.20 %
Jan-2019	19.12 %	25.93 %	13.69 %	11.68 %	20.98 %	2.21 %	10.97 %	0.81 %	10.16 %
Feb-2019	-13.71 %	6.38 %	-3.65 %	4.75 %	-2.52 %	8.72 %	2.40 %	0.81 %	1.59 %
Mar-2019	-4.65 %	5.29 %	-2.27 %	-3.45 %	3.73 %	9.48 %	1.18 %	0.81 %	0.37 %
Apr-2019	3.66 %	7.80 %	0.78 %	-0.19 %	12.68 %	10.72 %	7.51 %	0.81 %	6.70 %
May-2019	-4.31 %	-17.60 %	-4.92 %	-6.50 %	7.74 %	-7.90 %	-7.90 %	0.81 %	-8.71 %
Jun-2019	6.56 %	5.05 %	-3.73 %	4.29 %	-2.78 %	1.31 %	5.11 %	0.81 %	4.31 %
Jul-2019	-9.62 %	3.81 %	-9.68 %	-6.24 %	11.92 %	-0.10 %	-2.12 %	0.81 %	-2.93 %
Aug-2019	-8.89 %	-10.44 %	-8.81 %	5.82 %	0.00 %	-10.80 %	-2.99 %	0.81 %	-3.79 %
Sep-2019	1.90 %	-4.15 %	6.53 %	-0.20 %	3.41 %	3.72 %	2.06 %	0.81 %	1.25 %
Oct-2019	10.28 %	4.88 %	11.03 %	-6.99 %	8.55 %	4.07 %	3.71 %	0.81 %	2.90 %
Nov-2019	21.19 %	8.99 %	5.74 %	4.23 %	13.47 %	22.90 %	6.32 %	0.81 %	5.51 %
Dec-2019	18.53 %	2.01 %	8.56 %	8.63 %	9.36 %	4.86 %	2.91 %	0.81 %	2.10 %
Jan-2020	-3.54 %	14.47 %	5.00 %	6.92 %	-1.38 %	4.39 %	-2.08 %	0.81 %	-2.89 %
Feb-2020	-80.47 %	-18.51 %	-17.77 %	-2.10 %	-14.42 %	-9.03 %	-7.51 %	0.81 %	-8.32 %
Mar-2020	-19.93 %	-12.90 %	-20.75 %	-23.48 %	-7.61 %	-1.68 %	-18.38 %	0.81 %	-19.19 %
Apr-2020	21.22 %	15.91 %	9.83 %	13.89 %	7.37 %	13.09 %	11.95 %	0.81 %	11.14 %
May-2020	9.09 %	17.76 %	8.31 %	12.70 %	-2.96 %	19.89 %	9.63 %	0.81 %	8.82 %
Jun-2020	2.78 %	-3.39 %	14.11 %	0.00 %	1.71 %	-0.16 %	1.64 %	0.81 %	0.83 %
Jul-2020	31.23 %	1.40 %	-5.64 %	4.12 %	4.49 %	5.03 %	1.84 %	0.81 %	1.03 %
Aug-2020	40.50 %	1.30 %	18.62 %	29.58 %	-6.99 %	2.61 %	7.22 %	0.81 %	6.41 %
Sep-2020	-14.98 %	-23.53 %	4.26 %	-0.82 %	-14.07 %	2.19 %	-0.86 %	0.81 %	-1.66 %
Oct-2020	4.07 %	-13.07 %	-13.20 %	-12.33 %	-12.67 %	-14.81 %	-6.94 %	0.81 %	-7.75 %
Nov-2020	53.46 %	23.19 %	16.06 %	46.88 %	16.05 %	24.03 %	18.60 %	0.81 %	17.79 %
Dec-2020	11.98 %	0.63 %	12.55 %	3.19 %	10.84 %	-2.35 %	7.13 %	0.81 %	6.32 %
Jan-2021	16.89 %	12.23 %	-1.64 %	19.07 %	12.77 %	-1.85 %	3.02 %	0.81 %	2.21 %
Feb-2021	11.01 %	2.31 %	3.00 %	-2.16 %	14.34 %	-10.74 %	-0.66 %	0.81 %	-1.47 %
Mar-2021	1.24 %	-4.33 %	0.97 %	-3.98 %	-5.26 %	2.30 %	2.24 %	0.81 %	1.43 %
Apr-2021	-1.84 %	6.51 %	5.88 %	12.44 %	3.27 %	5.91 %	4.62 %	0.81 %	3.81 %
May-2021	-2.29 %	-8.77 %	-2.16 %	6.23 %	1.74 %	-6.94 %	0.92 %	0.81 %	0.11 %
Jun-2021	2.13 %	-6.31 %	4.42 %	9.23 %	1.09 %	-0.60 %	-1.77 %	0.81 %	-2.58 %
Jul-2021	1.36 %	12.58 %	1.21 %	9.93 %	1.54 %	12.15 %	3.18 %	0.81 %	2.38 %
Aug-2021	9.66 %	-9.29 %	8.06 %	18.32 %	17.42 %	5.46 %	3.30 %	0.81 %	2.49 %
Sep-2021	-9.20 %	16.01 %	-6.08 %	-4.47 %	2.19 %	-3.14 %	-3.32 %	0.81 %	-4.13 %
Oct-2021	19.62 %	-7.81 %	0.29 %	9.93 %	-4.29 %	9.27 %	3.18 %	0.81 %	2.37 %
Nov-2021	30.34 %	-8.23 %	0.00 %	-2.80 %	9.63 %	-1.57 %	-4.74 %	0.81 %	-5.54 %
Dec-2021	51.01 %	-23.13 %	5.57 %	11.65 %	16.73 %	-1.32 %	1.15 %	0.81 %	0.34 %
Jan-2022	-16.40 %	10.44 %	-3.89 %	-13.01 %	-11.55 %	-16.24 %	-7.94 %	0.81 %	-8.75 %
Feb-2022	-17.58 %	-13.03 %	-10.12 %	11.39 %	2.45 %	-12.65 %	-4.21 %	0.81 %	-5.02 %
Mar-2022	17.30 %	20.53 %	6.43 %	-8.35 %	-5.92 %	11.18 %	-1.57 %	0.81 %	-2.37 %
Apr-2022	-4.55 %	-4.54 %	-2.66 %	0.75 %	-3.03 %	-13.44 %	-2.96 %	0.81 %	-3.76 %

Source: Own illustration based on excel estimation.

**Table A10 – Regression Statistics I**

<b>Allgeier SE</b>								
<i>Regression Statistics</i>								
Multiple R	0.575539658							
R Square	0.331245898							
Adjusted R Square	0.319715655							
Standard Error	0.155440403							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.694128496	0.694128496	28.72844004	1.50461E-06			
Residual	58	1.401379704	0.024161719					
Total	59	2.0955082						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.031426192	0.020129226	1.561222121	0.123911693	-0.008866831	0.071719215	-0.008866831	0.071719215
X Variable 1	1.875208112	0.349859323	5.359891794	1.50461E-06	1.174888589	2.575527635	1.174888589	2.575527635
<b>S&amp;T AG</b>								
<i>Regression Statistics</i>								
Multiple R	0.57669695							
R Square	0.332579372							
Adjusted R Square	0.32107212							
Standard Error	0.100298986							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.290748016	0.290748016	28.90171919	1.41739E-06			
Residual	58	0.58347342	0.010059887					
Total	59	0.874221437						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.006266994	0.012988521	0.482502522	0.631265088	-0.019732355	0.032266343	-0.019732355	0.032266343
X Variable 1	1.213634507	0.225749126	5.376031918	1.41739E-06	0.761748534	1.66552048	0.761748534	1.66552048
<b>All for One Group SE</b>								
<i>Regression Statistics</i>								
Multiple R	0.751301177							
R Square	0.564453458							
Adjusted R Square	0.556944035							
Standard Error	0.052326844							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.205811977	0.205811977	75.16602111	4.66789E-12			
Residual	58	0.158809719	0.002738099					
Total	59	0.364621696						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.00093365	0.006776223	0.137783182	0.890889002	-0.012630435	0.014497734	-0.012630435	0.014497734
X Variable 1	1.021091964	0.117775262	8.669833973	4.66789E-12	0.785339164	1.256844764	0.785339164	1.256844764

**Source:** Own illustration based on excel estimation.

**Table A11 – Regression Statistics II**

<b>adesso SE</b>								
<i>Regression Statistics</i>								
Multiple R	0.702337141							
R Square	0.493277459							
Adjusted R Square	0.484540864							
Standard Error	0.08020455							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.363201019	0.363201019	56.46106173	4.00861E-10			
Residual	58	0.373100655	0.00643277					
Total	59	0.736301674						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.021099787	0.010386331	2.031495734	0.046795147	0.000309287	0.041890288	0.000309287	0.041890288
X Variable 1	1.356447737	0.180521338	7.514057608	4.00861E-10	0.995095017	1.717800456	0.995095017	1.717800456
<b>DATAGROUP SE</b>								
<i>Regression Statistics</i>								
Multiple R	0.502169372							
R Square	0.252174078							
Adjusted R Square	0.239280528							
Standard Error	0.075002995							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.110023417	0.110023417	19.55815667	4.34869E-05			
Residual	58	0.326276054	0.005625449					
Total	59	0.436299471						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.016052016	0.00971274	1.652676396	0.103800546	-0.003390145	0.035494177	-0.003390145	0.035494177
X Variable 1	0.746572691	0.168813875	4.422460477	4.34869E-05	0.408655006	1.084490377	0.408655006	1.084490377
<b>Bechtle AG</b>								
<i>Regression Statistics</i>								
Multiple R	0.628361914							
R Square	0.394838695							
Adjusted R Square	0.384404879							
Standard Error	0.072816486							
Observations	60							
<b>ANOVA</b>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.20064853	0.20064853	37.84221515	7.65466E-08			
Residual	58	0.307529955	0.005302241					
Total	59	0.508178485						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0.016017677	0.009429591	1.698660747	0.094741996	-0.002857701	0.034893054	-0.002857701	0.034893054
X Variable 1	1.008201936	0.163892565	6.151602649	7.65466E-08	0.680135324	1.336268549	0.680135324	1.336268549

**Source:** Own illustration based on excel estimation.

**Table A12 – Cloudflight: Synthetic Rating Estimation**

<b>Assumptions</b>	
Current EBIT	(5,568,072.53)
Current Interest Expenses	5,805,363.80
Current Long-Term Government Bond Rate	0.81%
<b>Output</b>	
Interest Coverage Ratio	(0.96)
Estimated Bond Rating	D2/D
Estimated Default Spread	17.44 %
Estimated Cost of Debt	18.25 %

**Ratings, Spreads and Interest Coverage Ratios for Small and Riskier Firms (Market capitalization < USD 5 bn)**

<i>Interest Coverage Ratio</i>		<i>Rating &amp; Spread</i>	
<i>Lower Bound ICR</i>	<i>Upper Bound ICR</i>	<i>Rating</i>	<i>Spread</i>
-100000	0.499999	D2/D	17.44 %
0.5	0.799999	C2/C	13.09 %
0.8	1.249999	Ca2/CC	9.97 %
1.25	1.499999	Caa/CCC	9.46 %
1.5	1.999999	B3/B-	5.94 %
2	2.499999	B2/B	4.86 %
2.5	2.999999	B1/B+	4.05 %
3	3.499999	Ba2/BB	2.77 %
3.5	3.999999	Ba1/BB+	2.31 %
4	4.499999	Baa2/BBB	1.71 %
4.5	5.999999	A3/A-	1.33 %
6	7.499999	A2/A	1.18 %
7.5	9.499999	A1/A+	1.07 %
9.5	12.499999	Aa2/AA	0.85 %
12.5	100000	Aaa/AAA	0.69 %

**Source:** Own illustration based on excel estimation.

**Table A13 – Cloudflight: Sensitivity Analysis of EV (Mean-based WACC)**

in EUR

		<i>WACC</i>				
		37.21%	37.71%	38.21%	38.71%	39.21%
<i>Terminal growth</i>	117,530,754.81					
	2.80%	118,950,528.97	116,173,031.12	113,489,809.72	110,897,104.69	108,391,322.65
	2.93%	121,037,645.37	118,185,592.98	115,430,736.10	112,769,190.40	110,197,243.97
	3.05%	123,295,836.87	120,363,118.93	117,530,754.81	114,794,725.76	112,151,191.63
	3.18%	125,747,036.20	122,726,758.21	119,810,262.29	116,993,383.80	114,272,143.37
	3.30%	128,417,092.61	125,301,436.71	122,293,297.23	119,388,350.59	116,582,465.79

**Source:** Own illustration based on excel estimation.**Table A14 – Cloudflight: Sensitivity Analysis of EV (Median-based WACC)**

in EUR

		<i>WACC</i>				
		36.90%	37.40%	37.90%	38.40%	38.90%
<i>Terminal growth</i>	119,256,242.90					
	2.80%	120,702,373.17	117,865,117.64	115,124,530.85	112,476,746.29	109,918,069.31
	2.93%	122,836,715.88	119,923,051.45	117,109,053.96	114,390,729.01	111,764,259.96
	3.05%	125,146,004.72	122,149,668.37	119,256,242.90	116,461,595.56	113,761,777.72
	3.18%	127,652,668.68	124,566,594.42	121,586,952.26	118,709,459.26	115,930,023.49
	3.30%	130,383,141.91	127,199,317.44	124,125,760.68	121,158,025.07	118,291,862.63

**Source:** Own illustration based on excel estimation.

**Table A15 – Cloudflight: Implied Equity Value Derivation (Mean-based WACC)**

<b>Implied Enterprise Value:</b>	<b>117,530,754.81</b>
(+) Cash & Cash-Equivalents:	8,718,337.85
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	2,294,695.50
(+) Net Operating Losses:	21,854,657.38
(-) Total Debt & Leases:	(88,760,085.49)
(-) Preferred Stock:	-
(-) Non-Controlling Interests:	-
(-) Unfunded Pension Obligations:	(462,684.47)
<b>Implied Equity Value:</b>	<b>61,175,675.58</b>

Source: Own illustration based on excel estimation.

**Table A16 – Cloudflight: Implied Equity Value Derivation (Median-based WACC)**

<b>Implied Enterprise Value:</b>	<b>199,256,242.90</b>
(+) Cash & Cash-Equivalents:	8,718,337.85
(+) Equity Investments:	-
(+) Other Non-Core Assets, Net:	2,294,695.50
(+) Net Operating Losses:	21,854,657.38
(-) Total Debt & Leases:	(88,760,085.49)
(-) Preferred Stock:	-
(-) Non-Controlling Interests:	-
(-) Unfunded Pension Obligations:	(462,684.47)
<b>Implied Equity Value:</b>	<b>62,901,163.67</b>

Source: Own illustration based on excel estimation.

## Table A17 – Peer Group Buckets Overview

### Bucket 1: DACH-focused IT Services

CIQ Ticker	Company name	Country	Filing currency
XTRA:AEIN	Allgeier SE	Germany	EUR
XTRA:SANT	S&T AG	Austria	EUR
XTRA:A1OS	All for One Group SE	Germany	EUR
XTRA:ADN1	adesso SE	Germany	EUR
XTRA:D6H	DATAGROUP SE	Germany	EUR
XTRA:BC8	Bechtle AG	Germany	EUR

### Bucket 2: Global IT Services

CIQ Ticker	Company name	Country	Filing currency
NYSE:ACN	Accenture plc	Ireland	USD
NASDAQ:CTSH	Cognizant Technology Solutions Corporation	United States	USD
TSX:GIB.A	CGI Inc.	Canada	CAD
ENXTPA:CAP	Capgemini SE	France	EUR

### Bucket 3: Offshore IT Services

CIQ Ticker	Company name	Country	Filing currency
NSEI:COFORGE	Coforge Limited	India	INR
NSEI:HCLTECH	HCL Technologies Limited	India	USD
NSEI:INFY	Infosys Limited	India	USD
NSEI:TCS	Tata Consultancy Services Limited	India	INR
BSE:507685	Wipro Limited	India	INR
NSEI:MINDTREE	Mindtree Limited	India	INR
BSE:526299	Mphasis Limited	India	INR







### Bucket 4: Outsourced software development

CIQ Ticker	Company name	Country	Filing currency
NYSE:DAVA	Endava plc	United Kingdom	GBP
NYSE:EPAM	EPAM Systems, Inc.	United States	USD
NYSE:GLOB	Globant S.A.	Luxembourg	USD
NASDAQ:GDYN	Grid Dynamics Holdings, Inc.	United States	USD
LSE:KNOS	Kainos Group plc	United Kingdom	GBP







**Source:** Own illustration based on excel estimation.

**Table A18 – CCA: Bucket 1 - DACH-focused IT Services**

**Valuation Multiples**

Company	EV (in EUR million)	MC (in EUR million)	EV/ Sales			EV/ EBITDA			EV/ EBIT		
			2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Allgeier	463	390	1.31x	<b>1.22x</b>	1.16x	34.2x	<b>21.7x</b>	11.4x	49.7x	<b>30.2x</b>	26.8x
 adesso	1,413	1,258	2.70x	<b>2.22x</b>	2.00x	29.4x	<b>17.9x</b>	13.5x	37.3x	<b>21.7x</b>	20.7x
 All for One Group	335	304	0.93x	<b>0.84x</b>	0.86x	11.9x	<b>10.3x</b>	9.6x	18.4x	<b>15.8x</b>	16.4x
 Bechtle	5,432	5,376	1.08x	<b>1.02x</b>	1.02x	17.0x	<b>14.9x</b>	14.9x	19.6x	<b>16.9x</b>	16.9x
 DATAGROUP	727	657	1.88x	<b>1.59x</b>	1.59x	19.6x	<b>12.2x</b>	12.0x	50.9x	<b>22.2x</b>	22.5x
 S&T	849	770	0.67x	<b>0.62x</b>	0.62x	10.1x	<b>11.4x</b>	11.4x	13.6x	<b>16.8x</b>	16.8x
<b>Mean</b>			<b>1.43x</b>	<b>1.25x</b>	<b>1.21x</b>	<b>20.4x</b>	<b>14.7x</b>	<b>12.1x</b>	<b>31.6x</b>	<b>20.6x</b>	<b>20.0x</b>
<b>Median</b>			<b>1.19x</b>	<b>1.12x</b>	<b>1.09x</b>	<b>18.3x</b>	<b>13.6x</b>	<b>11.7x</b>	<b>28.5x</b>	<b>19.3x</b>	<b>18.8x</b>





**Operating Margins**

Company	Sales Growth (YOY)			EBITDA margin			EBIT margin		
	2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Allgeier	(7.2%)	<b>13.5%</b>	13.5%	3.8%	<b>5.6%</b>	10.2%	2.6%	<b>4.0%</b>	4.3%
 adesso	16.1%	<b>35.1%</b>	35.1%	9.2%	<b>12.4%</b>	14.8%	7.2%	<b>10.2%</b>	9.7%
 All for One Group	0.4%	<b>6.5%</b>	8.5%	7.8%	<b>8.2%</b>	8.9%	5.0%	<b>5.3%</b>	5.2%
 Bechtle	(6.0%)	<b>5.1%</b>	5.1%	6.3%	<b>6.9%</b>	6.9%	5.5%	<b>6.1%</b>	6.1%
 DATAGROUP	16.0%	<b>17.7%</b>	18.2%	9.6%	<b>13.0%</b>	13.3%	3.7%	<b>7.2%</b>	7.1%
 S&T	11.8%	<b>7.2%</b>	7.2%	6.6%	<b>5.5%</b>	5.5%	4.9%	<b>3.7%</b>	3.7%
<b>Mean</b>	<b>5.2%</b>	<b>14.2%</b>	<b>14.6%</b>	<b>7.2%</b>	<b>8.6%</b>	<b>9.9%</b>	<b>4.8%</b>	<b>6.1%</b>	<b>6.0%</b>
<b>Median</b>	<b>6.1%</b>	<b>10.3%</b>	<b>11.0%</b>	<b>7.2%</b>	<b>7.5%</b>	<b>9.6%</b>	<b>5.0%</b>	<b>5.7%</b>	<b>5.7%</b>





**Source:** Own illustration based on excel estimation.

**Table A19 – CCA: Bucket 2 - Global IT Services**

**Valuation Multiples**

Company	EV (in EUR million)	MC (in EUR million)	EV/ Sales			EV/ EBITDA			EV/ EBIT		
			2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Accenture	180,700	181,911	4.3x	<b>3.5x</b>	3.6x	25.8x	<b>20.7x</b>	20.9x	28.7x	<b>23.0x</b>	24.0x
 Capgemini	29,453	29,453	1.9x	<b>1.6x</b>	1.6x	14.9x	<b>13.5x</b>	13.5x	17.9x	<b>16.0x</b>	16.0x
 CGI	19,932	18,016	2.3x	<b>2.3x</b>	2.3x	13.2x	<b>12.9x</b>	12.4x	14.7x	<b>14.0x</b>	14.0x
 Cognizant	41,739	42,714	2.7x	<b>2.5x</b>	2.5x	15.6x	<b>13.6x</b>	13.6x	19.1x	<b>16.2x</b>	16.2x
<b>Mean</b>			<b>2.8x</b>	<b>2.5x</b>	<b>2.5x</b>	<b>17.4x</b>	<b>15.2x</b>	<b>15.1x</b>	<b>20.1x</b>	<b>17.3x</b>	<b>17.6x</b>
<b>Median</b>			<b>2.5x</b>	<b>2.4x</b>	<b>2.4x</b>	<b>15.3x</b>	<b>13.6x</b>	<b>13.6x</b>	<b>18.5x</b>	<b>16.1x</b>	<b>16.1x</b>








**Operating Margins**

Company	Sales Growth (YOY)			EBITDA margin			EBIT margin		
	2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Accenture	6.5%	<b>13.5%</b>	17.1%	16.5%	<b>16.8%</b>	17.4%	14.8%	<b>15.1%</b>	15.1%
 Capgemini	12.2%	<b>14.6%</b>	14.6%	12.5%	<b>12.0%</b>	12.0%	10.4%	<b>10.1%</b>	10.1%
 CGI	0.2%	<b>0.6%</b>	0.7%	17.3%	<b>17.6%</b>	18.4%	15.6%	<b>16.2%</b>	16.2%
 Cognizant	(0.8%)	<b>11.1%</b>	11.1%	17.5%	<b>18.1%</b>	18.1%	14.3%	<b>15.2%</b>	15.2%
<b>Mean</b>	<b>4.5%</b>	<b>10.0%</b>	<b>10.9%</b>	<b>16.0%</b>	<b>16.1%</b>	<b>16.5%</b>	<b>13.8%</b>	<b>14.2%</b>	<b>14.2%</b>
<b>Median</b>	<b>3.4%</b>	<b>12.3%</b>	<b>12.9%</b>	<b>16.9%</b>	<b>17.2%</b>	<b>17.7%</b>	<b>14.6%</b>	<b>15.1%</b>	<b>15.1%</b>








**Source:** Own illustration based on excel estimation.

**Table A20 – CCA: Bucket 3 - Offshore IT Services**

**Valuation Multiples**

Company	EV (in EUR million)	MC (in EUR million)	EV/ Sales			EV/ EBITDA			EV/ EBIT		
			2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 COFORGE	3,445	3,402	6.3x	<b>4.8x</b>	4.8x	40.5x	<b>29.7x</b>	27.5x	47.6x	<b>34.7x</b>	34.1x
 HCL Technologies	35,750	36,919	3.9x	<b>3.5x</b>	3.6x	15.3x	<b>14.9x</b>	14.7x	19.1x	<b>18.8x</b>	18.3x
 Infosys	84,736	86,510	6.9x	<b>5.9x</b>	6.0x	26.2x	<b>22.6x</b>	22.5x	29.1x	<b>24.9x</b>	25.2x
 Mindtree	7,395	7,671	7.8x	<b>6.3x</b>	6.3x	44.2x	<b>32.3x</b>	30.6x	49.2x	<b>34.4x</b>	33.9x
 Mphasis	7,174	7,242	6.3x	<b>5.3x</b>	5.3x	35.7x	<b>31.3x</b>	29.7x	39.2x	<b>34.5x</b>	34.1x
 Tata Consultancy	150,224	156,180	7.7x	<b>6.8x</b>	6.8x	28.5x	<b>24.8x</b>	24.5x	30.2x	<b>26.4x</b>	26.7x
 Wipro	35,468	37,678	4.8x	<b>4.0x</b>	4.0x	21.9x	<b>18.5x</b>	18.2x	25.2x	<b>21.8x</b>	21.8x
<b>Mean</b>			<b>6.2x</b>	<b>5.2x</b>	<b>5.2x</b>	<b>30.3x</b>	<b>24.9x</b>	<b>24.0x</b>	<b>34.2x</b>	<b>27.9x</b>	<b>27.8x</b>
<b>Median</b>			<b>6.3x</b>	<b>5.3x</b>	<b>5.3x</b>	<b>28.5x</b>	<b>24.8x</b>	<b>24.5x</b>	<b>30.2x</b>	<b>26.4x</b>	<b>26.7x</b>






**Operating Margins**

Company	Sales Growth (YOY)			EBITDA margin			EBIT margin		
	2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 COFORGE	12.0%	<b>16.9%</b>	31.8%	15.6%	<b>16.3%</b>	17.4%	13.3%	<b>13.9%</b>	14.1%
 HCL Technologies	5.2%	<b>6.1%</b>	8.6%	25.2%	<b>23.4%</b>	24.1%	20.2%	<b>18.6%</b>	19.4%
 Infosys	6.6%	<b>8.7%</b>	15.2%	26.4%	<b>26.1%</b>	26.7%	23.8%	<b>23.8%</b>	23.8%
 Mindtree	4.4%	<b>9.4%</b>	24.6%	17.6%	<b>19.6%</b>	20.4%	15.8%	<b>18.4%</b>	18.4%
 Mphasis	10.9%	<b>13.1%</b>	19.7%	17.6%	<b>17.1%</b>	17.7%	16.1%	<b>15.5%</b>	15.4%
 Tata Consultancy	5.2%	<b>7.3%</b>	13.6%	27.1%	<b>27.3%</b>	27.7%	25.6%	<b>25.7%</b>	25.4%
 Wipro	2.1%	<b>6.8%</b>	21.1%	21.9%	<b>21.4%</b>	21.8%	19.0%	<b>18.2%</b>	18.1%
<b>Mean</b>	<b>6.6%</b>	<b>9.8%</b>	<b>19.2%</b>	<b>21.6%</b>	<b>21.6%</b>	<b>22.3%</b>	<b>19.1%</b>	<b>19.2%</b>	<b>19.2%</b>
<b>Median</b>	<b>5.2%</b>	<b>8.7%</b>	<b>19.7%</b>	<b>21.9%</b>	<b>21.4%</b>	<b>21.8%</b>	<b>19.0%</b>	<b>18.4%</b>	<b>18.4%</b>






**Source:** Own illustration based on excel estimation.

## Table A21 – CCA: Bucket 4 - Outsourced Software Development

### Valuation Multiples

Company	EV (in EUR million)	MC (in EUR million)	EV/ Sales			EV/ EBITDA			EV/ EBIT		
			2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Endava	5,053	5,123	10.5x	7.6x	7.7x	74.9x	42.1x	35.1x	92.7x	49.4x	41.2x
 EPAM Systems	9,510	10,608	3.9x	2.8x	2.8x	23.5x	16.5x	16.5x	27.4x	19.0x	19.0x
 Globant	8,679	8,963	11.6x	7.3x	7.3x	75.7x	43.7x	43.7x	100.5x	59.2x	59.2x
 Grid Dynamics	472	605	4.6x	2.4x	2.4x	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
 Kainos Group	1,846	1,940	6.9x	5.7x	5.4x	34.0x	28.7x	25.9x	35.0x	29.5x	27.5x
<b>Mean</b>			<b>7.5x</b>	<b>5.1x</b>	<b>5.1x</b>	<b>52.0x</b>	<b>32.8x</b>	<b>30.3x</b>	<b>63.9x</b>	<b>39.3x</b>	<b>36.7x</b>
<b>Median</b>			<b>6.9x</b>	<b>5.7x</b>	<b>5.4x</b>	<b>54.4x</b>	<b>35.4x</b>	<b>30.5x</b>	<b>63.9x</b>	<b>39.5x</b>	<b>34.4x</b>

### Operating Margins

Company	Sales Growth (YOY)			EBITDA margin			EBIT margin		
	2020A	LTM	2021e	2020A	LTM	2021e	2020A	LTM	2021e
 Endava	24.8%	30.4%	36.2%	14.0%	18.0%	21.9%	11.3%	15.3%	18.6%
 EPAM Systems	15.9%	41.3%	41.3%	16.6%	16.7%	16.7%	14.3%	14.5%	14.5%
 Globant	23.5%	59.3%	59.3%	15.4%	16.7%	16.7%	11.6%	12.3%	12.3%
 Grid Dynamics	(6.0%)	89.9%	89.9%	(10.1%)	2.4%	2.4%	(12.5%)	0.0%	0.0%
 Kainos Group	28.4%	28.2%	27.5%	20.3%	19.7%	20.9%	19.7%	19.2%	19.7%
<b>Mean</b>	<b>17.3%</b>	<b>49.8%</b>	<b>50.8%</b>	<b>11.2%</b>	<b>14.7%</b>	<b>15.7%</b>	<b>8.9%</b>	<b>12.3%</b>	<b>13.0%</b>
<b>Median</b>	<b>23.5%</b>	<b>41.3%</b>	<b>41.3%</b>	<b>15.4%</b>	<b>16.7%</b>	<b>16.7%</b>	<b>11.6%</b>	<b>14.5%</b>	<b>14.5%</b>

Source: Own illustration based on excel estimation.

**Table A22 – CTA: Historical Relevant Transactions I**

Date	Target	Business Description	Acquirer	EV <sup>(1)</sup>	EV/ Sales	EV/ EBITDA	EV/ EBIT
Feb 2022	Valti Kumppanit	IT consulting and cloud services	Advania Sverige	-	-	-	-
Jan 2022	UDITIS	Cloud and infrastructure IT systems	Sequotech Group	-	-	-	-
Dec 2021	Cheops Technology	Customized cloud application services	Aquiline Capital Patners <sup>(2)</sup>	-	-	-	-
Dec 2021	Content + Cloud	IT, cloud services and technology transformation	Advania	-	-	-	-
Dec 2021	Cloudreach Europe	Cloud computing and consultancy services	Atos	-	-	-	-
Nov 2021	Novigo Consulting	Tech, process and application development services	TXT e-solutions	4.3	-	-	-
Nov 2021	SWITCOM	Cloud and information technology consulting	Nord Holding	-	-	-	-
Nov 2021	EVERYTHING	Cloud platform services	Digimarc	-	-	-	-
Nov 2021	CogiTel	IoT platform offering cloud-based business solutions	HiQ International	-	-	-	-
Oct 2021	CONET Technologies	IT consulting, systems integration and software dev.	IK Investment Partners <sup>(2)</sup>	-	-	-	-
Sep 2021	HeleCloud	IT consulting, engineering and cloud-based services	SoftwareONE	-	-	-	-
Aug 2021	Cegal Group	Data management, tech and software consulting	Sysco	-	-	-	-
Aug 2021	PGS Software	Software development and cloud services	Xebia Consultancy	110.7	-	-	-
Jul 2021	Groupe Hisi	Cloud and managed IT services	Bpifrance <sup>(2)</sup>	-	-	-	-
Jul 2021	Ingenieria E Integracion	IT consulting, software and cloud services	Babel Ibérica	-	-	-	-
Jul 2021	Trivadis	IT services for advanced data platforms	Accenture	-	-	-	-
Jun 2021	it-novum	IT consulting for data analysis	Allgeier	22.0	-	9.6x	-
Jun 2021	ANS Group	Digital transformation consulting and cloud services	Inflexion PE Partners <sup>(2)</sup>	-	-	-	-
Jun 2021	Nell'armonia	IT consulting for EPM	Accenture	-	-	-	-
May 2021	Telit Communications	IoT products and services	DBAY Advisors	315.3	1.07x	13.8x	24.2x
May 2021	Genia	IT consulting and cloud hosting	Advania Danmark	-	-	-	-
Mar 2021	Hello Telecom	Cloud-based communications services	Southern Communications	4.3	-	-	-
Mar 2021	Libra GroupCo	IT system integration services	Apax Partners	-	-	-	-
Mar 2021	Talend	Open-source platform, i.a., for cloud services	Thoma Bravo	2,067.6	8.46x	-	-
Mar 2021	Five Minutes	Software development and consulting services	Endava	29.1	-	-	-
Mar 2021	Nubalia Cloud Comp.	Digital transformation and cloud solutions	Devoteam	-	-	-	-
Feb 2021	Infinity Works	Software delivery and consulting services	Accenture	-	-	-	-
Jan 2021	Magenic Technologies	Custom application development services	Cognizant Technology	192.0	-	-	-
Jan 2021	arxes-tolina	IT, software development and consulting services	NETGO	-	-	-	-
Jan 2021	Hibernia Services	System integration, cloud services and IT solutions	eir	80.0	0.88x	8.8x	-
Dec 2020	Daxx Soft	Technology consulting and software development	Grid Dynamics	19.2	-	-	-
Dec 2020	Quanto	IT consulting for SAP and digital transformation	adesso	11.6	0.58x	-	5.8x
Nov 2020	Datalytx	IT consulting and data engineering	MphasIS Consulting	14.9	-	-	-
Oct 2020	Eagle Creek Software	Consulting and technical IT	Atos	-	-	-	-
Oct 2020	Anetys	Digital transformation and cybersecurity	Nextedia	12.4	-	-	-
Sep 2020	Ignitar	Cloud services for data management and SAP	Gigas Hosting	2.9	-	-	-
Sep 2020	aXon	Consulting services and cloud-based applications	Fellowmind	-	-	-	-
Sep 2020	Virtusa	IT consulting and outsourcing services	Baring PE Asia	1,690.4	1.68x	18.1x	29.6x
Sep 2020	10th Magnitude	Consulting and cloud managed services	Cognizant Technology	114.1	-	-	-

**Source:** Source: Own illustration based on S&P Capital IQ, Mergemmarket, Company Information

**Note:** (1) in Euro million; (2) Investor consortium led by depicted acquirer





















**Table A23 – CTA: Historical Relevant Transactions II**

Date	Target	Business Description	Acquirer	EV <sup>(1)</sup>	EV/ Sales	EV/ EBITDA	EV/ EBIT
Aug 2020	It-On.Net Süd	Cloud and managed services	MAIT Germany	-	-	-	-
Aug 2020	Custom Gateway	Cloud-based software workflow services	Kornit Digital	14.3	-	-	-
Jul 2020	Optiva	Cloud-native revenue management	ESW Capital	287.8	3.34x	-	-
Jul 2020	Techedge	IT services for digital technologies	OEP 14 Coöperatief	129.0	0.63x	5.8x	7.0x
Jul 2020	Devoteam	Provider of IT and management consulting services	KKR <sup>(2)</sup>	-	-	-	-
Jun 2020	Matrix Technology	Provider of IT consulting and cloud services	IKOR	-	-	-	-
Jun 2020	iTexico	Software development services	Improving	-	-	-	-
Jun 2020	PSL	Software development and application services	Perficient	63.3	2.15x	-	-
May 2020	Noovle	ICT consulting and system integration via cloud	Telecom Italia	13.0	-	-	-
Apr 2020	Memset	Cloud infrastructure services	iomart Group	7.8	-	-	-
Mar 2020	Context	IT consulting services for cyber security	Accenture	123.1	-	-	-
Feb 2020	Engineering	Software and IT services	Bain Capital <sup>(2)</sup>	1,882.3	1.50x	13.9x	26.2x
Feb 2020	EI-Technologies	Consulting and software development services	Cognizant Technology	-	-	-	-
Jan 2020	prolvision	IT and software development services	diva-e	-	-	-	-
Jan 2020	Platform Consulting	Cloud application and development services	AHEAD	-	-	-	-
Dec 2019	Data Response	IoT-based technology services	AKKA Technologies	367.1	1.97x	14.1x	18.8x
Dec 2019	Ascent Software	Provider of software development services	Horizon Capital	-	-	-	-
Nov 2019	Inetum	End-to-end IT services for digital transformations	Inetum	300.0	0.43x	-	-
Oct 2019	Code Authority	Provider of software design and development	Improving	-	-	-	-
Oct 2019	Contino Solutions	Cloud transformation consulting services	Cognizant Technology	210.8	-	-	-
Sep 2019	orange networks	IT consulting services	Logicalis Group	2.6	0.53x	-	-
Jun 2019	Altran	IT consulting and transformation services	Capgemini	5,188.7	1.61x	13.1x	15.8x
Jun 2019	EVRY	IT consulting and outsourcing services	TietoEVRY	2,058.5	1.47x	12.8x	17.7x
Jun 2019	KCOM Group	IT-based and communication services	Macquarie AM	799.4	2.59x	16.9x	27.7x
May 2019	Meware	IT services, business analytics and cloud solutions	DigiTouch	2.0	0.30x	2.8x	-
Mar 2019	Acando	Strategy and IT consulting services	CGI	419.2	1.55x	15.2x	16.5x
Jan 2019	Jaguar Network	Cloud and managed services	iliad	133.3	3.17x	10.6x	-
Jan 2019	Luxoft Holding	IT and software development services	DXC Technology	1,750.8	2.17x	20.6x	38.2x
Nov 2018	ConvergeOne	IT and cloud services	CVC Capital Partners	1,438.0	1.17x	14.7x	27.3x
Sep 2018	ckc	Software developer for automotive sector clients	CGI	15.5	0.52x	-	-
Jul 2018	Syntel	Transformation and IT outsourcing services	Atos	3,085.8	3.67x	13.4x	14.1x
Jun 2018	ExpertCircle	IT consulting services	Swiss IT Security	-	-	-	-
Jan 2018	Velocity Partners	Software development services	Endava	-	-	-	-
Nov 2017	Altran North America	Software development and consulting	Altran USA Holdings	1,624.2	2.91x	10.4x	16.2x
Oct 2017	Netcentric	Cloud technology services	Cognizant Technology	-	-	-	-
Apr 2017	Computer Technology	Consulting and software development services	CGI	-	-	-	-
Apr 2017	CONET Technologies	IT systems and consulting services	H.I.G. Capital	-	-	-	-
<b>Mean</b>					<b>1.93x</b>	<b>12.6x</b>	<b>20.4x</b>
<b>Median</b>					<b>1.55x</b>	<b>13.4x</b>	<b>18.2x</b>

**Source:** Own illustration based on S&P Capital IQ, Mergermarket, Company Information

**Note:** (1) in Euro million; (2) Investor consortium led by depicted acquirer

**Table A24 – CTA: Benchmark Transactions**

Date	Target	Business Description	Acquirer	EV <sup>(1)</sup>	EV/ Sales	EV/ EBITDA	EV/ EBIT	
May 2021	 Telit Communications	IoT products and services	 DBAY Advisors	315.3	1.07x	13.8x	24.2x	
Feb 2020	 Engineering	Software and IT services	 Bain Capital <sup>(2)</sup>	1,882.3	1.50x	13.9x	26.2x	
Dec 2019	 Data Response	IoT-based technology services	 AKKA Technologies	367.1	1.97x	14.1x	18.8x	
Jun 2019	 Altran	IT consulting and transformation services	 Capgemini	5,188.7	1.61x	13.1x	15.8x	
Jun 2019	 EVRY	IT consulting and outsourcing services	 TietoEVRY	2,058.5	1.47x	12.8x	17.7x	
Jun 2019	 KCOM Group	IT-based and communication services	 Macquarie AM	799.4	2.59x	16.9x	27.7x	
Mar 2019	 Acando	Strategy and IT consulting services	 CGI	419.2	1.55x	15.2x	16.5x	
Jan 2019	 Luxoft Holding	IT and software development services	 DXC Technology	1,750.8	2.17x	20.6x	38.2x	
Nov 2018	 ConvergeOne	IT and cloud services	 CVC Capital Partners	1,438.0	1.17x	14.7x	27.3x	
Jul 2018	 Syntel	Transformation and IT outsourcing services	 Atos	3,085.8	3.67x	13.4x	14.1x	
<b>Mean</b>						<b>1.88x</b>	<b>14.8x</b>	<b>22.6x</b>
<b>Median</b>						<b>1.58x</b>	<b>14.0x</b>	<b>21.5x</b>

**Source:** Own illustration based on S&P Capital IQ, Mergermarket, Company Information

**Note:** (1) in Euro million; (2) Investor consortium led by depicted acquirer

**Table A25 – Bechtle: Discounted Cash Flow Valuation (Standalone)**

	Projected Period									
	FY2021e	FY2022e	FY2023e	FY2024e	FY2025e	FY2026e	FY2027e	FY2028e	FY2029e	FY2030e
in EUR million										
<b>Total Revenue</b>	5,305.49	5,703.40	6,131.16	6,590.99	7,085.32	7,616.72	8,187.97	8,802.07	9,462.22	10,171.89
<i>Growth rate (in %)</i>	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %	7.50 %
<b>EBITDA</b>	292.17	314.08	337.64	362.96	390.18	419.44	450.90	484.72	521.07	560.15
<i>EBITDA margin (in %)</i>	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %	5.51 %
- Depreciation & Amortization	86.20	93.60	102.70	112.80	123.20	134.50	144.60	155.40	167.10	179.60
<b>EBIT</b>	205.97	220.48	234.94	250.16	266.98	284.94	306.30	329.32	353.97	380.55
<i>EBIT margin (in %)</i>	3.88 %	3.87 %	3.83 %	3.80 %	3.77 %	3.74 %	3.74 %	3.74 %	3.74 %	3.74 %
- Taxes on EBIT	59.47	63.66	67.83	72.23	77.08	82.27	88.44	95.08	102.20	109.87
<i>Effective tax rate in %</i>	28.87%	28.87%	28.87%	28.87%	28.87%	28.87%	28.87%	28.87%	28.87%	28.87%
<b>EBIAT</b>	<b>146.50</b>	<b>156.82</b>	<b>167.10</b>	<b>177.93</b>	<b>189.90</b>	<b>202.67</b>	<b>217.87</b>	<b>234.24</b>	<b>251.77</b>	<b>270.68</b>
+ Depreciation & Amortization	86.20	93.60	102.70	112.80	123.20	134.50	144.60	155.40	167.10	179.60
-/+ Change in working capital	(155.80)	(145.80)	(135.80)	(125.80)	(115.80)	(105.80)	(95.80)	(85.80)	(75.80)	(65.80)
-/+ Change in provisions	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)	(13.00)
- Capital expenditures	(68.10)	(73.10)	(78.10)	(83.10)	(88.10)	(93.10)	(98.10)	(103.10)	(108.10)	(113.10)
<b>Unlevered FCF</b>	<b>(4.20)</b>	<b>18.52</b>	<b>42.90</b>	<b>68.83</b>	<b>96.20</b>	<b>125.27</b>	<b>155.57</b>	<b>187.74</b>	<b>221.97</b>	<b>258.38</b>
<i>Discount factor</i>	0.95	0.91	0.86	0.82	0.78	0.74	0.71	0.67	0.64	0.61
Discounted cash flows	(4.00)	16.77	36.95	56.39	74.98	92.89	109.74	126.00	141.73	156.96
<b>PV of UICF</b>	<b>808.41</b>									
<b>PV of TV</b>	<b>5,146.13</b>									
<b>EV</b>	<b>5,954.54</b>									

Source: Own illustration based on excel estimation.

**Table A26 – Bechtle: Discounted Cash Flow Valuation (Combined)**

in EUR million	Projected Period									
	FY2021e	FY2022e	FY2023e	FY2024e	FY2025e	FY2026e	FY2027e	FY2028e	FY2029e	FY2030e
<b>Total Revenue</b>	6,025.08	6,484.28	6,978.48	7,510.35	8,082.75	8,698.78	9,361.75	10,075.26	10,843.15	11,669.56
<i>Growth rate (in %)</i>	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %	7.62 %
<b>EBITDA</b>	306.33	329.68	354.80	381.84	410.95	442.27	475.97	512.25	551.29	593.31
<i>EBITDA margin (in %)</i>	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %	5.08 %
- Depreciation & Amortization	66.84	71.94	77.42	83.32	89.67	96.51	103.86	111.78	120.30	129.47
<b>EBIT</b>	239.49	257.74	277.38	298.52	321.27	345.76	372.11	400.47	430.99	463.84
<i>EBIT margin (in %)</i>	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %	3.97 %
- Taxes on EBIT	68.09	73.28	78.86	84.87	91.34	98.30	105.80	113.86	122.54	131.88
<i>Effective tax rate in %</i>	28.43%	28.43%	28.43%	28.43%	28.43%	28.43%	28.43%	28.43%	28.43%	28.43%
<b>EBIAT</b>	171.40	184.46	198.52	213.65	229.93	247.46	266.31	286.61	308.46	331.97
+ Depreciation & Amortization	66.84	71.94	77.42	83.32	89.67	96.51	103.86	111.78	120.30	129.47
-/+ Change in working capital	(155.80)	(145.80)	(135.80)	(125.80)	(115.80)	(105.80)	(95.80)	(85.80)	(75.80)	(65.80)
-/+ Change in provisions	(68.10)	(73.10)	(78.10)	(83.10)	(88.10)	(93.10)	(98.10)	(103.10)	(108.10)	(113.10)
- Capital expenditures										
<b>Unlevered FCF</b>	14.34	24.50	49.04	75.07	102.70	132.06	163.28	196.49	231.85	269.53
<i>Discount factor</i>	0.95	0.90	0.86	0.82	0.78	0.74	0.70	0.67	0.64	0.61
Discounted cash flows	13.64	22.16	42.20	61.45	79.97	97.81	115.02	131.66	147.77	163.40
<b>PV of UFCF</b>	875.09									
<b>PV of TV</b>	5,357.39									
<b>EV</b>	6,232.48									

Source: Own illustration based on excel estimation.

**Table A27 – Synergy Analysis**

<b>Inputs</b>			
Risk-Free Rate	0.81 %		
Risk Premium	4.24 %		
	<b>Cloudflight GmbH</b>	<b>Bechtle AG</b>	<b>Combined Entity</b>
Betas	1.13	1.01	1.01
Pre-tax Cost of Debt	18.25%	10.27%	10.42%
Tax rate	6.46%	28.87%	28.43%
D/EV	58.47%	1.27%	2.39%
In EUR mn			
Revenues	39.18	5,050.27	5,598.40
EBIT	(5.57)	321.83	316.27
Adjustment (incl. GW & IA)	8.69		
Adjusted EBIT	3.12	321.83	324.96
EBIT margin	0.09	0.04	0.04
Pre-tax return on capital	8.44%	10.07%	10.04%
Reinvestment Rate	1.26	0.05	0.07
Length of growth period	10.00	10.00	10.00
<b>Output</b>			
Cost of Equity	40.61%	5.08%	5.08%
After-tax cost of debt	17.07%	7.30%	7.46%
WACC	37.90%	5.11%	5.13%
After-tax return on capital	7.89%	7.17%	7.19%
Reinvestment rate	125.90%	4.95%	7.33%
Expected growth rate	13.68%	7.50%	7.62%
<b>Value of firm</b>			
PV of UFCF	64.72	808.41	873.13
PV Terminal value	54.67	5,146.13	5,200.81
<b>Enterprise value</b>	<b>119.40</b>	<b>5,954.54</b>	<b>6,073.93</b>
<b>Value of Synergies</b>			
Revenues of firms (standalone)			5,089.45
Revenues of firms (combined)			5,598.40
<b>Value of synergy</b>			<b>508.95</b>
<b>Growth rate increase</b>			<b>0.12%</b>
<b>Tax Benefit</b>			<b>0.44%</b>
<b>EBIT margin improvement</b>			<b>0.09%</b>
<b>Pre-tax return on capital deterioration</b>			<b>(0.03%)</b>
<b>WACC deterioration</b>			<b>(0.02%)</b>
Value of firms (standalone)			6,073.93
Value of firms (combined)			6,232.48
<b>Value of synergy (Net)</b>			<b>158.55</b>

**Source:** Own illustration based on excel estimation.

**Table A28 – Cloudflight: Property, Plant, and Equipment Schedule**

<b>PP&amp;E Schedule</b>	
Capital Expenditure	(955,781.05) (2,172,183.57) (3,510,076.59) (4,738,603.40) (5,567,858.99) (6,403,037.84) (7,203,417.57) (7,995,793.50) (8,795,372.85) (9,586,956.41) (10,353,912.92) (11,130,456.39)
As percentage of sales (in %)	5.00 % 5.54 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 % 5.27 %
Depreciation / Capital Expenditure	0.39 0.47 0.54 0.62 0.69 0.77 0.85 0.92 1.00 1.00 1.00 1.00
Change of percentage points	0.00 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 % 7.57 %
Depreciation	374,538.92 1,015,628.86 1,906,868.88 2,932,958.67 3,867,682.11 4,932,508.44 6,094,330.27 7,369,943.28 8,772,697.96 9,562,240.78 10,327,220.04 11,101,761.55
Beginning PP&E Balance	0.00 1,727,794.38 2,784,086.39 4,387,294.10 6,192,938.82 7,893,115.71 9,363,645.10 10,472,732.40 11,098,582.61 11,121,257.50 11,145,973.13 11,172,666.00
Ending PP&E Balance	1,727,794.38 2,784,086.39 4,387,294.10 6,192,938.82 7,893,115.71 9,363,645.10 10,472,732.40 11,098,582.61 11,121,257.50 11,145,973.13 11,172,666.00 11,201,360.85

Source: Own illustration based on excel estimation.

**Table A29 – Cloudflight: Goodwill & Intangible Schedule**

<b>Goodwill &amp; Intangible Schedule</b>												
Goodwill Amortization	6,005,514.80	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	8,689,784.47	1,777,800.76
Intangible Amortization	4,261,629.03	4,454,033.58	4,454,033.58	2,013,142.92	-	-	-	-	-	-	-	-
Beginning Goodwill Balance	-	71,296,076.52	62,606,292.05	53,916,507.58	45,226,723.11	36,536,938.64	27,847,154.17	19,157,369.70	10,467,585.23	1,777,800.76	-	-
Ending Goodwill Balance	71,296,076.52	62,606,292.05	53,916,507.58	45,226,723.11	36,536,938.64	27,847,154.17	19,157,369.70	10,467,585.23	1,777,800.76	-	-	-
Beginning Intangible Balance	-	10,921,210.08	6,467,176.50	2,013,142.92	-	-	-	-	-	-	-	-
Ending Intangible Balance	10,921,210.08	6,467,176.50	2,013,142.92	-	-	-	-	-	-	-	-	-

Source: Own illustration based on excel estimation.

**Table A30 – Cloudflight: Working Capital Overview**

<b>Working Capital Calculation</b>														
Inventories	118,809.60	334,006.80	435,209.53	587,532.86	690,351.11	793,903.78	893,141.75	991,387.34	1,090,526.07	1,188,673.42	1,283,767.29	1,380,049.84		
Trade receivables	5,540,736.22	4,717,451.22	7,253,492.09	9,792,214.32	11,505,851.82	13,231,729.60	14,885,695.79	16,523,122.33	18,175,434.57	19,811,223.68	21,396,121.57	23,000,830.69		
Other current assets	2,792,858.87	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50	2,294,695.50		
Prepayments	335,672.64	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95	549,887.95		
Accounts payable / Creditors	1,365,936.62	1,215,927.69	2,942,438.15	3,972,291.50	4,667,442.52	5,367,558.89	6,038,503.75	6,702,739.17	7,373,013.08	8,036,584.26	8,679,511.00	9,330,474.33		
Other current liabilities	4,943,022.49	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16	4,816,490.16		
<b>Net working capital</b>	<b>2,479,118.22</b>	<b>1,863,623.62</b>	<b>2,774,356.75</b>	<b>4,435,548.96</b>	<b>5,556,853.71</b>	<b>6,686,167.77</b>	<b>7,768,427.08</b>	<b>8,839,863.79</b>	<b>9,921,040.84</b>	<b>10,991,406.12</b>	<b>12,028,471.15</b>	<b>13,078,499.49</b>		
Net working capital ratio	1.39	1.31	1.36	1.50	1.59	1.66	1.72	1.77	1.81	1.86	1.89	1.92		
<i>As percentage of sales (in %)</i>	12.96%	4.76%	4.17%	4.93%	5.26%	5.50%	5.68%	5.83%	5.94%	6.04%	6.12%	6.19%		
Change in net working capital	0.00%	(33.03%)	32.83%	37.45%	20.18%	16.89%	13.93%	12.12%	10.90%	9.74%	8.62%	8.03%		
<b>Working Capital Ratios</b>														
Inventory in % of Cost of Material	8.65 %	13.13 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %	10.89 %		
Receivables in % of sales	28.96 %	12.04 %	18.51 %	24.99 %	29.37 %	33.77 %	37.99 %	42.17 %	46.39 %	50.56 %	54.61 %	58.70 %		
Other current assets in % of sales	14.60 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %	5.86 %		
Other current liabilities in % of sales	25.84 %	12.29 %	7.23 %	5.36 %	4.56 %	3.96 %	3.52 %	3.17 %	2.89 %	2.65 %	2.45 %	2.28 %		
Days sales outstanding	106	44	75	75	75	75	75	75	75	75	75	75		
Days inventory outstanding	32	48	40	40	40	40	40	40	40	40	40	40		
Days payables outstanding	363	174	269	269	269	269	269	269	269	269	269	269		

**Source:** Own illustration based on excel estimation.

## Appendix B: Text

### Appendix B1 – Cloudflight: Income Statement Forecast and Assumptions

The consolidated statements of Cloudflight are prepared in accordance with the provisions of §§ 290 et seq. *German Commercial Code* (HGB), and historical ISs are reported according to the total cost method of the § 275 (2) HGB. The BS date is the 31<sup>st</sup> of December of a given year. The IS and CF depict profitability and cash movements for each *fiscal year* (FY) between the 01<sup>st</sup> of January and the 31<sup>st</sup> of December. On the IS, the reorganization was performed to determine important profitability metrics, such as EBITDA and EBIT. Cloudflight's top line is expected to increase significantly by a *compound annual growth rate* (CAGR) of 24.37% from FY2019A until FY2030e. Considering the historical growth rate from FY2019A to FY2020A of 104.79%, the forecast presumes a gradual decline until FY2030e, when the company is expected to reach a high-single-digit revenue growth of 7.50%. This target growth rate is based on mid-term expected market growth of IT services companies in the DACH region and depicts the high demand for this sub-sector of the TMT industry (BNP Paribas Exane 2022). Cost of materials, personal expenditure, and other operating expenses are forecasted based on a percentage of sales. The first two are assumed to follow their historical trend and develop flat in relative terms with 6.00% and 50.00%, respectively. The projection period for the latter line item considers an annual decrease of 20 bps. The underlying assumption is that these overhead expenses do not positively correlate with revenue or production. The related administrative expenses, e.g., internal IT infrastructure expenses, decrease slightly in relative terms over time due to optimized efficiency and harmonized processes between the group entities. Afterward, the variable and fixed operating costs, except for *depreciation and amortization* (D&A), are deducted from the total revenue to calculate EBITDA (Damodaran 2006). The assumption of a slight decrease in other operating expenses impacts the EBITDA margin development, which increases gradually by 20 bps from FY2021e until FY2030e. Cloudflight's D&A values were derived via a *property, plant, and equipment* (PP&E) schedule (see Table A28). The procedure behind the estimation is explained in the CF paragraph. The D&A values

are assumed to diminish over time until the terminal year. The decrease is mainly driven by a linear goodwill amortization until FY2028e, where all goodwill is expected to be written off. In contrast to the accounting standards of US GAAP and IFRS, where the item is impaired, the HGB considers goodwill as an intangible asset that is amortized over a finite useful life. The assumption is pursuant to § 285 (13) HGB, which states that an explanation of the period over which purchased goodwill is amortized must be given. If the period cannot be reliably estimated, the goodwill must be amortized over a period of ten years in accordance with § 253 (3) sentence 4 HGB, which the 3-statement model realized between FY2019A and FY2028e. Thereafter, the D&A values are subtracted to derive EBIT values (Koller et al. 2010). The profitability metrics of EBIT, which are negative from FY2019A to FY2020A, are expected to evolve positively from FY2021e onwards due to the changed conditions of strong top-line growth, stable fixed and variable costs, and the decrease of D&A in relative terms compared to total revenue. In the next step, interest expenses are deducted from EBIT to calculate the EBT. For Cloudflight's reorganized IS, interest-related line items are summarized under the term net interest, including foreign exchange gains, losses, and non-operating items. The net interest development was assumed to remain flat at EUR 6 million over the 10-year forecast. No dependency on additional debt financing was presumed based on Cloudflight's asset-light operating model of IT services and growing organic cash flow generation. The determined EBT is assumed to reach a positive value in FY2022e and continue to grow afterward. Finally, to calculate net income, the effective tax expenses need to be subtracted. The net income is assumed to remain positive after FY2022e with constant growth until FY2030e, where the forecast presumes a surplus of EUR 36.7 million after deducting all expenses.

## **Appendix B2 – Cloudflight: Balance Sheet Forecast and Assumptions**

On the BS, on the asset side, a major position is the fixed asset line item of goodwill and intangibles. In FY2020A, this item represents 70.59 % of total assets. As explained above, the goodwill position is linearly amortized over a timeframe of ten years pursuant to related HGB standards. For Cloudflight, goodwill was recognized due to the acquisition of Cloudflight Austria GmbH and its subsidiaries in the consolidated financial statements. No further acquisitions are included in the forecasted scenario since no reasonable assumption can be made about the timing, size, and purchase price allocation of future transactions. Intangibles relate to technology-based intellectual property, client contracts, and brand recognition. The development was forecasted based on goodwill and intangible schedule (see Table A29). The proportion of total fixed assets is assumed to decrease gradually with respect to goodwill and intangible asset amortization. On the total current asset side, one essential item is cash and cash equivalents. This line item is presumed to accumulate significantly in value with a CAGR of 42.10% from the historical FY2019A until the forecasted FY2030e. In the last projected year, cash and cash equivalents are assumed to depict 86.03 % of total assets, which is in line with the hypothesis of an asset-light operating model and a substantial increase in organic cash flow generation. As no dividend payout policy exists, no cash outflows are considered for the forecast. On the consolidated BS, Cloudflight reported two significant liability line items. First, a long-term loan of EUR 45.6 million, and second, a shareholder's loan of EUR 43.1 million. In FY2020A, these two long-term liabilities represent 90.71% of total liabilities and equity. For the projection period, both items are forecasted to be constant. Given limited information and the early stage of the company, the projection period assumes a bullet payment repaid with follow-up financing in the exact same amount and with the same terms at maturity for both debt items after the terminal year. The most relevant equity item for Cloudflight is its retained earnings position. Due to the net loss between FY2019A and FY2021e, retained earnings remain negative until FY2022e. For the calculation of retained earnings, the principle of surplus accounting was utilized (Koller et al. 2010). The beginning period of retained earnings and

the result of the net income, or net loss, are added up, no dividend payouts are assumed. Between FY2023e and FY2030e, retained earnings are estimated to provide steady growth until they depict 58.49% of total liabilities and equity in the terminal year. Moreover, to enable a realistic insight into the company's liquidity as well as short-term financial health, the *net working capital* (NWC) was examined. In order to realistically forecast revenue results, the resources that are needed to achieve these results have to be depicted. Assuming higher sales, the forecast naturally expects the stock of inventory, to grow with the higher demand. Furthermore, the firm engages in more and higher volume customer and supplier relationships in order to achieve these sales increases. The higher volume of transactions naturally leads to a steady increase of trade receivables and payables. This capital commitment is depicted in the NWC. The NWC contains the sum of current assets, inter alia inventories, trade receivables, and prepayments minus current liabilities, such as accounts payable and other short-term debt (Ross et al. 2002). Cloudflight's NWC was estimated based on assumptions for inventories, trade receivables and trade payable. All other relevant items are assumed to stay flat over the forecast period (see Table A30). The forecast was performed on the historic average of days sales, inventory and payables outstanding (Koller et al. 2010).

### **Appendix B3 – Cloudflight: Cash Flow Statement Forecast and Assumptions**

On the CF, the majority of line items followed the forecast of IS and BS positions. The total operating cash flow is assumed to provide robust and stable cash flow until the terminal year. Total investing cash flow is mainly driven by capital expenditure, which was derived via a PP&E schedule (see Table A28). The key methodology for the PP&E schedule was based on three steps. First, a capital expenditure forecast as a percentage of sales was implemented, resulting from an historical average of FY2019A and FY2020A. Second, a target depreciation-to-capital-expenditure ratio of 1 was determined in a steady state to outline a neutral scenario (Damodaran 2012). To reach this target ratio, where no asset growth or shrinking is assumed, a constant annual growth of 7.57% was forecasted based on the historical YOY growth from FY2019A to FY2020A. By accumulating the change in percentage points, the ratio is expected to reach its target value 1 in FY2027e and remain stable afterward until infinity. Third, to define the annual depreciation value via the PP&E schedule, the model multiplied capital expenditure with the individual depreciation-to-capital-expenditure ratio per annum. No other investing cash flows are assumed. The major item for the total financing cash flow for Cloudflight is net interest. Given the characteristics of a private company, no dividend payments are expected. The hypothesis from the IS of a flat interest payment of EUR 6 million per annum was utilized for the forecast. No further funding or financing activities of debt or equity items, such as proceeds from equity contributions and financial loans, are presumed. The outlined sum of EUR 6 million depicts the total cash outflow from financing until FY2030e. Now, after forecasting a valid valuation basis with the current and future operating performance, non-operating performance, and capital structure, the value of operations can be derived.

## Appendix B4 – Cloudflight: Beta Estimation

For listed companies,  $\beta_{LiM}$  describes the correlation of asset returns with respect to changes in the market in the CAPM (Ross et al. 2002). Equity betas are a measurement value of systematic risk (Mullins 1982). Since Cloudflight is not publicly traded, a peer group was chosen to derive a beta estimation from stock prices of trading comps. The peer group will be explained in justified below in the CCA section. As depicted in Table A8 and A9, monthly historical stock price returns calculated from historical dividend-adjusted closing prices of peers are regressed with the excess return of a reference index, in this scenario, the SDAX. The SDAX was assumed to be the most applicable reference point to examine correlations of asset returns and changes in a market given the size of Cloudflight's presumed peers. It contains 70 German firms with the smallest market capitalization listed in an index. The regression statistics for the six peers are seen in Table A10 and A11. The linear regression for each peer considered a timeframe of the last five year monthly historical stock price returns (n=60). In the given sample, the equity beta coefficients measure the causal effects of SDAX changes on the individual adjusted asset returns with the assumption that all other factors are kept constant. Levered SDAX-based equity betas are presumed to be sufficient to explain the cross-section of expected returns (Fama and French 1982). In a next step, to remove the effects of different capital structures,  $\beta_{LiM}$  are unlevered. Based on Damodaran (2009), neutral unlevered betas are calculated in Formular (5):

$$(5) \quad \beta_{U_{iM}} = \frac{\beta_{LiM}}{(1 + (1 - T_C) \times \frac{D}{E})}$$

First, unlevered asset betas are derived per company. The model divides the levered betas estimates by 1 plus the individual TS times its *debt-to-equity ratio* ( $\frac{D}{E}$ ). The  $\frac{D}{E}$  values are calculated individually per company based on cash-adjusted net debt values, representing debt, compared to their market capitalization, depicting equity. The market capitalization was calculated on the 06<sup>th</sup> of March 2022,

equal to the diluted shares outstanding times their share price on that day. Then, two unlevered beta estimates are calculated via the mean and median values of public peers.

$$(6) \quad \beta_{L_{iM}} = \beta_{U_{iM}} \times \left(1 + \frac{D}{E} \times (1 - T_c)\right)$$

The two unlevered beta results are then relevered using Cloudflight's target  $\frac{D}{E}$  and effective tax rate.

The relevered betas are calculated as given in Formula (6) (Hamada 1972; Rubinstein 1973). The identified levered betas conduce estimates for Cloudflight's  $K_E$  derivation.