GAMING INDUSTRY – FACTS, FIGURES AND TRENDS

January 2018
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Gaming market

- The size of the global video game market will accrue to about USD 90.1 billion in 2020 from USD 78.6bn in 2017. This would imply an increase of approximately 14.6%.
- By far, the largest gaming markets are located in China, the United States, and Japan.
- The European share of the gaming market is rather small compared to the frontrunners. Germany, the United Kingdom, and France generate accumulated revenues of only approximately USD 11.5 billion. In comparison, Japan alone makes up USD 12.6 billion in gaming revenues. However, this also implies that there is a huge untouched market with millions of potential buyers who would likely spend money on games or alternatively, gaming equipment.
- Some elements of the gaming market, such as eSports, are expected to increase drastically in revenues and value in the future due to increased public coverage and higher sponsorship proceeds.
- Moreover, instead of generating revenues through the sale of hardcopy games, companies will primarily create earnings through in-game purchases (Freemium business model).
- Another business model, which is tightly connected to Freemium, is Free2Play. Free2Play enjoys an enormous popularity around the world, specifically in Asia. On average, 85.5% of total revenues from Pay-to-Play and Free-to-Play relate to the latter category.
- A considerable amount of Free2Play online browser games developers, such as Gameforge, Innogames and Bigpoint, are domiciled in Germany.

Gaming Trends in M&A

- In 2016, game deals reached an accumulated total amount of USD 30.3 billion. Approximately 94.0% of the total volume (28.4 billion) can be attributed to mergers and acquisitions. The remaining 1.9 billion were investments into tech, mobile, web, console/PC, AR/VR, MMO/ MBO and eSports.
- M&A activity surpassed its previous record of 2014 by 77.0%. Further, investments of USD 1.9 billion were the second highest ever recorded.
- Roughly 85% of the total M&A deal value can be associated with the mobile gaming sector. The rest is divided by MMO/MOBA, console/PC and tech.

Clairfield is the right partner

- Clairfield is one of the leading global M&A firms typically executing mid-sized transactions up to an enterprise value of EUR 500 million.
- With partner offices in 50% of all OECD countries, Clairfield International covers 75% of Germany’s most significant trade partners.
- The long experience of our partners in diverse industries with more than 600 successful transactions over the last five years in combination with outstandingly connected industry experts enables our clients to open up to new strategic possibilities.
- Senior involvement throughout all phases of a transaction is the single most important hallmark of our execution style and commitment to quality and prudent advice.
DEFINITIONS SEGMENT THE MARKET TO REVEAL ITS POTENTIAL

Gamers can be categorized into three different types:

- **Hardcore**
  - The typical hardcore gamer is 28 years old and male.
  - During one year he will spend between approximately EUR 1,100 - 1,400 for gaming equipment, which includes software and hardware.
  - As an early adopter, he buys only state-of-the-art technology.
  - Partially, hardcore gamers are already professionals and therefore have to invest a lot of time in gaming.
  - Accordingly, 70 - 80% of sales volume in the industry can be attributed to the hardcore gamer.

- **Casual**
  - Casual Gamers play games regularly, but not on a professional level.
  - Though there are tendencies for casual gamers to become hardcore gamers, due to time limitations this is not often possible.
  - However, 15 - 25% of total sales volume can be attributed to the casual gamer, even though this type is far more price-sensitive than the typical hardcore gamer.

- **Mass market**
  - A mass market gamer does not invest a lot of time in gaming, or money in special gaming equipment.
  - This type actively seeks free of charge games or Free2Play offers.
  - In total, the sales volume of casual gamers accounts for approximately 5% of the market total.

New game and business models aim for in-game purchases

- **Freemium**
  - Freemium means that a basic service, for example an app, can be used without any costs.
  - However, there are premium priced, value-added services included, which can only be accessed if a payment is being made.
  - This business model boosts the amount of users, and therefore ultimately also the amount of paying users.
  - Prominent examples of Freemium are LinkedIn, Skype or SurveyMonkey.

- **Gamification**
  - Gamification attempts to add game-like elements into tasks, which are usually not connected to gaming, in order to encourage motivation and participation.
  - Even though it is a relatively new term, gamification becomes more apparent in the daily life of people.
  - Examples for gamification include M&M's Eye-Spy Pretzel Campaign, Nike+ (Running) and Duolingo (Languages).

- **Serious Games**
  - The main purpose of serious games is not to entertain but to enhance the motivation of participants in order to accomplish boring or tedious tasks or to learn.
  - In contrast to gamification, serious games actually do have a gameplay, whereas gamification games usually do not incorporate a gameplay.
SOFTWARE COMPANIES PREDOMINANTLY DEVELOP FREE-TO-PLAY GAMES TO ENCOURAGE IN-GAME PURCHASES

Free2Play offers new opportunities for software companies

- As the name already suggests, Free2Play is a business model, where the player does not necessarily pay for the game.
- However, it is assumed by the game developer or publisher that players will conduct in-game purchases, such as upgrades or special items. Through these microtransactions, revenues are generated by the game.
- Pay-to-Play and Free2Play are two contradictory business models, yet both are profitable. Frequently a Pay-to-Play game is converted into a Free2Play game. Examples of these transformations are Star Wars: The Old Republic, The Lord of the Rings Online, and DC Universe Online.
- In the past, Pay-to-Play games were of higher quality, however once it became apparent that it is possible to generate sufficient revenues with a Free2Play model as well, the quality of F2P titles rose sharply.
- As of June 2016, F2P revenues totaled roughly USD 17.1 billion worldwide, whereas P2P revenues were approximately USD 2.8 billion.
- By far the largest market for F2P games is Asia with USD 11.2 billion. In Asia Free2Play games still create soaring enthusiasm.
- Also, revenues from the F2P PC market are expected to remain in an upturn for the foreseeable future. Due to new F2P games entering the market, more people will actually play and conduct microtransactions.

Key Fact: Because of its extensive reach and massive amounts of players, F2P revenues decidedly overshadow P2P revenues.
FUTURE BECAUSE OF TECHNOLOGICAL ADVANCES

GAMING WILL EXPERIENCE EXTENSIVE CHANGES IN THE FUTURE BECAUSE OF TECHNOLOGICAL ADVANCES

eSports makes use of new media to capture audiences
- eSports attracts more viewers each year through new means of broadcasting such as streaming services including Twitch or YouTube and as a result, the general public is becoming more and more aware of the eSports phenomenon.
- Even established sport teams, like FC Schalke 04 or VFL Wolfsburg are recruiting eSports players to play for them in order to reap the marketing effects eSports can offer. In the future, more teams are likely to join and make eSports omnipresent.
- New gaming companies may settle in Germany to popularize eSports and their games further.

Triumphant march for gaming apps in Germany
- More than 23.0 million people in Germany are considered smartphone or tablet gamers. Roughly 20.0% of these people also pay for games or execute in-app purchases. In-app purchases are also called microtransactions. These microtransactions make up approximately 94.0% of the generated revenue.
- Microtransactions are the consequences of the rise of free2play games and their growing popularity in the eSports area. To actually generate revenues with free games, developers need to offer special services for gamers who are willing to pay an extra price to receive exclusive items or content.

VR and AR are going to be integrated into gaming
- Virtual reality and augmented reality will play an increasingly important role in the gaming market. Consumers are prepared and willing to try out VR/ AR glasses/ headsets.
- It is not only consumers who are are jumping on the VR/ AR bandwagon. Companies like Crytek are also active in the field. They already developed some games, which are designed to be played with VR devices. If expected sales figures are reached, VR will be the next big hit in the gaming branch.
- Educationally, Germany is preparing its youth for the VR/AR wave. Progressively more universities and colleges are offering study courses in the area of virtual and augmented reality.

New business models are challenging the traditional ones
- Several fresh business models and new kinds of gaming modes have entered the market.
- The most famous are Free2Play, Freemium, Gamification, and Serious Games.
- Basically all the revenue will be generated through users’ in-game purchases. However, advertising costs are also playing a crucial role if the game is offered for free.
- Even newer business models may emerge in future and disrupt the existing structure.

Key Fact: New business models will alter the gaming landscape profoundly.
Mobile games are the driving force behind revenue generation.

The average deal size of mobile game companies is approximately USD 300 million.

An average investment in the gaming sector amounts to approximately USD 16 million.

Due to the maturity of the market, a slightly larger volume of deals is expected, although it might be difficult to outperform the previous year.

Nonetheless, augmented and virtual reality companies are well positioned for future deals.
GLOBAL GAMING SECTOR SCORED A CAGR OF 5.8%
**EAST ASIA IS A KEY DRIVER FOR GENERATING REVENUES IN THE GAMING MARKET**

**Value global video games market (in USD billion)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (USD billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>54.2</td>
</tr>
<tr>
<td>2012</td>
<td>56.7</td>
</tr>
<tr>
<td>2013</td>
<td>61.5</td>
</tr>
<tr>
<td>2014</td>
<td>67.2</td>
</tr>
<tr>
<td>2015</td>
<td>71.3</td>
</tr>
<tr>
<td>2016</td>
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</tr>
<tr>
<td>2017</td>
<td>78.6</td>
</tr>
<tr>
<td>2018</td>
<td>82.4</td>
</tr>
<tr>
<td>2019</td>
<td>86.3</td>
</tr>
<tr>
<td>2020</td>
<td>90.1</td>
</tr>
</tbody>
</table>

**Gaming markets by gaming revenue (in USD billion, 2017)**

- China: 27.6
- United States: 25.1
- Japan: 12.6
- Germany: 4.4
- United Kingdom: 4.2
- South Korea: 4.2
- France: 3.0
- Canada: 2.2

**Value of global video games market continues to rise**

- From 2011 to 2015, the global video games market rose from USD 54.2 billion to 71.3 billion. It is predicted to grow to 90.1 billion in 2020. This would imply that the global video games market will almost double within 10 years.
- Revenues in the global video games market are primarily created through the sale of hardware and software. Hardware encompasses the devices to game with, such as consoles, keyboards and mouse devices, whereas software involves the actual games.
- The compound annual growth rate for the global video games market accumulates to roughly 5.8%.

**China’s market will be crucial for gaming**

- In total, the global video games market was valued at approximately USD 78.6 billion in 2017.
- China contributed approximately 35.0%, or USD 27.6 billion, to the total figure. Because of its massive population and general increase in prosperity, increasingly more people can afford games and gaming equipment.
- Not surprisingly, the United States still ranks second with roughly USD 25.1 billion, followed by Japan, Germany, and the United Kingdom.

**Key Fact: Asia-Pacific remains the biggest market for the gaming industry as the industry continues to grow.**
DUE TO THEIR SIMPLICITY, MOBILE GAMES ARE ENJOYED BY GAMERS OF EVERY AGE AROUND THE GLOBE

Global games market per region (2016)

- Basically half of the global games market is located in Asia-Pacific.
- This trend is especially noticeable in the mobile gaming branch. While Asia generated revenues of USD 24.8 billion in 2016, North America, Europe and Latin America together accumulated only 15.0 billion. The popularity of mobile games in Asia can be explained by the demanding lifestyle of the users; mobile games are often played to pass the time while travelling.
- The other half of the pie is essentially shared by North America, Europe, Africa, and the Middle East. Latin America does not play a big part in the gaming industry, either in terms of revenues or in the mobile gaming branch.

Key Fact: Due to its large population, Asia-Pacific will be a decisive market for mobile gaming in the future.

Global games market per segment (2016)

- The segments TV/console, PC/MMO and mobile phones make up almost 85.0% of the entire gaming market.
- Tablets, casual web games, and handheld devices occupy the remaining 15.0%.
- As previously mentioned, mobile games are a big hit in Asia. It is expected that its share will continue to rise, hence, revenues generated with mobile games will maintain their strong status.
UK, FRANCE AND GERMANY DOMINATE THE GAMING MARKET IN EUROPE
PREVALENCE OF PS4 AND FIFA IN EUROPE WITH NEARLY 11 MILLION GAMES AND CONsoles SOLD

Video game market value in Europe (H1 2015, m EUR)

- United Kingdom: 547.0
- Germany: 483.0
- France: 421.0
- Spain: 221.0
- Italy: 183.0
- Netherlands: 91.0
- Belgium: 72.0

Breakdown of gamers in Europe (Age Group, in %)

- 6-10:
  - France: 72.0
  - United Kingdom: 84.0
  - Germany: 68.0
- 11-14:
  - France: 77.0
  - United Kingdom: 85.0
  - Germany: 75.0
- 15-24:
  - France: 86.0
  - United Kingdom: 81.0
  - Germany: 77.0
- 25-34:
  - France: 81.0
  - United Kingdom: 86.0
  - Germany: 75.0

Best selling console games in Europe (m Unit Sales, 2016)

- FIFA 17 (PS4): 5.7
- Uncharted 4 (PS4): 2.5
- Battlefield 1 (XOne): 2.1
- Tom Clancy’s (XOne): 2.0
- GTA V (PS4): 1.9
- Call of Duty (PS4): 1.7
- Far Cry (PS4): 1.5
- Mafia III (PS4): 1.4
- FIFA 16 (PS4): 1.3
- PS3: 1.2
- WiiU: 1.1
- X360: 1.0

Best selling gaming consoles in Europe (k Unit Sales, 2016)

- PS4: 4,900.0
- 3DS: 1,700.0
- XOne: 1,700.0
- PSV: 572.0
- WiiU: 532.0
- PS3: 179.0
- X360: 66.0

Key Fact: Soccer-obsessed countries like the UK and Germany propel the sales of FIFA and PlayStation 4 in Europe.
GERMANY STILL HAS UNTAPPED POTENTIAL IN THE GAMING SECTOR
SOCIAL GAMES ARE CATCHING UP AND ALREADY ACCOUNT FOR 20% OF REVENUES IN GERMANY

Germany strives to position itself as a future market

- Germany is one of the three biggest gaming markets in Europe. With total sales of EUR 2.8 billion in 2015 (an increase of 4.5% over 2014) Germany generated the lion’s share with the sale of games.
- Close to 35.0 million active gamers live in Germany, which makes it Europe’s largest gaming population. Moreover, half of these gamers are paying for games or related services.
- In Germany, 18.4 million gamers prefer to play games on a PC, while 17.2 million play smartphone games. Additionally, 15.6 million Germans have a console, for example, a PlayStation or Xbox, at home.
- Considering that personal computers, consoles, and handheld devices are stagnating in usage, the number of smartphone gamers increased by 14.0% over the last two years.
- Germany can be considered a global gaming hub. There are several German companies, such as BigPoint, Gameforge and Wooga that are well-known, even beyond Germany’s borders, for their online browser games.
- In addition to being home to innovative companies, Germany regularly hosts international trade events such as gamescom, Casual Connect Europe or the Serious Games Conference, which was held within the scope of the CeBIT.

Key Fact: Social and casual games on the smartphone gain popularity in Germany.

Revenue video games market Germany (m EUR, 2017)

Market volume German gaming industry (m EUR, 2015)
**Due to the rise of the smartphone, gamers can be found in every age group**

Gamers in Germany (2016)

Gamers can be categorized in three different types:

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**Key Fact:** Hardcore gamers are the backbone of the gaming economy.
GERMANY COMPENSATES LACK OF BLOCKBUSTER GAME DEVELOPMENT WITH INNOVATIVE BROWSER GAMES

Competitiveness of Germany

- Germany continues to lag behind other countries like Japan or the United States in terms of production.
- There are a few German companies that are able to compete on the global market, mostly in the mobile gaming and browser games sector.
- Due to the lack of game developers and publishers, as well as lack of funding, companies in Germany are not able to produce cost-intensive games such as those in Asia or North America. Even in Scandinavia, Poland or the United Kingdom, there are public funding sources for the gaming branch. This kind of capital still needs to be developed in Germany. The general public now believes that games are a cultural good, yet funding, such as that for cinema, still lags behind immensely.
- Basic framework conditions must be set up in order to allow the German gaming industry to catch up to internationally renowned countries in the area of gaming.
- As a consequence, only 6.5% of the total revenues in the gaming industry in Germany are generated by domestic companies whereas in the online/browser games segment alone, German developments contribute to around 25% of the total revenues. In general, German companies use niche markets like gamification or serious games to survive.
- Therefore, mobile or online-/ browser games often use new business models like Free2Play or Freemium in order to generate revenues.

Key Fact: In order to compete with world class companies, Germany needs to provide certain preconditions.

Short profiles of German gaming software companies

- **Gameforge**
  - Since 2003, Gameforge develops games at its headquarters in Karlsruhe.
  - In that time, the workforce grew to approximately 350 people.
  - Today roughly 450 million players participate daily in games created by Gameforge.

- **Innogames**
  - Founded in 2007 by three friends after two years of developing an online game as a hobby.
  - Nowadays, Innogames employs roughly 400 people in Düsseldorf and Hamburg.
  - It is famous for online games like Tribal Wars and Forge of Empires.

- **Bigpoint**
  - The formation of Bigpoint took place in 2002 by Heiko Hubertz. Four years later, Bigpoint reached one million users.
  - Bigpoint specialized in free to play online games like DarkOrbit and Deepolis.

- **Crytek**
  - Crytek was founded in 1999 by three brothers and has around 390 employees at their locations in Frankfurt and Kiev today.
  - It is well-known because of blockbusters like Far Cry or the Crysis series. Recently the company has become a pioneer in the VR and AR gaming business.
eSPORTS ACHIEVED A STAGGERING 35.6% CAGR
eSPORTS STEADILY INCREASES ITS REACH IN THE WORLD WITH NEW MEANS OF TECHNOLOGY

As eSports becomes more popular, revenues start to take off

- eSports usually entails that a multiplayer video game is played by professional players in stadiums with thousands or millions of spectators inside the venue and online.
- So far, there is not one single large association for eSports. Each country has its own association and worldwide several associations co-exist. This enables teams or clans to play simultaneously for several different tournaments.
- The most famous eSports associations are the e-Sports Federation (founded in 2008) with 50 participating countries and the World Esports Association, which was founded in 2016.
- Since the publisher usually owns the intellectual property of the games that are played in the eSports leagues, they inherit a powerful position in eSports. Often they acts as organizers for tournaments of their own games.
- Riot Games with League of Legends and Valve with Counter-Strike and DotA 2 are two notable examples of influential actors in the eSports business.
- South Korea can be considered the country of origin of eSports. Even though the United States overtook South Korea in terms of revenues in the eSports business, it still hosts one of the biggest tournaments in the world. Additionally, through streaming, those matches are watched by a worldwide audience. As an example, the League of Legends World Championship Finals in 2016 had 43 million viewers, whereas the NBA final game was watched by 31 million viewers.

Key Fact: Revenues in eSports will continue to rise tremendously around the world.
Turtle Entertainment in Cologne is the frontrunner in broadcasting and organizing eSports leagues

- The most famous eSports league in Germany and perhaps even worldwide is the ESL, which can be considered the oldest eSports league in the world.
- The ESL currently consists of 7.4 million members and is managed by Turtle Entertainment GmbH in Cologne. Sponsors of the ESL are renowned companies like Intel or Hyperx.
- Events like the gamescom, where visitors can meet their favorite eSports players in person, are essential for eSports in Germany. Being visible and represented in this way is essential to further developing eSports and increasing general public acceptance.
- One significant supporter of the eSports and gaming scene in Germany is the Bundesverband Interaktive Unterhaltungssoftware e.V. It aims to ease visa concerns for eSports players and advocates for official recognition as a sport.
- As of 2015, there were 22 professional eSports teams registered in Germany.
- General acceptance from the public for eSports is starting to grow, since TV channels (prominently Sport1, Sky and ProSieben) have begun to broadcast eSports finals during primetime. Furthermore, established sport magazines like Kicker, now publish separate sections for eSports.

**Key Fact:** With the ESL, Germany has one of the most influential eSports leagues at home.
eSPORTS DRAWS ON AN EXPANDING AND DEVOTED CROWD

Amount of eSports viewers worldwide (in millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Occasional Viewers</th>
<th>eSports-Enthusiasts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>120.0</td>
<td>115.0</td>
</tr>
<tr>
<td>2016</td>
<td>162.0</td>
<td>161.0</td>
</tr>
<tr>
<td>2017</td>
<td>191.0</td>
<td>194.0</td>
</tr>
<tr>
<td>2020</td>
<td>286.0</td>
<td>303.0</td>
</tr>
</tbody>
</table>

eSports enthusiasts (Age/ Gender, 2016)

Comparison eSports viewers to other sports (in millions)

- **FIFA World Cup 2014**: 1,000.0
- **UEFA Champions League 2014**: 380.0
- **Super Bowl 2014**: 160.0
- **LoL Finals 2016**: 43.0
- **NBA Final 2016**: 31.0

eSports occasional viewers (Age/ Gender, 2016)

Key Fact: eSports viewership is increasing, however it is still a long way from challenging big sport events.
TWO CONCEIVABLE ALTERNATIVES FOR THE PROSPECTIVE eSPORTS MARKET IN GERMANY

Capturing general audience is of paramount importance

- Passionate viewership is already in place and increasing, however it is mainly male, young, engaged with the sport, and technologically proficient. This enables companies to easily get in touch with this specific customer group. In addition, awareness of eSports is also growing in the general public.
- The eSports audience usually has a healthy income, and is not influenced by traditional marketing means. Therefore, companies should use this potential to their benefit.
- Capturing the general interest of the public to increase the audience is the main goal in the next several years.

eSports fails to live up to its expectations

- No breakthrough of eSports in Germany, since the market begins to stagnate in the near future.
- eSports will not be officially recognized as a sport in Germany.
- Audience for eSports will still be available, however it does not reach the general public.
- eSports remains an interesting field for Gaming or IT endemic companies.
- Profitable eSports markets will be the United States, China or South Korea, but not Germany.

eSports market represents a sleeping giant

- The eSports market is not yet saturated. There is a huge potential for brands to fill this gap and make use of the untapped capacity.
- eSports is a digital market. It is easy to use and can reach a huge amount of viewers for relatively low costs, compared to traditional advertising means.
- The first companies out of the gaming and IT segment entered eSports, for example in sponsoring, and more are sure to follow in the future.
- The huge market potential represented by eSports should be made palatable to companies outside the gaming segment as well.

eSports evolves into a nationwide event

- eSports market continues to grow and becomes competitive to the markets in China, the US, and South Korea.
- There will be a formation of an international association concerning eSports and coordinated international tournaments will be organized.
- eSports will be officially recognized as a sport in Germany.
- In addition to the existing loyal audience, which is already highly enthusiastic about eSports, the general public will become interested in eSports events.
- Companies other than gaming and IT companies start sponsoring events and teams.

Key Fact: eSports has the potential to become a worldwide phenomenon, however it needs to capture the general public as well.
CASH PRIZES ARE SOARING AND TURNING eSPORTS PLAYERS INTO MILLIONAIRES

Total cash prizes in eSports tournaments (in USD millions)

Top-earning players’ total cash prizes (USD million)

"KuroKy" - Kuro Salehi Takhasomi (GER) 3.4
"Miracle-" - Amer Al-Barkawi (JOR) 2.9
"UniVeRsE" - Saahil Arora (USA) 2.9
"Matumbaman" - Lasse Urpalainen (FIN) 2.7
"MinD_ContRoL" - Ivan Ivanov (BUL) 2.7
"ppd" - Peter Dager (USA) 2.6
"SumaiL" - Sumail Hassan (PAK) 2.6
"Fear" - Clinton Loomis (USA) 2.4
"GH" - Maroun Merhej (LIB) 2.3

From amateur to professional: the eSports player

- Professional players usually earn a regular salary from their team in addition to their cash prizes.
- Additionally, they receive lucrative advertising contracts mainly from endemic companies.
- Nowadays, the majority of professional players come from China, the United States, Canada, and South Korea.
- Teams and players are supervised by professional managers and staff to improve their performance.

Key Fact: eSports is gradually approaching the competitive structures that are prevalent in the sports business.
NEXT TO TRADITIONAL GAMING CLANS, PROMINENT SPORT ORGANIZATIONS ARE ENTERING eSports

Most popular eSports teams

- FC Schalke 04
- VFL Wolfsburg
- SK Gaming
- Samsung Galaxy
- Cloud9
- Team Liquid

Exceptional individual player: Kuro Salehi Takhasomi

- Kuro Salehi Takhasomi is 25 years old and has engaged in professional eSports for the past 5 years.
- Currently Kuro is considered the most successful eSports player in the world.
- He plays “Dota 2“ for “Team Liquid“.
- Prize money for the whole team amounts to EUR 9.3 million.
- In his professional career, he has earned cash prizes totaling roughly USD 3 million.

Established sport team embarks on eSports: FC Schalke 04

- Originally Schalke 04 was a successful German soccer club.
- FC Schalke 04 became active in eSports in May 2016.
- Existing competencies and infrastructure, for example, medical facilities from the general sport business, will be allocated to eSports.
- eSports is forecast to be profitable for Schalke in medium-term.
- It encompasses marketing effects for the whole club, due to the high attraction of eSports in other countries like the United States or in Asia.
- Schalke is trying to convince sponsoring partners from the conventional soccer business to enter the eSports branch as well.

Classical foundation based on mutual interests: SK Gaming

- SK Gaming is a top eSports organization and one of the world’s most recognized brands in competitive video gaming.
- It was founded in 1997 as “Schroet Kommando” by a group of friends who were passionate about competitive gaming.
- Nowadays SK has offices in Cologne and Los Angeles.
- SK is active across a variety of disciplines in eSports, including titles like FIFA, Counter-Strike and Warcraft III.
- SK has earned 10 awards with cash prizes of almost USD 800,000 in 2017.

Key Fact: Increasingly more professional sport teams will get involved in eSports to benefit from its expansion.
ADVERTISING EXECUTIVES QUALIFY eSPORTS AS THE NEXT BIG THING

Development of sport- sponsoring in DACH (Survey, 2017)

<table>
<thead>
<tr>
<th>Sport</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>eSports</td>
<td>49.0%</td>
</tr>
<tr>
<td>Gaming</td>
<td>44.0%</td>
</tr>
<tr>
<td>Soccer</td>
<td>44.0%</td>
</tr>
<tr>
<td>Women’s Soccer</td>
<td>25.0%</td>
</tr>
<tr>
<td>Beach volleyball</td>
<td>25.0%</td>
</tr>
<tr>
<td>Triathlon</td>
<td>24.0%</td>
</tr>
<tr>
<td>Tennis</td>
<td>20.0%</td>
</tr>
<tr>
<td>Basketball</td>
<td>20.0%</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>19.0%</td>
</tr>
</tbody>
</table>

Famous sponsors in eSports in Germany (Survey, 2017)

- **Red Bull**: 38.0%
- **Coca-Cola**: 24.0%
- **Monster Energy Drink**: 24.0%
- **Sony**: 23.0%
- **Microsoft**: 22.0%
- **Nintendo**: 21.0%
- **Intel**: 19.0%
- **Logitech**: 19.0%
- **NVIDIA**: 18.0%
- **Twitch**: 18.0%

- While sports such as boxing or swimming, will lose importance, gaming and especially eSports are regarded as compelling sponsorship opportunities in the future.
- 49% of advertising executives said that eSports will become more relevant and gain importance.
- This development can be traced back to the immense reach of eSports via the internet, as well as the establishment of professional structures.
- Soccer will continue to play a major role in sponsorship, however the market will likely be saturated in the near future.
- Sponsorship in eSports is slowly encompassing non-endemic companies like Red Bull, Coca-Cola or Wüstenrot.
- However, the most diligent brands in sponsoring eSports are still tightly connected to the gaming or IT industry.
- Wüstenrot Bausparkasse sponsored the “ESL-Frühlingsmeisterschaft”, in order to increase visibility of their own brand to millennials.
- Intel finalized a partnership with the ESL in June 2017. From now on, every computer used for eSports will be equipped with Intel devices.
- Currently, the return on investment in sponsoring eSports is very attractive, because of the large coverage and relatively low prices.

**Key Fact:** Non-gaming or IT related companies are becoming aware of the benefits to sponsoring eSports.
TECHNOLOGICAL ADVANCES MAKE GAMING HARDWARE A CONSTANT REVENUE DRIVER
HARDWARE REVENUES FORECAST TO REMAIN CONSTANT UNTIL AT LEAST 2020

Hardware is a revenue driver due to short product life cycles

- Hardware are the physical components of a computer, such as graphic cards or data storage devices.
- Since a PC is more versatile, its gaming hardware revenue is constantly two to three times as high as console gaming hardware. Also, it is possible to renew just parts, like a graphics card or a keyboard, from a personal computer. Consequently it is not necessary to buy a whole new PC every couple of years as is the case with gaming consoles.
- Console gaming hardware is usually replaced every 5 – 7 years on average. That is the time when the old technology becomes obsolete and new technology is readily available. Since it is not possible to replace just parts of a console, the user has to buy a completely new machine in order to continue enjoying a high level gaming experience. As a result, there are extensive fluctuations in the revenues generated with gaming consoles during the years.
- As anticipated, the largest hardware companies for gaming consoles are all headquartered either in the United States or in East Asia. Those are Sony with its PlayStation and Nintendo with its Wii in Japan and Microsoft with the Xbox in the United States. However, regarding general gaming hardware the market is not that one-sided. For example, Logitech from Switzerland plays a major part in selling peripheral devices to gamers.

Key Fact: Revenue generated for PC gaming hardware is twice as high as console gaming hardware since 2013.

Computerbild, Fraunhofer-Institut für Offene Kommunikationssysteme, Merriam-Webster, Statista
GERMANY IS HOME TO A DIVERSE FIELD OF HARDWARE PRODUCERS

Sales figures gaming consoles in Germany (k units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Nintendo Wii U</th>
<th>Sony PlayStation 4</th>
<th>Microsoft Xbox One</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>144.0</td>
<td>278.0</td>
<td>117.0</td>
</tr>
<tr>
<td>2014</td>
<td>235.0</td>
<td>1,100.0</td>
<td>191.0</td>
</tr>
<tr>
<td>2015</td>
<td>186.0</td>
<td>1,400.0</td>
<td>270.0</td>
</tr>
<tr>
<td>2016</td>
<td>139.0</td>
<td>1,200.0</td>
<td>269.0</td>
</tr>
</tbody>
</table>

German companies offer highly specialized hardware

- Hardware gaming expenses in Germany differ greatly from games enthusiast to occasional gamer.
- Whereas the occasional gamer prefers not to pay for a game at all and uses Free2Play and Freemium options, the hardcore gamer might spend over EUR 250 in a year on hardware gaming equipment.
- The gaming topic is divided between two extremes. The one extreme faction favors Free2Play and Freemium offers, whose users spend almost no money on games and hardware, whereas the other side annually spends over EUR 250 on entertainment hardware.
- There is a clear picture when it comes to the preferred gaming console in Germany. Sony's PlayStation 4 was sold approximately 3.9 million times from 2013 to 2016, which makes it the most successful console during that time. According to the average lifecycle of a console, within the next 2 – 3 years, Sony will most likely introduce a new console to the world. Thus, sales figures from the PS4 will drop, while the demand for the new PlayStation will increment.
- German gaming hardware companies are highly specialized in several fields. There are various companies involved in high-quality audio and speaker technology like Teufel or Nubert. Another large business area for German companies is general equipment, like peripheral devices or coolers. However, the amount of revenues generated is nowhere near to the numbers from the leading global players.

Key Fact: If gaming hardware is being bought, usually it is a high-quality product with a correspondingly greater price.
Virtual reality conquers the living room

- Virtual reality is a computer-generated simulation that is experienced through a sensor stimuli, for example sights and sounds. Interactions with the artificial environment are made possible through special electronic equipment such as a helmet or gloves.
- The most famous virtual reality systems are the Samsung Gear VR and the Oculus Rift. However, other competitors like HTC or Sony are entering the market as well.
- It is expected that sales of virtual reality glasses will rise sharply until 2021 and expand sevenfold in volume.

Sales figures worldwide of VR headsets (m units, 2016)

<table>
<thead>
<tr>
<th>Headset</th>
<th>Sales 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samsung Gear VR</td>
<td>5.0</td>
</tr>
<tr>
<td>Oculus Rift</td>
<td>3.6</td>
</tr>
<tr>
<td>HTC Vive</td>
<td>2.1</td>
</tr>
<tr>
<td>Sony Morpheus</td>
<td>1.4</td>
</tr>
<tr>
<td>Other</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Usage of augmented reality will increase

- Augmented reality differs from virtual reality in a way, that it “merely” enhances reality and adds virtual objects by the use of technology such as smartphones or tablets.
- A well-known example of augmented reality in action is the game Pokémon GO. With the help of the smartphone camera, the user searches for augmented reality objects in the real world.
- In addition to games, furniture companies like IKEA use augmented reality to develop apps, which let the customer place objects from the catalogue directly into designated places.
- Similar to VR glasses, AR glasses will probably surge in sales. It is anticipated that 123 times more AR glasses will be sold in 2021 than in 2016.

Key Fact: VR and AR are forecast to experience a massive increase in sales volume in future.

Cambridge Dictionary, IGN, Merriam-Webster, Statista, Wired
GERMAN COMPANIES ARE HIGHLY SPECIALIZED IN PRODUCING UNIQUE COMPONENTS FOR HARDWARE

<table>
<thead>
<tr>
<th>Company</th>
<th>Website</th>
<th>Country</th>
<th>Product</th>
<th>Employees</th>
<th>Revenue (m EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alphacool</td>
<td><a href="http://www.alphacool.com">www.alphacool.com</a></td>
<td>DEU</td>
<td>Coolers</td>
<td>n.a.</td>
<td>0.3*</td>
</tr>
<tr>
<td>Aqua Computer GmbH</td>
<td><a href="http://www.aquacomputer.de">www.aquacomputer.de</a></td>
<td>DEU</td>
<td>Coolers</td>
<td>n.a.</td>
<td>1.4*</td>
</tr>
<tr>
<td>ARCTIC GmbH</td>
<td><a href="http://www.arctic.ac">www.arctic.ac</a></td>
<td>DEU</td>
<td>Coolers</td>
<td>n.a.</td>
<td>16.2*</td>
</tr>
<tr>
<td>AVM</td>
<td><a href="http://www.avm.de">www.avm.de</a></td>
<td>DEU</td>
<td>Wlan devices</td>
<td>660</td>
<td>440.0</td>
</tr>
<tr>
<td>beyerdynamic</td>
<td><a href="http://www.beyerdynamic.de">www.beyerdynamic.de</a></td>
<td>DEU</td>
<td>Audio devices</td>
<td>336</td>
<td>46.3</td>
</tr>
<tr>
<td>Blacknoise</td>
<td><a href="http://www.blacknoise.com">www.blacknoise.com</a></td>
<td>DEU</td>
<td>Fans</td>
<td>n.a.</td>
<td>2.5*</td>
</tr>
<tr>
<td>Cherry GmbH</td>
<td><a href="http://www.cherry.de">www.cherry.de</a></td>
<td>DEU</td>
<td>Computer peripherals</td>
<td>380</td>
<td>76.0</td>
</tr>
<tr>
<td>Cougar</td>
<td><a href="http://www.cougargaming.com">www.cougargaming.com</a></td>
<td>DEU</td>
<td>Computer peripherals</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>devolo AG</td>
<td><a href="http://www.devo.lo.de">www.devo.lo.de</a></td>
<td>DEU</td>
<td>Wlan devices</td>
<td>212</td>
<td>131.0</td>
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<tr>
<td>EKL AG</td>
<td><a href="http://www.ekl-ag.de">www.ekl-ag.de</a></td>
<td>DEU</td>
<td>Fans</td>
<td>30</td>
<td>12.4*</td>
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<tr>
<td>Intenso GmbH</td>
<td><a href="http://www.intenso.de">www.intenso.de</a></td>
<td>DEU</td>
<td>Hard drives</td>
<td>75</td>
<td>142.6</td>
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<tr>
<td>Jöllenbeck GmbH</td>
<td><a href="http://www.speedlink.com">www.speedlink.com</a></td>
<td>DEU</td>
<td>Computer peripherals</td>
<td>223</td>
<td>52.8</td>
</tr>
<tr>
<td>Lautsprecher Teufel</td>
<td><a href="http://www.teufel.de">www.teufel.de</a></td>
<td>DEU</td>
<td>Speakers</td>
<td>177</td>
<td>95.5</td>
</tr>
<tr>
<td>Listan GmbH</td>
<td><a href="http://www.listan.com">www.listan.com</a></td>
<td>DEU</td>
<td>Coolers</td>
<td>45</td>
<td>67.1*</td>
</tr>
<tr>
<td>Nubert electronic</td>
<td><a href="http://www.nubert.de">www.nubert.de</a></td>
<td>DEU</td>
<td>Speakers</td>
<td>72</td>
<td>18.0*</td>
</tr>
<tr>
<td>PC-Cooling GmbH</td>
<td><a href="http://www.nanoxia-world.com">www.nanoxia-world.com</a></td>
<td>DEU</td>
<td>Computer peripherals</td>
<td>12</td>
<td>4.5*</td>
</tr>
<tr>
<td>Roccat GmbH</td>
<td><a href="http://www.roccat.org">www.roccat.org</a></td>
<td>DEU</td>
<td>Computer peripherals</td>
<td>50</td>
<td>16.1*</td>
</tr>
<tr>
<td>Sennheiser electronic</td>
<td><a href="http://www.sennheiser.com">www.sennheiser.com</a></td>
<td>DEU</td>
<td>Audio devices</td>
<td>2,750</td>
<td>682.2</td>
</tr>
<tr>
<td>TREKSTOR GmbH</td>
<td><a href="http://www.trekstor.de">www.trekstor.de</a></td>
<td>DEU</td>
<td>Storage devices</td>
<td>88</td>
<td>43.2</td>
</tr>
<tr>
<td>ultron AG</td>
<td><a href="http://www.terratec.de">www.terratec.de</a></td>
<td>DEU</td>
<td>Powerbanks, speakers</td>
<td>14</td>
<td>6.4*</td>
</tr>
</tbody>
</table>

**Key Fact:** Most of German hardware companies are rather small compared to their US or Asian counterparts.
GLOBAL PC GAMING SOFTWARE REVENUES REACH A CAGR OF 8.8%
GAMING SOFTWARE SALES WILL DETERIORATE AS F2P AND IN-GAME PURCHASES WILL BECOME MORE POPULAR

Gaming software undergoes transformation

- Software contains a whole set of procedures, programs and related documentation linked with a system, notably a computer system or computer program.
- Regarding the gaming industry, software in essence means game software.
- Bestselling titles worldwide include games like Pokémon (12 million copies sold worldwide), FIFA (10 million copies sold worldwide) and Uncharted (8.4 million copies sold worldwide). These sales figures already show the vast variety in game genres. Not included in this list are obviously Free2Play games such as League of Legends or DotA 2.
- Considering the number of active players in League of Legends (approximately 100 million people according to Riot Games), one can only imagine how many people have actually bought that game.
- PC gaming sales revenues are also expected to more or less stagnate after 2018, because of the Free2Play competition, among other reasons. Additionally, playing games on the PC has shifted to playing games on a mobile device, especially in Asia. This development further pushes down sales revenues from PC games.
- The market for PC games is mainly driven by hardcore and casual gamers, who account for approximately 300 million people worldwide. Certainly, quite a few casual gamers will turn into hardcore gamers within a short period of time and increase their spending accordingly.

Key Fact: Global players in the gaming industry are primarily located in Asia and the United States.
F2P ONLINE BROWSER GAMES ARE A SPECIALTY OF GERMAN GAMING SOFTWARE COMPANIES

Sales figures of best-selling games in Germany (in k, 2016)

- FIFA 17 (PS4): 1,336.4
- Pokémon (3DS): 862.8
- Uncharted 4 (PS4): 633.8
- Battlefield 1 (PS4): 607.6
- GTA V (PS4): 449.2
- Farming (PC): 412.3
- Tom Clancy (PS4): 334.0

Revenue of leading gaming firms worldwide (USD bn, 2016)

- Tencent (CHN): 10.2
- Sony (JPN): 7.8
- Activision Blizzard (USA): 6.6
- Microsoft (USA): 6.5
- Apple (USA): 5.9
- EA (USA): 4.6
- NetEase (CHN): 4.2
- Google (USA): 4.1
- Bandai Namco (JPN): 2.0
- Nintendo (JPN): 1.8

German gaming industry fails, due to lack of funding and infrastructure

- Sales figures for PC games in Germany are very similar to those worldwide. Only minor differences are observable.
- Since soccer is national sport in Germany, the soccer simulation FIFA was the best selling game in 2016 in Germany with approximately 1.4 million sold copies.
- Big blockbuster games are not currently being developed because of the lack of funding and appropriate infrastructure in Germany. Whereas other countries, such as Canada, the US, and the UK; are funding gaming endeavors, Germany still lags behind by a large extent.
- German gaming software companies are mainly focused on small games in the highly competitive Free2Play online browser games sector.
- The largest German companies in gaming software are Goodgame Studios, Bigpoint and Innogames. All of them have their headquarters in Hamburg, which is the place to be for online Free2Play browser games.
- There are several clusters detectable when analyzing the German gaming software market. The four biggest regions are Berlin with 169 game developers/ publishers, the Rhine-Ruhr region with 86 game developers/ publishers, Hamburg with 79 game developers/ publishers, and Munich with 68 game developers/ publishers.

Key Fact: German companies can only keep up with the international competition in the F2P online browser gaming sector.
GAMING SOFTWARE REVENUES SHIFT FROM HARDCOPY SALES TO FREE-TO-PLAY/ FREEMIUM IN GERMANY

Games sales revenue in Germany (EUR million)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1,605.0</td>
<td>1,591.0</td>
<td>1,573.0</td>
<td>1,501.0</td>
<td>1,470.0</td>
<td>1,255.0</td>
<td>1,207.0</td>
<td>1,183.0</td>
</tr>
</tbody>
</table>

Total games sales revenue in Germany (EUR million)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1,808.0</td>
<td>1,922.0</td>
<td>1,989.0</td>
<td>1,851.0</td>
<td>1,818.0</td>
<td>1,871.0</td>
<td>1,991.0</td>
<td>2,129.0</td>
</tr>
</tbody>
</table>

- Data includes games for PCs, consoles, and mobile devices such as handhelds and smartphones.
- Not included are subscriptions, premium accounts, and the sale of additional virtual content.
- It is evident that the traditional business model of selling games to the customer is gradually beginning to decline.
- Especially because of the Free2Play and Freemium competition in games, consumers look for alternatives.

- Data includes games for PCs, consoles, and mobile devices such as handhelds and smartphones, as well as revenues from subscriptions, premium accounts, sale of additional virtual content and online fees.
- Whereas sales revenues solely from games are in decline, total sales revenues are starting to accelerate.
- The surge indicates that revenues from subscriptions, premium accounts, additional online content, and online fees are becoming vital to the software companies.

**Key Fact:** Subscriptions, premium accounts and in-game purchases will drive future gaming software revenues.
GERMAN GAMING SOFTWARE COMPANIES MOSTLY OPERATE AS GAME DEVELOPERS

<table>
<thead>
<tr>
<th>Company</th>
<th>Website</th>
<th>Country</th>
<th>Product</th>
<th>Employees</th>
<th>Revenue (m EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altigi GmbH</td>
<td><a href="http://www.goodgamestudios.com">www.goodgamestudios.com</a></td>
<td>DEU</td>
<td>Free2Play online games</td>
<td>1244</td>
<td>188.2</td>
</tr>
<tr>
<td>astragon Entertainment GmbH</td>
<td><a href="http://www.astragon.de">www.astragon.de</a></td>
<td>DEU</td>
<td>Simulation games</td>
<td>20</td>
<td>11.0*</td>
</tr>
<tr>
<td>Bigpoint Topco GmbH</td>
<td><a href="http://www.bigpoint.net">www.bigpoint.net</a></td>
<td>DEU</td>
<td>Free2Play online games</td>
<td>487</td>
<td>60.3</td>
</tr>
<tr>
<td>Blue Byte GmbH</td>
<td><a href="http://www.bluebyte.com">www.bluebyte.com</a></td>
<td>DEU</td>
<td>Game development</td>
<td>288</td>
<td>22.8</td>
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<tr>
<td>Chimera Entertainment GmbH</td>
<td><a href="http://www.chimera-entertainment.de">www.chimera-entertainment.de</a></td>
<td>DEU</td>
<td>Game development</td>
<td>35</td>
<td>5.9*</td>
</tr>
<tr>
<td>CipSoft GmbH</td>
<td><a href="http://www.cipsoft.com">www.cipsoft.com</a></td>
<td>DEU</td>
<td>Game development</td>
<td>84</td>
<td>8.5*</td>
</tr>
<tr>
<td>Crytek GmbH</td>
<td><a href="http://www.crytek.com">www.crytek.com</a></td>
<td>DEU</td>
<td>Software development, games</td>
<td>321</td>
<td>26.1</td>
</tr>
<tr>
<td>DAEDALIC Entertainment GmbH</td>
<td><a href="http://www.deadalic.de">www.deadalic.de</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>81</td>
<td>4.5</td>
</tr>
<tr>
<td>Deck 13 Interactive GmbH</td>
<td><a href="http://www.deck13.de">www.deck13.de</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>40</td>
<td>1.1*</td>
</tr>
<tr>
<td>flaregames GmbH</td>
<td><a href="http://www.flaregames.com">www.flaregames.com</a></td>
<td>DEU</td>
<td>Mobile game publisher</td>
<td>91</td>
<td>11.4</td>
</tr>
<tr>
<td>GameDuell GmbH</td>
<td><a href="http://www.gameduell.de">www.gameduell.de</a></td>
<td>DEU</td>
<td>Multiplayer games</td>
<td>189</td>
<td>18.5</td>
</tr>
<tr>
<td>Gameforge 4D GmbH</td>
<td><a href="http://www.gameforge.com">www.gameforge.com</a></td>
<td>DEU</td>
<td>Free2Play online games</td>
<td>352</td>
<td>83.1</td>
</tr>
<tr>
<td>gamigo AG</td>
<td><a href="http://www.gamigo.com">www.gamigo.com</a></td>
<td>DEU</td>
<td>Free2Play online games</td>
<td>64</td>
<td>8.9</td>
</tr>
<tr>
<td>InnoGames GmbH</td>
<td><a href="http://www.innogames.com">www.innogames.com</a></td>
<td>DEU</td>
<td>Online game development/ publisher</td>
<td>356</td>
<td>103.2</td>
</tr>
<tr>
<td>Kalypso Media Group GmbH</td>
<td><a href="http://www.kalypsomedia.de">www.kalypsomedia.de</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>100</td>
<td>34.3*</td>
</tr>
<tr>
<td>Koch Media GmbH</td>
<td><a href="http://www.dsfishlabs.com">www.dsfishlabs.com</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>203</td>
<td>76.3</td>
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<tr>
<td>Limbic Entertainment GmbH</td>
<td><a href="http://www.limbic-entertainment.de">www.limbic-entertainment.de</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>30</td>
<td>3.7*</td>
</tr>
<tr>
<td>Travian Games GmbH</td>
<td><a href="http://www.traviangames.com">www.traviangames.com</a></td>
<td>DEU</td>
<td>Browser games</td>
<td>178</td>
<td>32.5</td>
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<tr>
<td>upjers GmbH</td>
<td><a href="http://www.upjers.com">www.upjers.com</a></td>
<td>DEU</td>
<td>Free2Play online games</td>
<td>98</td>
<td>11.6*</td>
</tr>
<tr>
<td>Wooga GmbH</td>
<td><a href="http://www.wooga.com">www.wooga.com</a></td>
<td>DEU</td>
<td>Casual free2play games</td>
<td>279</td>
<td>40.9</td>
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<tr>
<td><a href="http://www.handy-games.com">www.handy-games.com</a> GmbH</td>
<td><a href="http://www.handy-games.com">www.handy-games.com</a></td>
<td>DEU</td>
<td>Game development, publisher</td>
<td>55</td>
<td>3.8*</td>
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<td>XYRALITY GmbH</td>
<td><a href="http://www.xyrality.com">www.xyrality.com</a></td>
<td>DEU</td>
<td>Online game development/ publisher</td>
<td>60</td>
<td>3.8*</td>
</tr>
</tbody>
</table>

Key Fact: In Germany, gaming software is being developed by small to medium sized companies.
M&A ACTIVITY IN THE GAMING SECTOR AND PEER GROUP VALUATION
GAMING FIRMS ARE ATTRACTIVE TARGETS BECAUSE OF THEIR AUDIENCE AND STATE-OF-THE-ART TECHNOLOGY

Young audience is a key factor for M&A activity

- Merger and acquisition activities will further be extended and executed in the gaming industry. Gaming companies and endemic businesses represent enticing transaction targets, because of their attractive target audience. Several gaming-related companies recognized the wide reach of eSports and gaming, and therefore already maintain a loyal customer base, which is basically inaccessible by traditional means of advertising and marketing. This customer base embodies a distinctive competitive advantage. Nowadays, because of the fragmentation of audiences, organizations need to look out for modern and creative companies that manage to maintain a customer base of young and high-income viewers, in order to expand their businesses. One way of doing so is to focus on gaming companies.

- Additionally, since applications and services with virtual and augmented reality will become more relevant, companies that are already working with these technologies will become an attractive target for M&A as well. Considering that VR and AR technologies will be the future for many media-related companies such as Netflix or Amazon, pioneering gaming companies in these areas are going to be bought in order to profit from their technological achievements.

- Alongside VR and AR, companies that are pursuing wearable device development, such as smartwatches or activity trackers, will be interesting entities to take over.

- Large-scale M&A endeavors are expected to happen in the social gaming sector because video game industry leaders, such as EA, Pop Cap, and Disney, are missing out on the trend.

Mobile games developer are going to be highly coveted

- As a result of the shift from traditional PC or console games to mobile games, companies that are committed to the development of mobile games will become highly coveted.

- Consequently, mobile games will gain importance in the future, which will in turn lead to the emergence of new mobile game developers and companies.

- In summary, it can be stated that gaming-related companies represent an attractive acquisition target, also for non-endemic companies, due to their young and reliable audience, as well as their tight connection to state-of-the-art technologies.

M&A endeavors are going to rise in Germany

- There are several clusters of gaming companies identifiable in Europe. Those are the United Kingdom, Scandinavia, Germany and France.

- With the exception of Ubisoft (FRA), Europe’s gaming-related businesses are rather small in size compared to those in Asia and North America. As a consequence, the European entities are often targets of M&A activities of the global players from abroad.

- As previously mentioned, German gaming companies primarily focus on developing mobile and browser games. Since it is expected that mobile games will gain importance in the future, these companies will come into the focus of larger corporations because of their competencies in the mobile gaming sector. Hence, more deals with German firms are anticipated.
TRANSACTION MULTIPLES IN THE HARDWARE SECTOR SHOW A VALUATION VARIANCE OF 6.6X EBITDA WORLDWIDE

<table>
<thead>
<tr>
<th>Date</th>
<th>Target</th>
<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Communication</td>
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<td>8.8</td>
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<td>Baring Private Equity</td>
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<td>Regenersis Plc</td>
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<td>5.7</td>
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Average: 2.0  6.6  13.1  
Median: 1.6  6.6  14.1
**TRANSACTION MULTIPLES IN THE HARDWARE SECTOR SHOW A VALUATION VARIANCE OF 2.0X REVENUE IN EUROPE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Target</th>
<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
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<td>Processor solutions</td>
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<td>ZetaDisplay AB</td>
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<td>1.3</td>
<td>9.7</td>
<td>16.5</td>
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Average: 2.0, 13.9, 26.7
Median: 2.0, 12.6, 16.5
TRANSACTION MULTIPLES IN THE HARDWARE SECTOR SHOW A VALUATION VARIANCE OF 25.0X EBITDA IN GERMANY

<table>
<thead>
<tr>
<th>Date</th>
<th>Target</th>
<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
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<tbody>
<tr>
<td>18.08.2017</td>
<td>Nanotron Tech.</td>
<td>DEU</td>
<td>Location platform</td>
<td>Sensera</td>
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<td>n.a.</td>
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<td>Computer tech.</td>
<td>S&amp;T AG</td>
<td>123.7</td>
<td>0.6</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
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<td>Nano technology</td>
<td>ASML Holding</td>
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<td>n.a.</td>
<td>n.a.</td>
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<tr>
<td>06.10.2016</td>
<td>Atotech</td>
<td>DEU</td>
<td>Circuit board</td>
<td>The Carlyle Group</td>
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<td>2.9</td>
<td>11.8</td>
<td>n.a.</td>
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<td>VIA Optronics</td>
<td>DEU</td>
<td>LCD</td>
<td>Integrated Micro</td>
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<td>1.8</td>
<td>26.8</td>
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<td>23.05.2016</td>
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<td>DEU</td>
<td>Semiconductor</td>
<td>Fujian Grand Chip</td>
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<td>2.5</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
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<td>23.11.2015</td>
<td>Wincor Nixdorf AG</td>
<td>DEU</td>
<td>IT solutions</td>
<td>Diebold Nixdorf</td>
<td>1,782.1</td>
<td>0.7</td>
<td>23.4</td>
<td>81.0</td>
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<tr>
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<td>Zentrum Mikroelekt.</td>
<td>DEU</td>
<td>Semiconductor</td>
<td>Integrated Device</td>
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<td>4.6</td>
<td>65.4</td>
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<tr>
<td>02.02.2015</td>
<td>Lantig Deutschland</td>
<td>DEU</td>
<td>Semiconductor</td>
<td>Intel Corporation</td>
<td>358.4</td>
<td>1.5</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
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<td>Data Modul AG</td>
<td>DEU</td>
<td>Flat displays</td>
<td>Arrow Electronics</td>
<td>77.0</td>
<td>0.5</td>
<td>5.8</td>
<td>6.7</td>
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Average | 2.0 | 26.6 | 45.1
Median  | 1.7 | 23.4 | 47.7
TRANSACTION MULTIPLES IN THE SOFTWARE SECTOR SHOW A VALUATION VARIANCE OF 3.8X REVENUE WORLDWIDE

<table>
<thead>
<tr>
<th>Date</th>
<th>Target</th>
<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.09.2017</td>
<td>NYX Gaming Group</td>
<td>USA</td>
<td>Digital gaming</td>
<td>Scientific Games</td>
<td>366.5</td>
<td>3.6</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>20.06.2017</td>
<td>Kongregate Inc.</td>
<td>USA</td>
<td>Online gaming</td>
<td>MTG AG</td>
<td>49.3</td>
<td>1.6</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>22.05.2017</td>
<td>Red Hot Software</td>
<td>CHN</td>
<td>Graphical art assets</td>
<td>Keywords Studios Plc</td>
<td>5.4</td>
<td>1.1</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>13.07.2016</td>
<td>Unity Technologies</td>
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<td>Game engine</td>
<td>China Investment</td>
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<td>14.8</td>
<td>n.a.</td>
<td>n.a.</td>
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<tr>
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<td>VGI</td>
<td>Game marketing</td>
<td>Velox3</td>
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<td>5.4</td>
<td>n.a.</td>
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<td>CHN</td>
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<td>1.3</td>
<td>n.a.</td>
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<td>Game services</td>
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<td>n.a.</td>
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<td>Stride Gaming</td>
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<td>HKG</td>
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<td>Whole Easy Internet</td>
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Average  
Median
TRANSACTION MULTIPLES IN THE SOFTWARE SECTOR SHOW A VALUATION VARIANCE OF 10.3X EBITDA IN EUROPE

<table>
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<tr>
<th>Date</th>
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<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
</tr>
</thead>
<tbody>
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<td>Gaming software</td>
<td>Boussard &amp; G.</td>
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<td>10.6</td>
<td>12.5</td>
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<td>MLT</td>
<td>Online casino</td>
<td>GiG Media</td>
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<td>3.8</td>
<td>11.9</td>
<td>4.3</td>
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<td>The Football Pools</td>
<td>GBR</td>
<td>Sport entertainment</td>
<td>OpCapita</td>
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<td>2.9</td>
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<td>6.8</td>
</tr>
<tr>
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<td>MLT</td>
<td>Online gaming</td>
<td>Cherry AB</td>
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<td>Gaming software</td>
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<td>ITA</td>
<td>Online betting</td>
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<td>5.5</td>
<td>14.0</td>
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<td>24.05.2016</td>
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<td>Online gaming</td>
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<td>Online gaming</td>
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<table>
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<tr>
<th></th>
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<th>Median</th>
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<td>3.6</td>
<td>3.6</td>
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<tr>
<td>Revenue</td>
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<tr>
<td>EBITDA</td>
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</table>
TRANSACTION MULTIPLES IN THE SOFTWARE SECTOR SHOW A VALUATION VARIANCE OF 2.4X REVENUE IN GERMANY

<table>
<thead>
<tr>
<th>Date</th>
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<th>Country</th>
<th>Description</th>
<th>Acquirer</th>
<th>Deal value (m€)</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
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<td>DEU</td>
<td>Entertainment prod.</td>
<td>Studhalter/ Highlight</td>
<td>262.1</td>
<td>0.5</td>
<td>1.2</td>
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<td>Lovoo GmbH</td>
<td>DEU</td>
<td>Online network</td>
<td>The Meet Group</td>
<td>58.5</td>
<td>2.1</td>
<td>n.a.</td>
<td>n.a.</td>
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<td>DEU</td>
<td>Online casino</td>
<td>Spielekiste.de</td>
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<td>n.a.</td>
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<td>DEU</td>
<td>Online games</td>
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<td>2.0</td>
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<td>12.5</td>
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<td>DEU</td>
<td>Online betting</td>
<td>Betsson AG</td>
<td>34.0</td>
<td>3.7</td>
<td>n.a.</td>
<td>10.1</td>
</tr>
<tr>
<td>16.08.2016</td>
<td>European Games</td>
<td>DEU</td>
<td>Online games</td>
<td>Ventechn</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>30.05.2016</td>
<td>Aeria Games GmbH</td>
<td>DEU</td>
<td>Online games</td>
<td>gamigo AG</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>22.03.2016</td>
<td>Bigpoint GmbH</td>
<td>DEU</td>
<td>Online games</td>
<td>YOUSU GmbH</td>
<td>80.0</td>
<td>1.3</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>01.07.2015</td>
<td>Turtle Entertainment</td>
<td>DEU</td>
<td>Online games</td>
<td>MTG AB</td>
<td>79.1</td>
<td>6.7</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>25.04.2015</td>
<td>OnlineWelten GmbH</td>
<td>DEU</td>
<td>Online games</td>
<td>Webedia SAS</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Average          2.7       5.6       9.7
Median           2.1       5.6       10.1
## COMPARABLE PUBLIC COMPANIES IN THE GAMING SECTOR SHOW A VALUATION VARIANCE AROUND 7.7X REVENUES

<table>
<thead>
<tr>
<th>Company</th>
<th>Currency</th>
<th>MarketCap (in m)</th>
<th>Net Debt (in m)</th>
<th>EV (in m)</th>
<th>Revenue (in m)</th>
<th>EBIT (in m)</th>
<th>EBIT-Margin</th>
<th>EBITDA (in m)</th>
<th>EBITDA-Margin</th>
<th>P/ E Ratio</th>
<th>EV/ Revenue</th>
<th>EV/ EBITDA</th>
<th>EV/ EBIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activision Blizzard</td>
<td>USD</td>
<td>49,568.0</td>
<td>4,298.0</td>
<td>53,866.0</td>
<td>6,608.0</td>
<td>1,412.0</td>
<td>21%</td>
<td>2,241.0</td>
<td>34%</td>
<td>51.4</td>
<td>8.2</td>
<td>24.0</td>
<td>38.1</td>
</tr>
<tr>
<td>EA</td>
<td>USD</td>
<td>33,594.9</td>
<td>1,093.0</td>
<td>34,687.9</td>
<td>4,845.0</td>
<td>1,224.0</td>
<td>25%</td>
<td>1,396.0</td>
<td>29%</td>
<td>34.7</td>
<td>7.2</td>
<td>24.8</td>
<td>28.3</td>
</tr>
<tr>
<td>Logitech</td>
<td>USD</td>
<td>5,421.9</td>
<td>95.1</td>
<td>5,517.0</td>
<td>2,221.4</td>
<td>211.9</td>
<td>10%</td>
<td>262.4</td>
<td>12%</td>
<td>28.1</td>
<td>2.5</td>
<td>21.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Microsoft</td>
<td>USD</td>
<td>646,470.0</td>
<td>35.7</td>
<td>646,505.7</td>
<td>89,950.0</td>
<td>22,326.0</td>
<td>25%</td>
<td>31,104.0</td>
<td>35%</td>
<td>30.9</td>
<td>7.2</td>
<td>20.8</td>
<td>29.0</td>
</tr>
<tr>
<td>Nintendo</td>
<td>Yen</td>
<td>6,669,823.6</td>
<td>-444,758.0</td>
<td>6,225,065.6</td>
<td>489,095.0</td>
<td>29,362.0</td>
<td>6%</td>
<td>37,728.0</td>
<td>8%</td>
<td>55.1</td>
<td>12.7</td>
<td>165.0*</td>
<td>212.0*</td>
</tr>
<tr>
<td>Sony</td>
<td>Yen</td>
<td>6,728,984.0</td>
<td>13,552,934.0</td>
<td>20,281,918.0</td>
<td>7,603,250.0</td>
<td>288,702.0</td>
<td>4%</td>
<td>615,750.0</td>
<td>8%</td>
<td>45.4</td>
<td>2.7</td>
<td>32.9</td>
<td>70.3</td>
</tr>
<tr>
<td>Take-Two Interactive</td>
<td>USD</td>
<td>13,433.9</td>
<td>1,202.0</td>
<td>14,636.0</td>
<td>1,779.0</td>
<td>91.3</td>
<td>5%</td>
<td>122.0</td>
<td>7%</td>
<td>163.6</td>
<td>8.2</td>
<td>120.0*</td>
<td>160.3*</td>
</tr>
<tr>
<td>Tencent</td>
<td>RMB</td>
<td>3,382,902.1</td>
<td>137,750.0</td>
<td>3,520,652.1</td>
<td>151,938.0</td>
<td>56,117.0</td>
<td>37%</td>
<td>66,863.0</td>
<td>44%</td>
<td>321.0</td>
<td>23.2</td>
<td>52.7</td>
<td>62.7</td>
</tr>
<tr>
<td>Ubisoft</td>
<td>EUR</td>
<td>7,863.7</td>
<td>595.5</td>
<td>8,459.2</td>
<td>1,459.9</td>
<td>175.8</td>
<td>12%</td>
<td>652.4</td>
<td>45%</td>
<td>75.6</td>
<td>5.8</td>
<td>13.0</td>
<td>48.1</td>
</tr>
<tr>
<td>Zynga</td>
<td>USD</td>
<td>3,665.4</td>
<td>-527.3</td>
<td>3,138.2</td>
<td>741.4</td>
<td>-114.2</td>
<td>-15%</td>
<td>-72.4</td>
<td>-10%</td>
<td>n.a.</td>
<td>4.2</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Average**  
- **EV/ Revenue**: 8.2  
- **EV/ EBITDA**: 27.0  
- **EV/ EBIT**: 43.2  

**Median**  
- **EV/ Revenue**: 7.2  
- **EV/ EBITDA**: 24.0  
- **EV/ EBIT**: 38.1  

*boerse.ARD.de, Company Homepages, Reuters, The Wall Street Journal, *excluded from average and median*
VALUATION SUMMARY OF PUBLIC LISTED COMPARABLE COMPANIES SHOWS A VALUATION VARIANCE OF 27.7X EBITDA

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Revenue</th>
<th>EBITDA</th>
<th>EBIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SONY</td>
<td>2.7x</td>
<td>32.9</td>
<td>70.3</td>
</tr>
<tr>
<td>Tier 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tencent</td>
<td>23.2</td>
<td>52.7</td>
<td>62.7</td>
</tr>
<tr>
<td>Microsoft</td>
<td>7.5</td>
<td>20.8</td>
<td>29.0</td>
</tr>
<tr>
<td>logitech</td>
<td>2.5</td>
<td>21.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Tier 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tencent</td>
<td>5.8</td>
<td>13.0</td>
<td>48.1</td>
</tr>
<tr>
<td>Ubisoft</td>
<td>7.2</td>
<td>24.8</td>
<td>28.3</td>
</tr>
<tr>
<td>EA</td>
<td>8.2</td>
<td>24.0</td>
<td>38.1</td>
</tr>
<tr>
<td>Tier 2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average:
- Revenue: Tier 1 = 4.2x, Tier 2 = 11.1x
- EBITDA: Tier 1 = 28.6x, Tier 2 = 26.8x
- EBIT: Tier 2 = 44.3x

Company Homepages, Reuters
INTRODUCTION TO CLAIRFIELD INTERNATIONAL
Clairfield International is the leading M&A advisor for crossborder midmarket transactions.

**WHO WE ARE**

- Founded in 2004
- 400 professionals
- Industry access in 7 strategic sectors
- Crossborder M&A: some 80% of our work
- Midmarket focus
- Additional expertise in equity & debt advisory
- Senior level attention
- Holistic and life cycle advisory approach
- Understanding of local cultures
WHAT WE DO

We provide top-notch advice to family businesses, multinational corporations and financial investors on mergers, acquisitions, and sales as well as additional corporate finance services.

Mergers & Acquisitions
- Design, initiation, and execution of international and domestic acquisition opportunities
- International and domestic management and execution of buy- and sell-side mandates
- Advisory on mergers and joint ventures

Strategic advisory
- Financial restructuring advisory services
- Valuations and fairness opinions
- Regulated industry advisory
- Employee stock options plans

Capital markets advisory
- Equity advisory: strategic investor relations, new issue advisory (IPO, capital raising)
- Debt advisory: financial structuring and capital raising

Family business advisory
- Succession planning
- Handing over the company within or outside the family
- Valuation
- Strategic positioning
- Corporate governance
- Family code
OUR LOCATIONS

23 COUNTRIES WHERE CLAIRFIELD IS PRESENT

400+ PROFESSIONALS

35+ OFFICES

WORLDWIDE PRESENCE

Brisbane

New York

Washington

Miami

Atlanta

Mexico City

Santiago de Chile

Curitiba

Rio de Janeiro

Sao Paulo

Mumbai

Shanghai

Beijing

Shenzen

Hong Kong

Beijing

Sao Paulo

Rio de Janeiro

Curitiba

New York

Washington

Miami

Atlanta

Mexico City

Santiago de Chile

Shanghai

Hong Kong

Beijing
OUR LOCATIONS IN EUROPE

- Amsterdam
- Antwerp
- Barcelona
- Birmingham
- Brussels
- Budapest
- Copenhagen
- Düsseldorf
- Frankfurt
- Geneva
- Helsinki
- Istanbul
- London
- Lyon
- Madrid
- Marseille
- Milan
- Moscow
- Nantes
- Oslo
- Paris
- Stockholm
- Stuttgart
- Tel Aviv
- Valencia
- Vienna
- Warsaw

26 OFFICES
OUR TRACK RECORD

Ranked among the Top 10 independent corporate finance firms in Europe

Ranked among the Top 20 independent corporate finance firms worldwide

Midmarket Deal values between USD 10 and 500 million

120+ closed transactions per year

Cross-border M&A some 80% of our work

Close to USD 20 bn in cumulative deal value since 2014

Independence
We own our business and act as entrepreneurs, free of the conflicts often found in large multi-product firms.

Confidentiality
Trust and integrity are essential values for our advisory services. Data and information are treated with the utmost discretion.

Sector expertise
The long experience of our partners in diverse industries in combination with our well-connected industry experts enable our clients to open up new possibilities.

Seniority
Senior involvement throughout all phases of a transaction is the single most important hallmark of our execution style and commitment to quality.

Clairfield International maintains top position in the Thomson Reuters financial advisor rankings

Thomson Reuters League tables 2017; announced Mid-Market M&A deals valued up to USD 500m excluding audit firms
INDUSTRY ACCESS IN 7 STRATEGIC SECTORS

BUSINESS SERVICES
- Business services
- Distribution
- Logistics
- Industrial services
- Education
- Staffing
- Engineering

CONSUMER & RETAIL
- Consumer goods
- Multichannel retail
- Real estate
- Furniture
- Food & beverage
- Food services
- Agribusiness
- Fashion
- Luxury goods

ENERGY, CLEANTECH, RESOURCES
- Metals & mining
- Oil & gas
- Renewable energy
- Power
- Coal & fuels
- Oilfield services

HEALTHCARE
- Medical devices
- Medical supplies
- Pharma & biotech
- Animal health
- Lab services & equipment
- Hospitals, clinics, and residential care

FINANCIAL INSTITUTIONS
- Financial services
- Debt collection
- Asset management
- Family offices
- Insurance
- Private equity

TECHNOLOGY, MEDIA & TELEKOM
- Digital & traditional media
- IT services
- IT consulting
- Hardware, software & equipment
- E-commerce

INDUSTRIALS
- Automotive
- Building materials
- Wood processing
- Testing & measuring
- Machinery
- Chemicals
- Aerospace
THE GLOBAL TMT TEAM

20 senior partners leading a global TMT practice of 75 professionals worldwide executing more than 100 TMT transactions in the past

Subsectors of expertise
Clairfield’s TMT team is led by Bertrand Hermez of Clairfield France and Piotr Kolodziejczyk of Clairfield Poland. It offers particular expertise in the following areas:

- Software development
- Telecommunications
- Media
- Hardware manufacturers/distributors
- FinTech
- IT services
- Infrastructure, internet service providers
- Internet, B2B, B2C
- Internet of things
- Security

Austria
- Berend Yntema
Australia
- Sharon Doyle
Belgium
- Hans Buysse
Brazil
- Rodrigo Pasin
China
- Yufang Guo
Denmark
- Soren Brix
Finland
- Juha Raunio
France
- Bertrand Hermez
Germany
- Dirk Middelhoff
India
- Ajit Deshmukh
Italy
- Giuseppe R. Grasso
Israel
- Joseph Sabet
Mexico
- Pablo Coballasi
The Netherlands
- Onno Vos
Norway
- Jarle Mork
Poland
- Piotr Kolodziejczyk
Spain
- Brian O’Hare
Sweden
- Gunnar Brundin
UK
- Shah Zaki
US
- Crosby O’Hare
KEY BIOGRAPHIES (1/6)

Berend Yntema (Austria)

Berend Yntema is a corporate finance specialist and has over 20 years of experience in M&A, strategic and crossborder acquisitions, capital raisings, and restructurings with a focus on Western and Eastern Europe. He has held various senior management and managing director positions in corporate finance and M&A advisory firms. He worked as a director at Investment Fund Sector Capital in Moscow and later as director for Poland at the European Privatization & Investment Corporation (EPIC). As one of the founders of COM Partners, he specialized in midmarket M&A advisory in the dynamic tech sector. Berend was born in the Netherlands and holds a degree in economics with a focus on finance from the University of Groningen.

E-mail: yntema@at.clairfield.com

Sharon Doyle (Australia)

Sharon Doyle leads Clairfield Australia’s mergers and acquisition practice. Sharon has managed capital raising, merger, sale and acquisition processes across various industries, for public and private companies, including the distillation of key business drivers, management of commercial assessment processes, development of disclosure documentation and management of stakeholder interactions, negotiations and pricing. Sharon has successfully closed many transactions in TMT including the sales of Technisyst to Kestral Capital, Q Mastor to Triple Point Technology, and Eden Technology to Siemens.

E-mail: sdoyle@clairfield.com

Hans Buysse (Belgium)

Hans Buysse has more than 20 years of banking and corporate finance experience. His expertise includes buyside and sellside assignments, as well as MBOs and IBOs in the energy & utilities, telecom, real estate, and infrastructure sectors. He has extensive experience in structured finance, financial restructuring, strategic advisory, valuations and PPP and has been involved in most significant Belgian PPP deals. He began his career at KU Leuven and moved to Generale Bank in 1992. He co-founded the corporate finance division at Deloitte & Touche Belgium in 1997. Hans was a partner in corporate finance for KPMG until 2007. Most recently, he was head of M&A for Belgium at NIBC Bank. Hans is the vice-chairman of the Belgian Association of Financial Analysts as well as serving on other boards. He holds a masters degree in applied economics, a masters degree in management, and a degree in tax. He is a certified European Financial Analyst (FSA accredited).

E-mail: hbuysse@be.clairfield.com
Rodrigo Pasin (Brazil)
Rodrigo Pasin is a partner and founder of Clairfield International in Brazil. Rodrigo has 15 years of experience in M&A transactions, having participated in 32 operations over the last ten years. He is author of the seminal work on the valuation of firms distributed nationally in Brazil: Valuation of Firms: A Guide for Mergers & Acquisitions and Value Management (2004); co-author of Valuation of Firms: A Guide for Mergers & Acquisitions and Private Equity (2010), and Mergers & Acquisitions: Partnership Reorganization and Due Diligence (GVlaw Series, 2012). He was formerly employed at KPMG and Unibanco and is currently a professor of finance at FIA – Fundação Instituto de Administração and at GVlaw. He has an M.A. in business administration with a specialization in finance (FEA/Universidade de São Paulo – Ribeirão Preto).
E-mail: rpasin@clairfield.com

Søren Brix (Denmark)
Søren Brix, a partner at Clairfield Denmark, has a special focus on M&A for Danish and foreign clients in the technology sector. He was previously employed at Deloitte Corporate Finance and IMF Group. He holds an Cand.merc.jur. from Aarhus University.
E-mail: sbrix@clairfield.com

Juha Raunio (Finland)
Juha Raunio joined Clairfield Finland in 1998. He has wide experience of M&A projects, as well as fundraising for both early-stage growth companies and venture-capital funds. Over the past 15 years Juha has become a specialist in the TMT sector. Juha has served as a board member at NetHawk (network testing and measurement tools), Green Stream Network (emission allowances broker), and PCA Infocom Finance (IT investment firm). Prior to joining Clairfield Finland, Juha worked for IVO International (now ÅF-Enprima). Juha holds a M.Sc. (Econ.) degree from the Aalto University School of Business in Helsinki.
E-mail: jraunio@clairfield.com
KEY BIOGRAPHIES (3/6)

**Bertrand Hermez (France)**

Bertrand Hermez has more than 24 years of M&A and investment banking services experience. He began his career as an associate at Credit National (Natixis) in charge of structured financing and also served as director at Deloitte and Apax Partners (technology group). Prior to joining Clairfield France, Bertrand was a managing director - corporate finance at Quilvest Bank in Paris. Bertrand graduated from EM Lyon, and from the Institute of Chartered Accountants (England & Wales), and is a SFAF Member. Bertrand has advised many TMT transactions including the sales of Weezevent to Vente Privée, Prylos to Doro AB, ADB Airfield to PAI Partners, and Omnikes to Oodrive, as well as the acquisition of NSpyre by Altran.

E-mail: bhermez@clairfield.com

**Dirk Middelhoff (Germany)**

Dirk Middelhoff holds a degree in Business Law (LL.B) with a focus on corporate finance and more than 10 years experience in corporate finance, business development and strategy. Until 2008, Dirk Middelhoff worked for the listed EMC Corporation, headquartered in Boston, one of the 25 largest IT companies in the Fortune 500. There he led national and international projects such as, Vodafone, Deutsche Bank, Metro etc.. At last head of strategic alliances and mergers & acquisitions. After 2008 Dirk Middelhoff worked as Director for a medium-sized M&A consultancy firm with focus on technology companies. Numerous publications on topics of accounting, valuation and financing. Dirk Middelhoff is member of various advisory and supervisory boards in technology companies.

E-mail: middelhoff@de.clairfield.com

**Giuseppe R. Grasso (Italy)**

Giuseppe R. Grasso is founder and president of Clairfield Italy. He is a specialist in business law and is widely experienced in tax and accounting consultancy, financial analysis, budgeting, reporting and control, company evaluation, M&A advisory, and financial planning for SMEs and corporate groups both in Italy and abroad. Giuseppe is the president of KF Economics, a company controlled by Clairfield Italy, focused on the production of econometric models for financial analysis and on the strengthening of rating-based marketing skills. He holds a degree in economics from Parma University and is also a certified public accountant.

E-mail: grgrasso@clairfield.com
Joseph Sabet (Israel)
Joseph Sabet is founder and partner of Clairfield Israel. He previously served as partner at Catalyst Investments, an Israeli-European venture fund where he served on the boards of MTI Wireless (AIM:MWE) and Surf Communication Solutions. During his tenure, Joseph was responsible for most of the firm’s investments and grew the portfolio until a series of successful exits, including the sale of PowerDsine to Microsemi Corporation, Scopus Networks to Harmonic, and the sale of OREX CR to Kodak. He holds a BA in international relations from Boston University and an MBA from Pace University, New York.
E-mail: jsabet@clairfield.com

Pablo Coballasi (Mexico)
Pablo Coballasi is a managing director at Clairfield Mexico. Over the last 20 years Pablo has worked as a private equity investor, investment banker, and consultant in the United States and Latin America. Since 2005, Pablo has helped build Clairfield Mexico into one of Mexico’s leading middle-market investment banking practices. As head of the firm’s investment banking practice, Pablo has sourced and executed buy-side and sell-side mandates ranging in size from USD 10 million to USD 600 million for leading private-equity firms, corporations, and families. Before Clairfield Mexico, Pablo served as vice president of FondElec Capital Advisors in New York, one of Latin America’s first private equity firms, where he helped managed a PE portfolio of over USD 600 million of mainly telecom and energy investments in Brazil, Mexico, and the United States. Pablo holds a degree in mechanical engineering from Vanderbilt University and an MBA from Northwestern’s Kellogg School of Management.
E-mail: pcoballasi@clairfield.com

Onno Vos (Netherlands)
Onno Vos is a seasoned M&A advisor with a strong, international entrepreneurial background and over 20 years of experience. He has been involved in a wide range of successful deals, varying in scope and ranging throughout multiple industries. His entrepreneurial background comes with strong leadership, a pragmatic approach, hands-on managerial experience and a clear understanding of customers’ businesses. He was involved in a number of TMT transactions and investments including internet software, digital marketing, e-commerce propositions, disruptive technology solutions and software development.
E-mail: ovos@clairfield.com
Jarle Mork (Norway)
Jarle Mork is a founding partner of Clairfield Norway. He has considerable industrial experience including as vice president of international sales of Scala Inc. and head of logistics at Commodore Scandinavia. He has also served on a number of boards. Jarle has assisted clients in many crossborder acquisitions, international trade-sales, and equity issues. He holds a bachelor of science in business administration from University of Colorado at Boulder. Recent TMT transactions closed by Jarle include ABAX’s acquisition of FrontTek, the sale of House of Control to Viking Venture, and the sale of CRM Insight to Okonomi Bistand.
E-mail: jmork@clairfield.com

Piotr Kolodziejczyk (Poland)
Piotr Kolodziejczyk has been at Clairfield Poland since 1999. He specializes in transaction advisory as a leader of the technology, media & telecommunications group. He has completed over 50 consulting and transaction TMT projects for corporations such as France Telecom, Deutsche Telecom, UTC, Cisco, Comcast, and GTS. Piotr graduated from the University of Gdansk. He is a former member of the BASP Program at the William Davidson Institute of the Michigan Business School.
E-mail: pkolodziejczyk@clairfield.com

Brian O’Hare (Spain)
Brian O’Hare is a founding partner of Clairfield Spain and Clairfield International, and serves as chairman of Clairfield International. He has advised transactions in real estate, healthcare, business services, financial institutions, and transportation, among other sectors. Brian appears regularly on television and radio, and publishes business comments for leading financial periodicals. Brian is active in the American Society of Barcelona, where he was president from 1995 to 1999, and the American Chamber of Commerce in Spain, where he is currently 1st vice president. He is a member in good standing of the Institute of Venture Capital in Spain. Brian earned an MBA from IESE, Barcelona, Spain.
E-mail: bohare@es.clairfield.com
KEY BIOGRAPHIES (6/ 6)

Gunnar Brundin (Sweden)
Gunnar Brundin has more than 25 years of experience at Investor AB, Carnegie and Kaupthing Bank. He has held management positions as head of corporate finance at Kaupthing and has significant experience in complex transactions, including crossborder M&A and debt restructurings.
E-mail: gbrundin@clairfield.com

Shah Zaki (UK)
Shah Zaki is a founding partner of Clairfield UK and has over 20 years of corporate finance experience. Shah has advised both public and private companies on a range of transactions including deal structure, strategy, acquisitions, disposals, and fund-raising with many closed transactions in TMT. These include the sales of The Digital Partnership to Martini Media, Flow Communications to Maven Capital, and Intercept to Alternative. Shah trained as a chartered accountant and also spent several years performing business reviews on behalf of banks and advising on corporate restructuring.
E-mail: szak@clairfield.com

Crosby O’Hare (USA)
Crosby O’Hare is one of the founding partners of Clairfield International. He has more than 20 years of M&A advisory and corporate finance experience. Crosby has advised transactions in a number of industries including consumer goods, cement and aggregates, construction products and services, chemicals, business services, IT services and software. Prior to Clairfield, he worked with several mid-market firms in both Italy and the US. He earned an MBA from SDA Bocconi Milan, and is fluent in Italian and Spanish.
E-mail: cohere@clairfield.com
SOFTWARE (1/6)

France
- NGI
  - backed by its management team and
  - was sold to
- MEDICAL IMAGING SOFTWARE

Australia
- IMMERSAVIEW
  - advanced software technologies beyond boundaries
  - was acquired by
  - SOFTWARE

Australia
- charmhealth
  - was sold to
  - E-HEALTH SYSTEMS

UK/US
- Prestige
  - was sold to
  - IT INFRASTRUCTURE

Brazil
- Premier
  - was sold to
  - IT SERVICES

Denmark/UK
- INFARE
  - received an investment from
  - AIRFARE ANALYSIS

Denmark/US
- INFARE
  - acquired
  - AIRFARE ANALYSIS

Finland/UK
- ALMA
  - has acquired online recruitment
  - ONLINE RECRUITMENT ASSETS

Brazil
- SIAGRI
  - acquired
  - MANAGEMENT SYSTEMS

US
- LAKEMASTER
  - was sold to
  - 3D ELECTRONIC LAKE CHARTS

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60
# SOFTWARE (2/6)

## UK
- **Core Gaming**
  - HTML5 gambling software
  - was sold to
- **Sky Betting & Gaming**
  - Cloud-based vendor management software

## UK/India
- **Point to Point**
  - Workplace modernization and virtualization services
  - was sold to
- **HCL**
  - Data analysis and software applications

## Norway
- **Abax**
  - Data collection software
- **Fronttek**
  - Software-as-a-service publisher

## France
- **Global Imaging**
  - Medical imaging software solutions
  - was sold to
- **Vianova Systems**
  - Civil engineering software

## Denmark/Germany
- **KeepFocus**
  - Energy-management systems
  - was sold to
  - KeepFocus Europe GmbH

## Australia
- **IPRO**
  - received an investment from
- **Bailador**
  - Cloud-based vendor management software

## Australia
- **IPH Limited**
  - acquired
  - Practice Insight and Wise Time

## France
- **Blitz Business Service**
  - was sold to
  - Holding Seraip

## Norway
- **Trimatec**
  - Operational costs and liabilities controlling software
  - was sold to
SOFTWARE (3/6)

**France/The Netherlands**
- acquired by [webhelp](#)
- [MediaBeacon](#)
  - acquired by [ESKO](#), a division of [Danaher](#)
- BPO

**US/Belgium**
- [mGage](#)
  - acquired
- [Digital Asset Management and Enterprise Search Solutions](#), [Denmark/Sweden](#)

**India**
- [mGage](#)
  - raised EUR 9.25 million in debt through nonconvertible debentures from [Olympus Capital Asia Credit](#)
- [Mobile CRM (mCRM)](#)

**India/Asia Pacific**
- [Siteimprove](#)
  - raised $55m from [SUMMIT PARTNERS](#)
- [Messaging Aggregator/Mobile CRM](#)

**Denmark/US**
- [Web Governance Software](#)

**Sweden/Denmark**
- [Mantacore](#)
  - was sold to [Keylane](#)
  - ERP solutions
- [TIA](#)
  - has been sold to [EQT](#)
  - Standard Software Systems

**Norway**
- [EcoOnline](#)
  - was sold to [Bisnode](#)
  - Software Solutions

**Sweden**
- [Bisnode](#)
  - sold
  - Customer Relationship Management Solutions

**The Netherlands/US**
- [Constellation Software Inc.](#)
  - acquired
- [NedGraphics](#)
  - from [NEDSENSE](#)
  - CAD CAM Technology

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Strictly private & confidential
## SOFTWARE (4/6)

<table>
<thead>
<tr>
<th>France/Switzerland</th>
<th>France</th>
<th>France</th>
<th>Russia</th>
<th>Poland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GO SHOP</strong></td>
<td><strong>Azur Soft</strong></td>
<td>and founding managers</td>
<td><strong>CapMan</strong></td>
<td></td>
</tr>
<tr>
<td>has acquired from <strong>CMC</strong></td>
<td>has raised new money from <strong>NORD CAPITAL</strong></td>
<td><strong>sold</strong> to <strong>NUMEN</strong></td>
<td>has acquired a stake in a developer of automated control systems for the mining and transport complexes</td>
<td>raised funding offering 49% stake to Private Investors</td>
</tr>
<tr>
<td><strong>TURNKEY SOLUTIONS TO ROLLOUT MOBILE SERVICES</strong></td>
<td><strong>REMOTE MONITORING PLATFORM</strong></td>
<td><strong>ECM &amp; CRM SOLUTIONS</strong></td>
<td><strong>DEVELOPMENT OF AUTOMATED CONTROL SYSTEMS</strong></td>
<td><strong>ADVANCED VOICE BIOMETRICS AND SPEECH RECOGNITION SOLUTIONS</strong></td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td><strong>Russia</strong></td>
<td><strong>US</strong></td>
<td><strong>Denmark/US</strong></td>
<td><strong>Poland</strong></td>
</tr>
<tr>
<td><strong>VTB Capital</strong></td>
<td><strong>ЛАНIT</strong></td>
<td><strong>DEXTER + CHANEY</strong></td>
<td><strong>CORENA</strong></td>
<td><strong>Nordic Insurance Software</strong></td>
</tr>
<tr>
<td>has acquired a stake in <strong>I2BF</strong></td>
<td>has acquired a stake in Sashboard Systems</td>
<td>has been recapitalized by <strong>Pamlico Capital</strong></td>
<td>was sold to <strong>Flatirons Solutions</strong></td>
<td>was sold to <strong>SUMMIT PARTNERS</strong>, <strong>acturis</strong></td>
</tr>
<tr>
<td><strong>AUTOMATED COMMERCIAL ACCOUNTING (AMR) METERS</strong></td>
<td><strong>IT TOOL FOR ENTERPRISE MANAGEMENT</strong></td>
<td><strong>FINANCIAL AND OPERATIONAL MANAGEMENT SOFTWARE FOR CONSTRUCTION CONTRACTORS</strong></td>
<td><strong>PRODUCT SUPPORT SOLUTIONS</strong></td>
<td><strong>B2C, B2B SALE SOFTWARE (INSURANCE/TOURISM)</strong></td>
</tr>
</tbody>
</table>
France/Italy

**THALES**

has sold its Italian SAP division

Amaris

*SAP*

Sweden

Russia

Guard Capital

has acquired a stake in

DocDoc.ru

*ONLINE MEDICAL CARE SCHEDULING SERVICE*

Australia

*US*

The Netherlands

**ALLSHARE**

acquired

**BITLIBRE**

*MOBILE AND WEB APPLICATIONS SERVICES*

*US*

Poland

*US*

US

**VERISAE**

was sold to

*a subsidiary of*

NTT

*CLOUD-BASED SOFTWARE SOLUTIONS*

*SAP BUSINESS PLANNING & CONSOLIDATION*

France/Italy

SAP has sold its Italian SAP division to *Amaris*.

Russia

Guard Capital has acquired a stake in DocDoc.ru.

The Netherlands

**ALLSHARE** was acquired by **BITLIBRE**.

US

**VERISAE** was sold to a subsidiary of NTT.

Sweden

**Bridgepoint**

has acquired **KGH CUSTOMS SERVICES**.

Italy

**CountryNet IT Solutions**

was sold to **Quad Romanesque Group**.

Germany

**Atomic Learning**

was acquired by a portfolio company of **Granite Equity Partners** and **Boathouse Capital**.

US

**orange**

has sold **Market planet** to **Ivanion**.

**A**

**APEX**

was acquired by **WestView Capital Partners**.

**Tonka Bay**

SaaS PLATFORMS FOR THE HEALTHCARE SECTOR
SOFTWARE (6/6)

US

- MOBILE POST PRODUCTION INC
  - POST-PRODUCTION SOFTWARE DEVELOPMENT SERVICES
  - sold an equity interest to SUMMIT PARTNERS

US/India

- VCUSTOMER
  - CUSTOMER MANAGEMENT SERVICES
  - was sold to Mahindra Satyam

US

- Aspect
  - LOSS PREVENTION SOFTWARE
  - was acquired by Verisk Analytics

Norway/Denmark

- DALDATA
  - ACCOUNTING SOFTWARE AND CLOUD SERVICES
  - was sold to via venture partners

India

- VALUEFIRST
  - MOBILE VAS PROVIDER
  - has raised equity from Headland Capital Partners Limited with participation of New Enterprise Associates

NEW ENTERPRISE ASSOCIATES
### IT SERVICES (1/2)

<table>
<thead>
<tr>
<th>Country/Areas</th>
<th>Company</th>
<th>Industry/Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>France/The Netherlands</td>
<td>Altran</td>
<td>R&amp;D and High Technology Services</td>
</tr>
<tr>
<td></td>
<td>Apax Partners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NSpyre</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Backed by</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acquired</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Hitec</td>
<td>ERP and Manufacturing Operations Management</td>
</tr>
<tr>
<td></td>
<td>Lean System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kora Invest</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Scannet</td>
<td>Hosting</td>
</tr>
<tr>
<td></td>
<td>HgCapital</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>SkandiaWeb</td>
<td>Website Provider</td>
</tr>
<tr>
<td></td>
<td>DanaWeb</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>Interaction</td>
<td>IT Service Provider</td>
</tr>
<tr>
<td></td>
<td>5W</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PQR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2ML</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>CRM Insight</td>
<td>CRM Solutions</td>
</tr>
<tr>
<td></td>
<td>ØkonomiBistand</td>
<td></td>
</tr>
<tr>
<td>Brazil/Chile</td>
<td>Intercept</td>
<td>Cloud Services</td>
</tr>
<tr>
<td></td>
<td>Alternative</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>CTIS</td>
<td>BPO</td>
</tr>
<tr>
<td></td>
<td>SonDaFr</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>R&amp;D and High Technology Services</td>
<td>R&amp;D and High Technology Services</td>
</tr>
<tr>
<td></td>
<td>Auxilium Capital</td>
<td>Acquired</td>
</tr>
<tr>
<td></td>
<td>S1G</td>
<td>IT Service Provider</td>
</tr>
</tbody>
</table>

**Note:** The above information is a summary of the provided text and may not cover all details or changes.
### IT SERVICES (2/2)

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Company/Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Germany was sold to IT SYSTEMS</td>
</tr>
<tr>
<td>US</td>
<td>US was sold to TECHNOLOGY AND SERVICES FOR THE BROADCAST MEDIA INDUSTRY</td>
</tr>
<tr>
<td>Finland/Germany</td>
<td>Finland/Germany has sold Tieto Deutschland to IT SERVICES</td>
</tr>
<tr>
<td>India/Mauritius</td>
<td>A shareholder of KPIT sold its stake to Chryscapital</td>
</tr>
<tr>
<td>Russia</td>
<td>Russia acquired a stake in an online freight services company</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>The Netherlands acquired SNT</td>
</tr>
<tr>
<td>US</td>
<td>US sold its stake to CRM SOFTWARE</td>
</tr>
<tr>
<td>Norwegian</td>
<td>Norway sold its stake to A shareholding of KRIT Consulting</td>
</tr>
<tr>
<td>Norway</td>
<td>Norway entered into a strategic equity partnership with KPII</td>
</tr>
<tr>
<td>US</td>
<td>US sold to IT SERVICES</td>
</tr>
<tr>
<td>UK</td>
<td>UK sold its stake to IT SERVICES</td>
</tr>
</tbody>
</table>
**TELCONS/INTERNET SERVICE PROVIDER (1/2)**

<table>
<thead>
<tr>
<th>Norway</th>
<th>Poland</th>
<th>UK</th>
<th>Norway</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="phonero" /> was sold to ©MOBITALK</td>
<td><img src="image" alt="Fairness opinion for" /></td>
<td><img src="image" alt="was sold to" /></td>
<td><img src="image" alt="was sold to" /></td>
<td><img src="image" alt="was sold to" /></td>
</tr>
<tr>
<td><strong>TELECOM</strong></td>
<td><strong>MOBILE TELECOMMUNICATION SERVICES</strong></td>
<td><strong>BUSINESS TELECOMMUNICATIONS</strong></td>
<td><strong>TELECOM</strong></td>
<td><strong>SOFTWARE</strong></td>
</tr>
<tr>
<td><strong>UK/Italy</strong></td>
<td><strong>Hungary</strong></td>
<td><strong>Russia</strong></td>
<td><strong>Germany</strong></td>
<td><strong>Norway</strong></td>
</tr>
<tr>
<td><img src="image" alt="A majority stake of" /></td>
<td><strong>netrisk.hum invested in</strong></td>
<td><strong>has acquired a stake in a regional mobile operator</strong></td>
<td><strong>has acquired</strong></td>
<td><strong>has acquired</strong></td>
</tr>
<tr>
<td><strong>INTERNET SERVICES</strong></td>
<td><strong>TMT, ONLINE SERVICES</strong></td>
<td><strong>MOBILE OPERATOR</strong></td>
<td><strong>SYSTEM INTEGRATION FOR SATELLITE-BASED COMMUNICATION</strong></td>
<td><strong>MOBILE TELEPHONY SERVICES</strong></td>
</tr>
<tr>
<td><strong>DS DATA SYSTEM (UK)</strong></td>
<td><strong>KonaKart</strong></td>
<td><strong>TELE2</strong></td>
<td><strong>ND SATCOM</strong></td>
<td><strong>phonero</strong></td>
</tr>
<tr>
<td><strong>owner of the software</strong></td>
<td><strong>acquired</strong></td>
<td><strong>has acquired a stake in a regional mobile operator</strong></td>
<td><strong>was sold by</strong></td>
<td><strong>has acquired</strong></td>
</tr>
<tr>
<td></td>
<td><strong>ZUCCHETTI</strong></td>
<td></td>
<td><strong>to</strong></td>
<td><strong>VENTILEO</strong></td>
</tr>
</tbody>
</table>
Norway

LOS Bynett

was sold to
telenor

OPTIC FIBER NETWORK

US/Poland

Clearwire

has sold
Clearwire Poland Holdings
to
Private investors

4G NETWORK

Norway

Pronet

was sold to
BROADNET

OPTIC FIBER NETWORK

Poland

Hawe SA

has acquired

WHOLESALE VOICE TRAFFIC &
DATA CENTER SERVICES

Russia

nbn

has acquired a stake in
Aston LLC – a broadband
internet provider in
Moscow region

INTERNET PROVIDER
MEDIA (1/2)

**Denmark**
- **Umwelt**
- Sold a minority stake to **Bording**

**Austria/Switzerland**
- **FirmenABC**
- Sold an 80% stake to

**France**
- **3Prime**
- LBO

**Norway**
- **Feelgood**
- Was sold to **Monday**

**Hungary**
- **Jobinfo.hu**
- Trade sale to **Állás.hu**

**Austria/Switzerland**
- **Investnet AG**
- Sold a 35% stake to **adRom**

**Australia**
- **Starts50**
- Sold a 33% stake to **Seven West Media**

**Germany**
- **Reality Bytes**
- Sold a majority stake to **TWT**

**France**
- **WJKIPME**
- Proceeded with a capital increase from a pool of high net worth individuals

**France**
- **Solocal Group**
- Sold its online real-estate classifieds business

**France**
- **Leboncoin**
- To the group
### MEDIA (2/2)

<table>
<thead>
<tr>
<th>Country</th>
<th>Company Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>Alma</td>
<td>CONTENT-MARKETING PROVIDER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sold Alma 360 to Otava Media.</td>
</tr>
<tr>
<td>Finland/Estonia</td>
<td>Alma</td>
<td>MEDIA AGENCY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>has sold Alma 360 to Fimalac.</td>
</tr>
<tr>
<td>France</td>
<td>Encore</td>
<td>LIVE ENTERTAINMENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sold a minority stake and raised new capital from Koha Capital</td>
</tr>
<tr>
<td>Russia</td>
<td>Guard Capital</td>
<td>SOCIAL NETWORK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>has acquired a stake in Doctor on Work</td>
</tr>
<tr>
<td>Sweden/Finland</td>
<td>Teracom</td>
<td>PAY-TV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>has sold PlusTV to DNA.</td>
</tr>
<tr>
<td>US</td>
<td>Ant's Eye View</td>
<td>SOCIAL MEDIA STRATEGY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>was sold to PwC.</td>
</tr>
<tr>
<td>Finland/Sweden</td>
<td>A-lehdet</td>
<td>BTOC MAGAZINES PUBLISHER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>has acquired from Forma Publishing Group</td>
</tr>
<tr>
<td>India</td>
<td>Apalya</td>
<td>ENTERTAINMENT MOBILE CONTENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>has raised equity from IndoUS Venture Partners</td>
</tr>
<tr>
<td>Austria/Belgium</td>
<td>Diamond</td>
<td>ONLINE, MOBILE AND SOCIAL INTEGRAL SOLUTIONS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trade sale to Emakina.</td>
</tr>
</tbody>
</table>
# INTERNET B2B B2C (1/2)

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Company Name</th>
<th>Industry</th>
<th>Transaction Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria/Switzerland</td>
<td>AGIRE®</td>
<td>Online real estate platform</td>
<td>Trade sale to</td>
<td>immodirekt.at</td>
</tr>
<tr>
<td>Germany/France</td>
<td>Geizhals</td>
<td>Price comparison site</td>
<td>Minority sale to</td>
<td>Heise Gruppe</td>
</tr>
<tr>
<td>Poland/Germany</td>
<td>iParts.pl</td>
<td>E-commerce, spare car parts</td>
<td>Was sold to</td>
<td>HELLA</td>
</tr>
<tr>
<td>Austria/The Netherlands</td>
<td>extreme digital</td>
<td>E-commerce, electronics retailer</td>
<td>Majority sale to</td>
<td>STEINHOFF</td>
</tr>
<tr>
<td>Austria</td>
<td>AKTIONSFINDER</td>
<td>Online leaflets distribution</td>
<td>Trade sale to</td>
<td></td>
</tr>
<tr>
<td>Germany/France</td>
<td>auto netzer.de</td>
<td>Peer-to-peer car sharing</td>
<td>Was sold to</td>
<td>drivy</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>geschenkbezorgen.nl</td>
<td>Consumer goods</td>
<td>Was sold to</td>
<td>Topbloemen.nl</td>
</tr>
<tr>
<td>France</td>
<td>weezevent</td>
<td>Solution for online registration and ticketing</td>
<td>Sold a majority stake to</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>iRealtor</td>
<td>Online service for rent and purchase of apartments</td>
<td>Acquired a stake in</td>
<td>B2B e-marketplace</td>
</tr>
<tr>
<td>Russia</td>
<td>B2B CENTER</td>
<td>B2B e-marketplace</td>
<td>Has acquired a stake in an online source for sale and rent of real estate</td>
<td></td>
</tr>
</tbody>
</table>
INTERNET B2B B2C (2/2)

Russia

**B2B • CENTER**

ЦЕНТР ЭЛЕКТРОННЫХ ТОРГОВ

has acquired a stake in a B2B e-marketplace

B2B E-MARKETPLACE

Finland

**Sanoma**

Sanoma Pro B2B business

sold

FRONT-RUNNING CONSUMER MEDIA AND LEARNING

The Netherlands

**Pika Management**

and

**Blink**

have acquired

DIGITAL COURSE MATERIALS

Russia

Russia

**B2B E-MARKETPLACE**

**Sanoma**

Sanoma Pro B2B business

sold

FRONT-RUNNING CONSUMER MEDIA AND LEARNING

**Pika Management**

and

**Blink**

have acquired

DIGITAL COURSE MATERIALS

Russia

Russia

**e.ventures russia**

has acquired a stake in

ONLINE TRAVEL AGENCY

**BNBA Venture Capital**

has acquired a stake in

ONLINE EDUCATION CENTER
<table>
<thead>
<tr>
<th>Location</th>
<th>Transaction Type</th>
<th>Company</th>
<th>Industry/Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Sale</td>
<td>Misco</td>
<td>IT Reseller and Service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to Cancom</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>Sale</td>
<td>Profita Group</td>
<td>Voice and Data Telecommunication Equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to Nordicid</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>Acquisition</td>
<td>CapVisio</td>
<td>Videoconferencing Solutions</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Strategic investment</td>
<td>Infotheek</td>
<td>Consumer Electronics</td>
</tr>
<tr>
<td>Australia/US</td>
<td>Sale</td>
<td>Topcon</td>
<td>Industrial Wireless Technologies</td>
</tr>
<tr>
<td>Finland/Norway</td>
<td>Sale</td>
<td>Elisa</td>
<td>IT Hardware and Services</td>
</tr>
<tr>
<td>Germany/US</td>
<td>MBO</td>
<td>Native Instruments</td>
<td>Electronic Music Software and Hardware</td>
</tr>
<tr>
<td>US</td>
<td>Acquisition</td>
<td>Digi</td>
<td>Wireless Routing Equipment</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td>Digicom</td>
<td>Electronic Systems</td>
</tr>
<tr>
<td>Finland/Estonia</td>
<td></td>
<td>Elisa</td>
<td>IT Infrastructure</td>
</tr>
</tbody>
</table>
**FINTECH**

**Finland**
- **elisa**
  - Sold to **Aktia**
  - Mobile payment services

**Poland**
- **GP Team S.A.**
  - Sold a 75% stake in **Polskie ePłatności** to private equity investor **INNOVA CAPITAL**
  - Fintech (Electronic Payments)

**Austria**
- **mPAY24™**
  - Trade sale to **Prepa Management Consulting GmbH**
  - E-payment technology

**Italia**
- **Panini**
  - Debt restructuring
  - Payment technology

**The Netherlands**
- **Keylane**
  - Acquired **LeanApps**
  - Life insurance software

**Sweden**
- **BUCKYROO**
  - Was sold to **BLACKFIN**
  - Payment services

**France/Finland**
- **Edenred**
  - Has acquired Finnish prepaid card and voucher business of **nerts**
  - Prepaid corporate services

**Russia**
- **supremum capital**
  - Has acquired **Webbankir**
  - Internet-based micro financing

**Poland**
- **Telekomunikacja Polska**
  - Has sold **PayTel Comp**
  - Payment processing
<table>
<thead>
<tr>
<th>Technology</th>
<th>Country</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLOTHING+</td>
<td>Finland/US</td>
<td>was sold to Jabil</td>
</tr>
<tr>
<td></td>
<td>Textile-integrated wearable biometric sensor solutions</td>
<td></td>
</tr>
<tr>
<td>3D PRINTING SYSTEMS</td>
<td>US</td>
<td>has acquired Solidscape, 2011</td>
</tr>
<tr>
<td>THERMAL MANAGEMENT MATERIALS FOR ELECTRONICS</td>
<td>US</td>
<td>was sold to Berquist, Henkel</td>
</tr>
<tr>
<td>HIGH-PRECISION EQUIPMENT FOR THE OPTIC FIBER INDUSTRY</td>
<td>US</td>
<td>was sold to a group of investors led by CFB, Capital For Business</td>
</tr>
<tr>
<td>ELECTRICAL INSULATION MATERIALS</td>
<td>US</td>
<td>has acquired Federal Insulation of Indiana, Inc</td>
</tr>
<tr>
<td>M2M COMMUNICATION TECHNOLOGY</td>
<td>US</td>
<td>has acquired MobiApps</td>
</tr>
<tr>
<td>NETWORK INFRASTRUCTURE AND IT SECURITY SOLUTIONS</td>
<td>UK</td>
<td>received development capital from Maven Capital Partners</td>
</tr>
<tr>
<td>IT SECURITY</td>
<td>Finland/Norway</td>
<td>acquired Birdstep Technology Oy</td>
</tr>
<tr>
<td>SECURITY TESTING SERVICES</td>
<td>Denmark/UK</td>
<td>was sold to nccgroup, Nordic Centre for Corporate Governance</td>
</tr>
<tr>
<td>DEBT RESTRUCTURING</td>
<td>Italy</td>
<td>€23 million</td>
</tr>
</tbody>
</table>
DACH SENIOR TEAM
SENIOR PARTNERS DACH (1/ 4)

Kai-Peter Burger
Kai-Peter Burger has been advising on crossborder corporate finance and mergers & acquisitions for over twenty years. Kai was trained at PwC in business valuations and the European Privatization & Investment Corporation (EPIC) in M&A advisory services for the energy sector. As one of the founding partners of COM Partners in Vienna, he followed his affinity for the tech sector and advised on midmarket transactions primarily in the internet & media and software & IT sectors in Eastern and Central Europe. After joining Corporate Finance Partners, he worked as managing director in Austria. In 2016 Kai joined Clairfield International as a partner in Vienna. Kai studied at Vienna University of Economics and Business and at HEC Paris with a focus on corporate finance.

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Dirk F. Freiland
Dirk Freiland has twelve years of experience in M&A and corporate finance. Prior to joining Clairfield he was co-founder of a medium sized M&A company in Southern Germany. Before, he worked as senior manager at Accenture (formerly Andersen Consulting) in Strategy and Change Management where he was in his last function responsible for building up the M&A team and activities for Germany, Austria and Switzerland. Further milestones in his career were a small service company he built up from 20 up to 120 people within 14 months and Alcatel (Paris) where he worked in research and development. Dirk Freiland studied Mechanical Engineering, Electronics and Computer Science of the University of Applied Sciences of Esslingen/Stuttgart and Paris.

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Walter J. Helm
Walter Jackson “Jack” Helm has been advising in cross-border corporate finance and mergers and acquisitions for over thirty years. Educated in both the US and Germany, Mr. Helm was trained at Citibank and Lehman Brothers, New York and relocated to Frankfurt in 1988 to open Lehman Brothers’ new German corporate finance practice. His affinity for life sciences has resulted in significant repeat transactions primarily in the chemicals and healthcare sector and diversified industrial segments, and in 1996 he became Managing Director and Country Head of the merger and acquisitions specialty group Wasserstein Perella. Upon the acquisition of Wasserstein Perella by the Dresdner Bank in 2001, Mr. Helm returned to his native Virginia to pursue venture capital opportunities and returned to the German advisory business in 2011. Mr. Helm has a bachelor’s degree from the University of Virginia and a Master in International Business from Georgetown University.

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Darius O. Kianzad
Darius Kianzad began his career in 1991 at the Treuhandanstalt in Halle and Berlin. Between 1993 and 2005, Mr. Kianzad held leading positions in renowned audit firms and investment banks such as PricewaterhouseCoopers in Frankfurt and was Senior Vice President M&A at Sal. Oppenheim where he was in charge of M&A transactions in the energy and automotive sectors and also became co-leader of the Industrials segment. Between 2006 and 2010, Mr. Kianzad was a member of the Management board at ista Group, a leading international energy services company, in charge of Corporate Development/ M&A and Regional Head of „Emerging Markets“. Darius Oliver Kianzad graduated with a master’s degree in Economics (University of Heidelberg) and has completed a General Management program at the University of St. Gallen and the Advanced Management program at INSEAD.

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Dr. Hanns Alexander Klemm
Alexander Klemm was born in South Africa, raised in Germany and the UK and studied in the UK, USA and Germany. He has over 30 years investment and wholesale banking transaction experience in M&A and equity capital markets. He worked in Frankfurt, London and New York at Deutsche Bank/Morgan Grenfell, Lehman Brothers, UBS Warburg, JPMorgan Cazenove, and Hauck. He has also held various senior management positions in banking. As head of investment banking at JPMorgan Cazenove in Germany/ Austria/ Switzerland, he established the Frankfurt office and built Cazenove’s successful midmarket advisory and capital markets business. Following leadership of the MBO of this business and subsequent contribution to Hauck & Aufhäuser, the German private bank, he was partner and CEO of the corporates and markets division of the bank.

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Martin Lemmer
Martin Lemmer has extensive experience in strategy consulting and in advising corporates and private equity investors in corporate finance matters. Prior to Clairfield International, Martin Lemmer worked for the London based consulting firm L.E.K. Consulting and M&A boutique First Capital Partners. Martin Lemmer has advised a large number of projects both on the buy- and sell-side serving strategic buyers and private equity players. Amongst others, Martin’s business focus lies in the retail, food and beverage, business services and healthcare industries. He graduated in business administration from the University of St. Gallen (Switzerland) and the Richard Ivey School of Business at University of Western Ontario in London (Canada).

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**Dirk Middelhoff**

Dirk Middelhoff holds a degree in Business Law (LL.B) with a focus on corporate finance and more than 10 years experience in corporate finance, business development and strategy. Until 2008, Dirk Middelhoff worked for the listed EMC Corporation, headquartered in Boston, one of the 25 largest IT companies in the Fortune 500. There he led national and international projects such as, Vodafone, Deutsche Bank, Metro etc.. At last head of strategic alliances and mergers & acquisitions. After 2008 Dirk Middelhoff worked as Director for a medium-sized M&A consultancy firm with focus on technology companies. Mandates of German and international companies from technology sectors among others, software, consulting, photonic on the buy or sell side as well as start-ups in the fields of software, internet and media with focus of founding and financing.

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**Oliver Nemes**

Oliver Nemes began his career in 1993 at PwC where he focused on corporate finance and corporate recovery, working in Vienna and London. Joining the European Privatization & Investment Corporation (EPIC) some years later, he worked as director for the CEE on privatization and corporate finance transactions in Hungary, Romania, and Bulgaria. As a managing partner at Corporate Finance Partners from 2000 to 2015, he continued to dedicate his work to M&A advisory services in the CEE region. He is an expert for sell-side and buy-side M&A, capital raisings, MBOs, MBIs, and business development and has a sector focus in internet, e-commerce, automotive suppliers, energy, and healthcare. Oliver graduated with a master’s degree in business administration with a focus on corporate finance from the European Business School (EBS) in London.

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**Andreas Piechotta**

Andreas Piechotta has been involved in international equity- and transaction business for almost 16 years. As a partner of a well-known international M&A advisory firm he has been responsible for business development in Eastern Europe and has managed to execute a variety of cross border transactions, e. g. in Poland, Hungary and Slovenia. Andreas Piechotta began his career 1994 at Pfeifer & Langen, a known family-owned German sugar producer. At Pfeifer & Langen he supported various privatization processes in the Polish sugar industry. From 1997 to 2004 Mr. Piechotta was engaged in the Private Equity activities of DEWB AG, a subsidiary of JENOPTIK Group. Born in Poland, Andreas Piechotta studied Law at the University Bayreuth/Germany being a qualified lawyer, with a particular focus on commercial law.

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Dr. Albert Schander
Prior to founding M&A advisory firm SynCap in 2000 and contributing it subsequently to Clairfield, Albert worked as Executive Director/ Co-Head Corporate Finance for finance specialist group VMR where he was responsible for international fund raising projects and M&A. He held positions in his prior career at Deutsche Bank (BAI), Milan, KPMG/ Milan and Lehman Brothers/ Frankfurt, where he, among other responsibilities, advised on international and domestic M&A transactions. He studied Law and Economics at the Universities of Passau, Pavia/ Italy and Munich. He is qualified as an attorney-at-law in Germany and earned his Law degree from Ludwig-Maximilian-University of Munich and his PhD from Friedrich-Schiller-University of Jena.

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Berend Yntema
Berend Yntema is a corporate finance specialist and has over 20 years of experience in M&A, strategic and crossborder acquisitions, capital raisings, and restructurings with a focus on Western and Eastern Europe. He has held various senior management and managing director positions in corporate finance and M&A advisory firms. He worked as a director at Investment Fund Sector Capital in Moscow and later as director for Poland at the European Privatization & Investment Corporation (EPIC). As one of the founders of COM Partners, he specialized in midmarket M&A advisory in the dynamic tech sector. Following a strategic merger, he worked as managing director at Corporate Finance Partners in Vienna, before joining Clairfield International as partner in Vienna. Berend was born in the Netherlands and holds a degree in economics with a focus on finance from the University of Groningen.

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