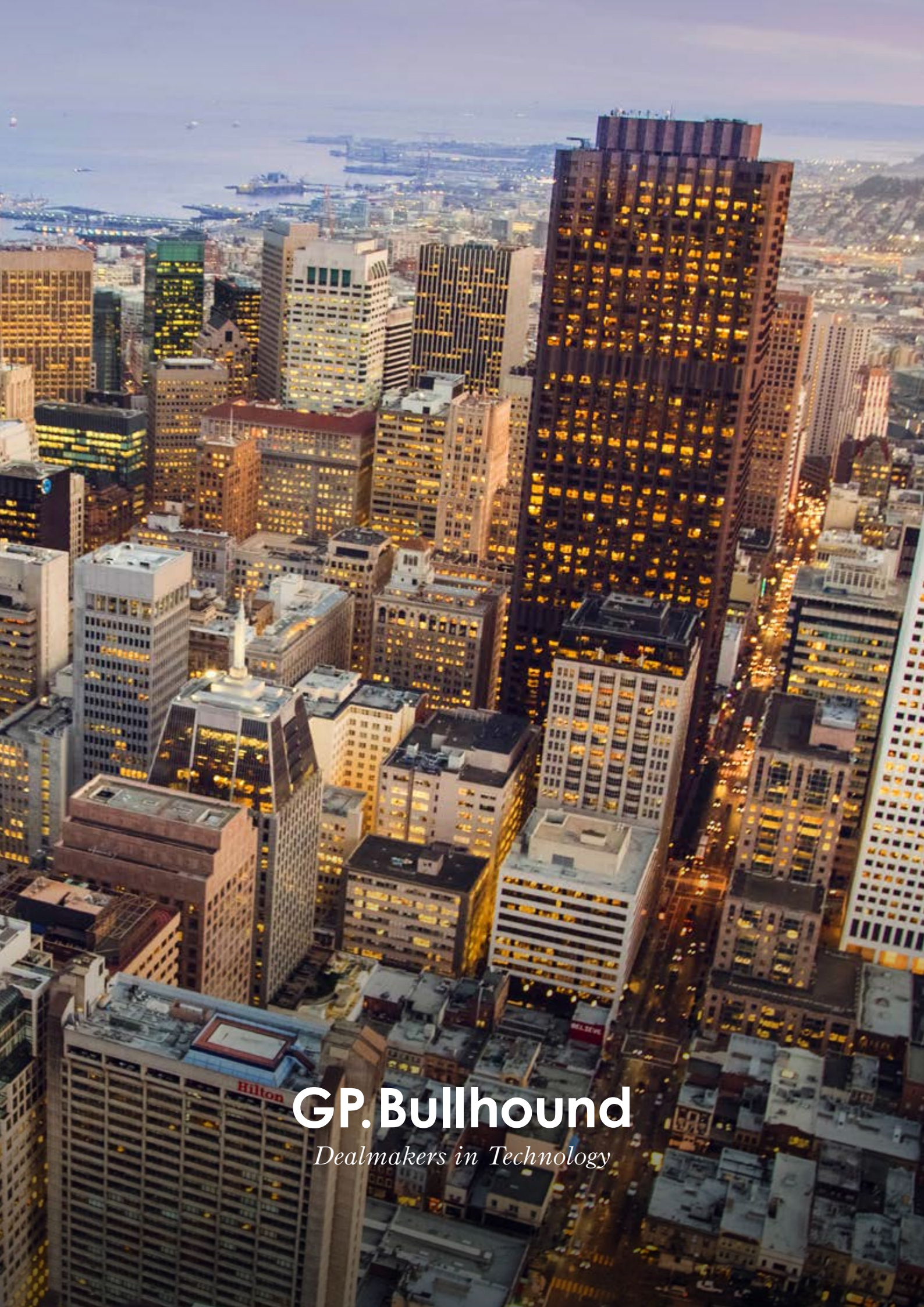
— 10th Anniversary Edition —

2017
TECHNOLOGY PREDICTIONS

Trends & innovations shaping the global tech sector

GP.Bullhound

Dealmakers in Technology



GP.Bullhound

Dealmakers in Technology

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ABOUT US

GP Bullhound is a leading technology focused boutique investment bank. A passion for technology and entrepreneurship is what really sets GP Bullhound apart. Founded in 1999, the firm maintains offices in London, San Francisco, Stockholm, Berlin, Manchester and Paris.

MERGERS & ACQUISITIONS

We act as a trusted advisor to many of Europe's leading technology companies in competitive international sale and acquisition processes. The firm has completed over 110 M&A transactions to-date with a total value of over $3.5bn.

CAPITAL TRANSACTIONS

We have advised companies and their owners on more than 120 capital related transactions including venture capital, growth capital, acquisition funding, secondary block trades and Initial Public Offerings. The firm has raised over $1.5bn of financing for European technology companies to-date.

INVESTMENTS

Through our investment team, we provide investors with access to the most ambitious privately-held technology and media companies in Europe. We currently manage three closed-end funds and our limited partners count institutions, family offices and entrepreneurs.

EVENTS & RESEARCH

Our events and speaking activities bring together thousands of Europe's leading digital entrepreneurs and technology investors throughout the year. Our thought-leading research is read by thousands of decision makers globally, and is regularly cited in leading newspapers and publications.

EXECUTIVE SUMMARY

THE VIEW

from GP Bullhound

GP.Bullhound

Alec Dafferner
Partner

Per Roman
Managing Partner

The scale of transformation throughout the technology sector in the past decade is unprecedented. To think that Facebook became the fifth largest company in the world earlier this year, having been launched little over twelve years ago, gives a sense of the pace of innovation and growth that the industry has set.

GP Bullhound's Technology Predictions, now in its tenth year, has sought to bring order to this rapidly shifting landscape. This year's research examines the now, near and next of the global technology sector, mapping the trends and innovations destined to drive growth for months and years to come.

Four of our trends are drawn from sectors that are on the cusp of rapid growth, beginning to reshape major consumer markets, and in some cases creating entirely new ones. Artificial Intelligence, a technology that has struggled to find real-world applications since its dawn in the mid-twentieth century, is taking hold across a swathe of mainstream industries. From travel to retail, healthcare to finance, neural networks and machine learning are becoming everyday tools for everyday problems.

The rise of online streaming platforms has redefined the viewing habits of an entire generation. Having learned their lessons from the ubiquity of over-the-top services such as Hulu, Netflix and Amazon Prime, millennials are pulling the plug on traditional broadcasting and driving an explosion in user-generated content. While this model of mainstream media is rewritten, an entire industry is being created by the emergence of e-sports. Fuelled by the rise of gaming enthusiasts worldwide and growing interest in paid sponsorship, we expect online gaming spectator sports to become a billion-dollar industry in 2017.

The last of these trends taking hold in the here and now is the rapid increase of content for Virtual and Augmented Reality. Headsets and hardware captured the public imagination in 2016; media and content tailored for these platforms will ensure that both are able to deliver on their early potential in 2017. The borders between the digital and physical world will become increasingly blurred in the year to come.

While some technologies are able to rapidly scale from development through incubation to delivery and widespread adoption, others can experience a longer innovation cycle. These are the sectors that we expect to break through in the near future.

While driverless cars may have captured the attention of investors and innovators, the more troublesome task of gaining the trust of consumers and regulators lies ahead. Proving the reliability and safety of an emerging technology will be challenging and critical to widespread adoption in 2017. Similarly, the promise of a fintech revolution is taking longer to come by than first expected. The scale of the financial services industry is keeping widespread, wholesale transformation at bay.

Wider market trends are critical to evaluating the potential impact of these growth sectors. This year, we have chosen three industry-wide trends that will shape innovation, investment and implementation in years to come. Starting with the convergence of Western and Asian social media platforms, through the consolidation of the global software markets to renewed interest in the IPO markets, these market landscapes will define change in the next year.

Those entrepreneurs ambitious enough to tackle these shifting landscapes head on and break up major consumer markets are capable of creating companies of vast scale. This ambition has witnessed the emergence of the 'decacorn' business. Supercell blazed a trail for European entrepreneurs earlier this year, as it broke through the $10 billion valuation – we expect other Internet darlings such as Spotify to follow suit in 2017.

A decade of growth, transformation, and innovation has created a technology sector that is increasingly complex and challenging. Predicting the trends that will shape the sector in the year to come has, therefore, never been harder. However, the scale of change that we are witnessing leaves me with no doubt that the rewards have never been greater.

RECAP OF GP BULLHOUND'S *2016 Predictions*

Before we dig into 2017, here is a brief recap of last year's predictions and how we saw their development throughout the year.

DIGITAL VIDEO BECOMES MORE MEASURED TO KEEP GROWING UP

According to eMarketer, the number of monthly digital video viewers globally grew to nearly 700 million in 2016.[2] Our prediction that measurement would be a key component in digital video became pertinent when Facebook acknowledged flaws on how it was counting video ad views on its platform, causing alarm among advertisers. Desire for more accurate measurement in 2016 has seen Adobe acquire TubeMogul ($540 million), Comcast acquire Stickyads.tv, and Teads acquiring Brainient.

"DESKLESS" WORKERS COME TO FOREFRONT IN ENTERPRISE MOBILITY SHIFT

Our prediction that the global workforce would become more mobile clearly gained traction in 2016, with Oracle and Samsung partnering as well as SAP and Apple. We saw continued funding into the next generation of enterprise mobile apps with Slack, FinalCAD, Front Desk, Parsable, Convoy, and many others. Affirmation of the importance of servicing "deskless" workers with mobile capabilities came to fruition as Verizon acquired mobile workforce solutions company Fleetmatics for $2.4 billion and General Electric acquired field service management provider ServiceMax for $915 million.

GAMING GIANTS FORTIFY POSITIONS IN TOP GROSSING CHARTS, GOBBLING UP CHALLENGERS

As predicted, 2016 saw consolidation in the gaming sector led by Tencent's massive acquisition of Supercell for $8.6 billion, a Chinese consortium acquiring Playtika for $4.4 billion and Vivendi completing its takeover of Gameloft for $535 million. Other significant transactions include InnoGames (by Modern Times Group), Splash Damage (by Leyou), and Ketchapp (by Ubisoft). Leading independent studios that are yet to be acquired still attract investment, highlighted by Scopely's $55 million raise.

ALTERNATIVE LENDING CONTINUES TO SHINE BRIGHTLY IN FINANCIAL TECHNOLOGY SECTOR

The alternative lending sector remained active in 2016 as – LendInvest, iwoca, CommonBond, Future Finance, Auxmoney, Lendix, Property Partner and Unilend – continued to raise both equity and debt to fuel their growth ambitions. As we foresaw, despite the volume of activity, the sector has not been without missteps. Lending Club faced legal troubles with a class action lawsuit and rating agencies such as Moody's published a critical report of the sector. Despite setbacks, alternative lendors can still deliver much needed innovation.

1. SuperData Research, PSVR might sell 5x as many units as Vive and Rift by 2017, November 2016
2. eMarketer, Digital Video Platforms Are Drawing Ever-Increasing Numbers of Viewers, August 4th, 2016
3. IDC, Here's How Much Businesses Worldwide Will Spend on Cybersecurity by 2020, October 12th, 2016

VIRTUAL REALITY BECOMES REALITY

It was quite a year for virtual reality in 2016 with the launch of Oculus Rift, PlayStation VR, HTC Vive, Samsung Gear VR and Google Daydream. SuperData Research projects six million headsets will be sold in 2016, a modest figure that suggests virtual reality has yet to gain mass market appeal.[1] While uptake has been slow, we saw Magic Leap's $800 million equity raise and significant fundraising in other companies such as NextVR ($80 million) and Blippar ($54 million). We also saw acquisitions with Verizon-AOL acquiring RYOT, Snapchat acquiring Seene, and and STX Entertainment acquiring Surreal.

"QUANTIFIED SELF" TRANSITIONS FROM NICHE TO MAINSTREAM

As predicted, the rise of digital fitness and wearables continued in 2016, highlighted by Asics' acquisition of Runkeeper for $85 million and Nokia's acquisition of Withings for $190 million. Major sports apparel giants, such as Under Armour and Nike, continue to make concerted efforts to incorporate connectivity into their respective product lines. Fashion brands also made a foray into the market with brands such as Swarovski, Michael Kors, and Tory Burch weaving releasing products.

AUTOMOTIVE INDUSTRY RIPE FOR INNOVATION

Our bullishness in the emerging "connected car" sector was warranted as adoption occurred at a rapid pace in 2016. Ownership of operating systems shifted away from a two-horse race between Apple and Google as other tech giants entered the market, with Samsung's $8 billion acquisition of Harman, and Qualcomm's $47 billion acquisition of NXP. Manufacturers increasingly organized partnerships such as Toyota/Microsoft, BMW/Intel/Mobileye, and Tesla continues to experiment with autonomous vehicles despite initial shortcomings.

CYBERSECURITY CONTINUES SOUL SEARCHING

Cybersecurity spending by corporations continued to increase in 2016 totaling nearly $74 billion.[3] Matched by major security breaches continuing in 2016, headlined by Yahoo's discovery that at least 500 million of its user accounts were compromised.[4] Although there were large investments highlighted by Cylance's $100 million raise this past June, funding overall in the cybersecurity sector was down in 2016, confirming our belief that investments into the security market was overheated in 2015.[5]

DRONES WILL FLY INTO HEADWINDS OF UNCERTAINTY

Drones continued to make headlines in 2016, but not for all the right reasons. We saw drone incidents causing havoc at airports, GoPro's disastrous launch of Karma drones and the FAA finally unveiled its long-awaited regulations on the non-recreational use of drones. Despite some hindrance for drone products and aspirants in 2016, funding in the nascent industry has not slowed. Zipline, Saildrone, Airobotics, Sky-Futures, and Hangar all raised new capital in 2016.

UNICORN HUNTING NOW IN SEASON

2016 saw unicorns placed under heavy scrutiny. The first "unicorpse" of 2016 was Gilt Groupe who sold to Hudson's Bay for $250 million, an amount far lower than the $1.1 billion valuation it once achieved. European-based unicorns displayed greater stability as we anticipated, with 60% of them profitable and generating on average $315 million in annual revenues.[6]

4. CNN, Yahoo says 500 million accounts stolen, September 23rd, 2016
5. CB Insights, Overfunded? Cybersecurity Startups See Investment Slowdown, July 19th, 2016
6. GP Bullhound European Unicorns 2016 Report, http://www.gpbullhound.com/wp-content/uploads/2016/06/GP-Bullhound-Research-European-Unicorns-2016-Survival-of-the-fittest.pdf (Pgs. 9, 11), June 2016


Accurate prediction


Inaccurate prediction

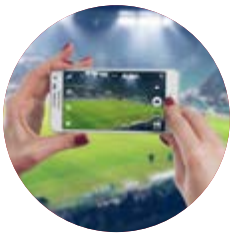
TECHNOLOGY

Predictions 2017

Over the past nine years, GP Bullhound's Predictions report has established a reputation as an industry-leading analysis of the trends and innovations shaping the global technology sector.

1. THE NEXT GENERATION OF *Artificial Intelligence*

The buzzword of 2016, 'AI' has been making waves since Alpha Go toppled the 18-time world Go Champion, Lee Sedol. 2016 saw a record level of investment in AI, it's clear the technology is here to stay.



2. CORDLESS CONTENT *Anywhere and Everywhere*

Millennials are leading the movement against cable networks, radically changing the way we consume media. The disruption of the TV industry is well underway, and 2017 will see networks challenge the rise of over-the-top services.

3. E-SPORTS TAKES *Center Stage*

The stereotype of the 'lonely gamer' no longer applies. E-sports is the fastest growing component of the entertainment industry with more than 250 million fans. E-sports is set to become a billion-dollar industry in 2017 driven by its huge fan base.

4. THE DAWN OF *VR/AR Content*

The VR/AR industry is at the peak of its hype cycle, with hardware currently progressing ahead of content. 2017 will be a crucial period for early developers to produce software to drive what is set to be the next major platform.

5. DRIVERLESS CARS STILL
Require Human Direction

Unprecedented levels of investment are expected in the sector this year. As cars become more connected and less industrial, the market has been opened to tech players such as Google, Baidu, Apple and Uber.

6. FINTECH
Shifting Tectonic Plates

This year should see a fightback from traditional financial institutions, as they try to disrupt themselves in an attempt to stem the impact of 'banks 2.0'. Failure to do so will result in attempts to acquire talent and technology.

7. SOCIAL MEDIA
Transformation

In 2017, as users are exposed to both domestic and foreign platforms in an increasingly flat world of consumer technologies, we expect Western and Asian social media giants to offer vastly similar features.

8. SaaS SOFTWARE
Reigning Supreme

An increasingly mobile workforce has led to mass adoption of SaaS. The market, however, remains very fragmented. We believe 2017 will see a consolidation of the SaaS ecosystem, delivering competitive applications.

9. TECH IPOs SET
For Take Off

Global uncertainties have contributed to a sluggish performance for IPO markets in 2016. The market looks set to return to business in 2017, with the likes of Snapchat engaging financial advisors in preparation for an IPO valued at $25 billion.

10. YEAR OF THE
European Decacorn

2016 saw the birth of our first European decacorn and we expect two more Supercells to emerge in 2017. European Unicorns continue to demonstrate resilience in comparison with their Asian and US counterparts.

CHAPTER 1

GROWTH SECTORS

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THE NEXT GENERATION OF *Artificial Intelligence*

591
Deals in 2016

$4.2bn
Deal value in 2016

40
Acquisitions in 2016

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Artificial Intelligence (AI) is an industry that has captured the popular imagination since its dawn in the mid-twentieth century. It has, however, faced the perpetual problem of being a technology with limitless potential but lack of understanding and few real-world applications. We believe that 2017 is the year that AI bucks this trend and breaks into the mainstream.

The AI industry has weathered three boom and bust cycles since the 1960s, resulting in multiple "AI winters" where research and development into Artificial Intelligence ("AI") remained static. Superior computing power, a vast increase in available data, advanced machine learning algorithms and strong interest from large tech companies and investors has supported the recent breakthroughs in AI research. 2016 is expected to post record levels of investment in the industry, with 591 deals totaling $4.2 billion led by Khosla Ventures, Intel Capital, Google Ventures, Andreessen Horowitz and NEA.[1]

While many companies struggle to find practical applications for AI technology, the tech giants recognize the massive opportunity that AI presents. More than 40 AI companies were acquired in 2016, with Google, Apple, Intel, Salesforce, Microsoft, and Samsung each purchasing firms with distinguished AI technologies to help with key components in their tech stack including machine learning, data science, natural language processing and advanced computer vision technology.[2] Most notably, Intel bought AI developer Nervana for $400 million and Apple acquired the machine learning platform Turi for $200 million. These Tech giants are beginning to implement AI solutions to solve real-world problems. Google recently announced plans for AI-powered applications such as Google Pixel and Google Home, and their rivals are sure to follow suit.

However, outside the tech giants, adoption of AI technology has been sluggish. Smaller firms are struggling to implement the technology in a practical and affordable way. This is the challenge AI developers face - changing the perception that Artificial Intelligence is the sole preserve of the tech giants. These pioneers will help enterprises automate repetitive data-driven tasks while reducing costs and optimizing data analysis. We expect businesses to adopt AI as they did with SaaS, non-core administrative tasks and customer service before implementing AI solutions for CRM and marketing. This year alone, Kahuna raised $58 million to automate mobile marketing and analytics, while Digital Reasoning raised $74 million to improve the way companies analyze information and uncover new insights. Additionally, AI developers Cylance, iCarbonX, and Sentient have raised over $500 million in aggregate to disrupt niche verticals such as healthcare, security and finance.[3]

We expect tech companies to continue to develop AI-powered Virtual Personal Assistants ("VPA") such as Apple Siri, Microsoft Cortana, Amazon Alexa, and Google Now. Innovation in VPA will be driven by third-party developers as they conduct public experimentation to investigate unexplored capabilities. It is our belief that VPAs will continue to increase in sophistication, using deep learning to become an irreplaceable part of our daily lives.

Although the present generation of AI is still in the junior phase of development, we believe that 2017 will see consumers and businesses begin to adopt cutting-edge Artificial Intelligence for real-world applications.

COMPANIES TO WATCH

clarifai · crisp · DataRobot · Dooer · EVERSTRING · Graphcore · Kahuna · LEVERTON · Shift Technology · tamr · TRIFACTA · WorkFusion

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1. CB Insights, Brain Boost: AI Deals And Dollars Have Already Reached Record Annual Highs, November 2nd, 2016
2. CB Insights, The Race For AI: Google, Twitter, Intel, Apple In A Rush To Grab Artificial Intelligence Startups, December 6th , 2016
3. GPB estimates

CORDLESS CONTENT
Anywhere and Everywhere

86m *Netflix users*

$30bn *Market value*

20% *Of US video industry*

Millennials are leading the "cord cutting" movement and changing the way we consume media. Ubiquitous high-speed broadband, a vast library of premium content, competitive pricing, and an ability to watch on multiple devices have accelerated the adoption of over-the-top ("OTT") services such as Hulu, Netflix, Amazon and Sky that allow users to stream videos over the internet.

They have earned the trust of digitally native millennials by empowering customers to control their video content, leaving behind the one-size-fits-all model offered by traditional cable providers. Netflix is one of the largest players, with 86 million global subscribers who consume a combined total of 125 million hours of daily video content.[1] The OTT market is expected to reach $30 billion and accounts for approximately 20% of the total US video industry by 2018.[2]

Driven by the fear of becoming obsolete, traditional cable and satellite TV providers have begun to offer supplemental mobile streaming services as part of the bundle and live TV services that OTT providers are unable to offer. An increasing number of cable providers are launching dedicated OTT services with a slim base package and a la carte add-ons without expensive cable subscriptions. Since launching their OTT services in 2015, Sling TV and PlayStation Vue have enjoyed moderate success, attracting 1 million and 100,000+ subscribers, respectively.[3] We expect OTT services to continue to gain ground in 2017, with the launch of expanded streaming platforms from DIRECTV, Hulu and Google/Youtube that have scale and experience negotiating content rights with major broadcasting networks such as Fox, NBC, Viacom, Disney and CBS.

An a la carte OTT service prioritizes content and forces TV networks to provide quality programming videos that attract viewers. Customers are seeking premium content, dropping existing cable services and subscribing to HBO, Netflix and ESPN to watch premium and/or live content including Game of Thrones, Narcos, NFL and the Champions League. However, these premium content services come with a price tag that can be as high as traditional networks, with ESPN charging customers $7 per month for their subscription service.[4] Many leading companies will transition to OTT services with a mix of skinny OTT bundles and premium a la carte content, as new OTT market entrants undercut existing cable and satellite providers that fail to adopt to the changing environment.

The OTT disruption of the TV industry has begun. There will be more consolidation on the back of the ATT/Time Warner merger as owning the content becomes more economical and increases competitive advantage. In the future, we believe the leading OTT services will use analytics platforms similar to those employed by Google in order to reduce content licensing costs by offering first-party viewer data previously not available to TV networks and studios.

While OTT providers lead the video streaming revolution from above, digital native millennials are driving an explosion in user-generated video content from below. Online social video platforms such as Facebook live, Snapchat and Instagram have enabled millennials to create video content and connect with viewers directly in an era of viewer specific micro-broadcasting.

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1. Netflix Quarterly Earnings, October 17th, 2016
2. Bcg.perspectives, The Future of Television: Where the US Industry is Heading, June 9th, 2016
3. Variety.com, Will Skinny Bundles Like AT&T's DirecTV Now Destroy Pay TV, November 16th, 2016
4. Business Insider, ESPN's Business Model is in Trouble, November 1st, 2016


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SAMSUNG
MODE
COMPANIES TO WATCH
amazon
AT&T
Google
YouTube
LADbible
MagineTV
maxdome
melty
NETFLIX
sky
woven
ZATTOO
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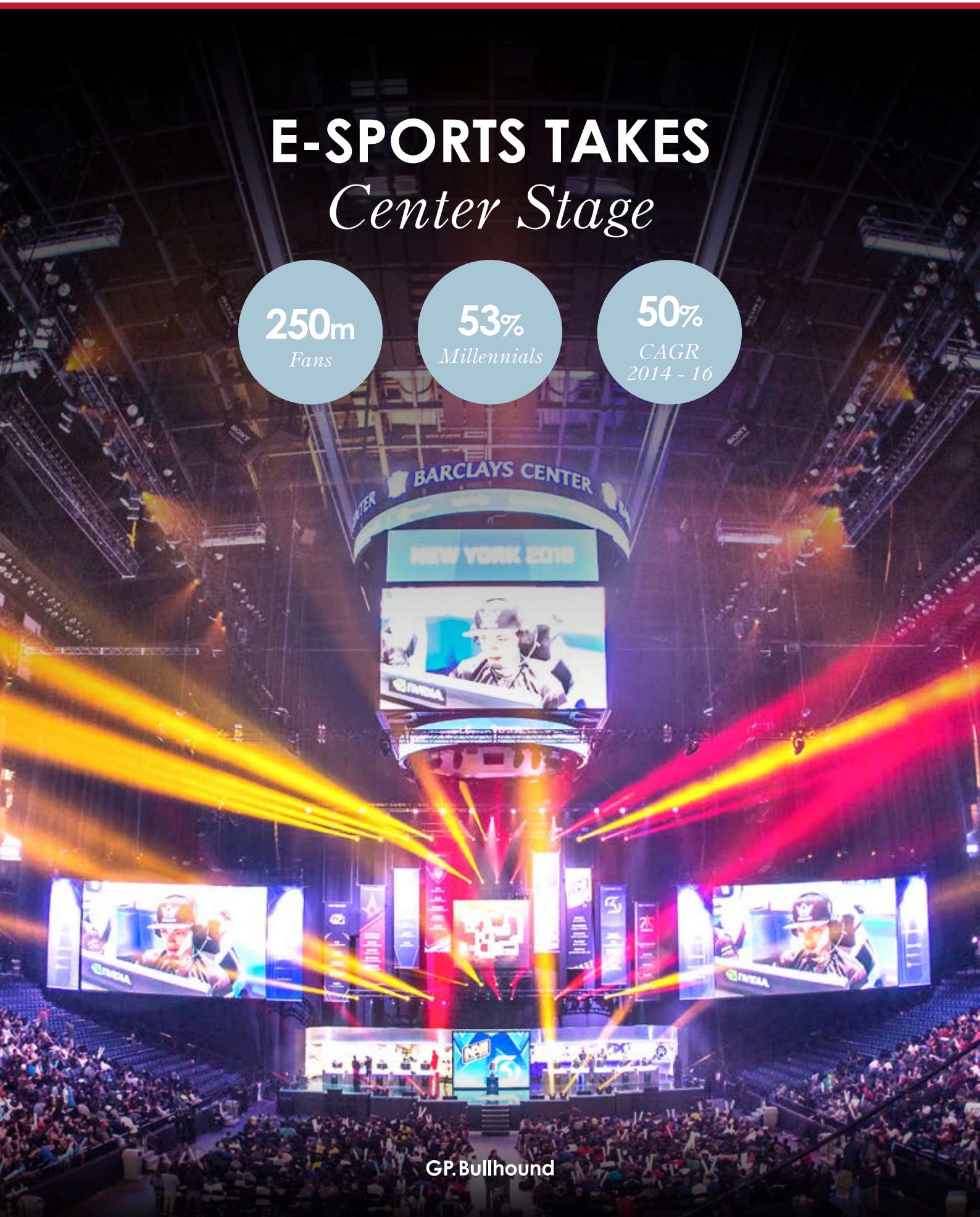
E-SPORTS TAKES *Center Stage*

250m *Fans*

53% *Millennials*

50% *CAGR 2014 - 16*



E-sports is on the path to becoming a billion-dollar industry in 2017, driven by an increasing number of game enthusiasts and strong interest from media and sponsors. The stereotype of the "lonely gamer" no longer exists. E-sports is now one of the fastest growing entertainment industries, with a global following of over 250 million people and total annual revenue of $493 million.[1/2]

The industry is enjoying tremendous momentum - growing at more than 50% CAGR in the last two years on the back of a $99.6 billion gaming industry[2/3]. E-sports are online gaming spectator sports that include popular genres such as real-time strategy, first-person shooter and various team-based competitive multiplayer games. The increasing popularity of online multiplayer games led to the rise of global gaming communities and tournaments where players compete and interact in local and online competitions. In 2015, there were 112 major e-sports events around the world, generating over $21 million in ticket sales and $61 million in total prize money.[2]

E-sports tournaments are typically held in physical stadiums where teams of professional gamers challenge each other in front of audiences of thousands while their matches are broadcast to millions of viewers via TV and online streaming platforms such as Twitch. The number of unique viewers for the 2015 League of Legends World Championship Final was 36 million, topping the 30.8 million viewers for game 7 of the 2016 NBA Finals.[1/4]

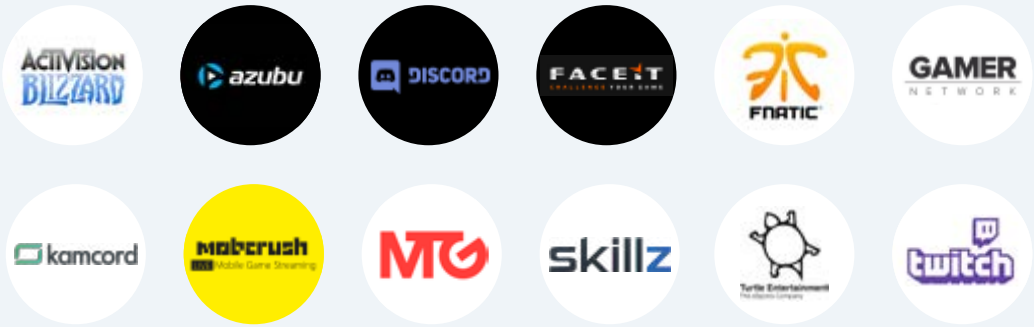
Millennials are undoubtedly the single most important generation responsible for the growth of the e-sports industry. They have grown up playing games and turned childhood passion into a sport by supporting the development of the e-sporting ecosystem. Around 22% of US male millennials frequently watch e-sports, roughly the same figure as baseball viewing.[1]

Viewers are typically attracted by the competition, exciting graphics, professional commentary and engaging atmosphere.

Millennials make up 53% of e-sports fans, the highest concentration of any sport supporters.[1] Major tech and media companies such as Facebook, Amazon, Google, Disney, Time Warner and Alibaba are looking to capitalize on the e-sports opportunity and connect with the millennial audience. Facebook has partnered with Activision Blizzard to stream game events via Facebook Live and ESPN has established an e-sports group to broadcast tournaments. Some game publishers have even acquired e-sports organizations, exemplified by Activision Blizzard acquiring Major League Gaming to add live streaming to its list of gaming capabilities and Modern Times Group, acquiring multiple e-sports leagues including ESL, ESEA and Dreamhack.

E-sports is even expanding into mobile gaming, the largest and fasting growing segment of the global games market, expected to generate $36.9 billion in 2016.[3] For example, Super Evil Megacorp, the developer of Vainglory, has partnered with Twitch and Supercell to host a Clash Royale tournament in Helsinki. As the audience shifts to mobile and live-streaming applications such as YouTube, Discord and Twitch, advertising and sponsorship opportunities will continue to expand the e-sports market size.

COMPANIES TO WATCH



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1. Newzoo Report, Why Sports & Brands Want to Be in E-sports, October 2016
2. Newzoo, The Global E-sports Market Will Reach $463 million in 2016, January 25th, 2016
3. Newzoo, The Global Games Market Reaches $99.6 billion In 2016, April 21st, 2016
4. Wall Street Journal, NBA Finals Game 7 Draws 30.8 million Viewers, June 20th, 2016


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EXPERT VIEW

Mathias Hermansson

Executive Chairman, MTGx

For the first time in decades, we have had an entirely new sport gaining traction in the western world: e-sports. It has scaled from a niche activity, with the number of gamers around the world taking part in these online spectator sports growing unbelievably rapidly. I would estimate that the current market estimates will be overachieved and there is potential to quadruple the market size in the coming five years.

This is the result of two concurrent trends. On the one hand, the early distribution monopoly that Twitch enjoyed is being broken. It was the market leader, but we are seeing a lot more scale distributors entering the fold and the value of the content increases dramatically on the back of viewers surpassing 250 million fans this year. On the other hand, investors, particularly large media groups, see the potential for vast non-endemic advertising and sponsorship revenues. This has driven a real interest in the market for potential investments, with a number of firms scouting for talent and innovation.

We can see greater willingness to collaborate and professionalize the sport in the industry; it is as much about creating the next big success story as it is for the parties to compete between them. We believe this will further accelerate the current forecasts over the coming years.

Given how hot the sector is, we see many corporate backers striving more for originality and innovation as well as access to this hard-to-reach and growing target group. This in turn is leading to a growth in corporate venture funds and digital accelerators. I believe it will be particularly important in 2017 to find the high quality assets that can create long-term sustainable access to these eye balls as we see an explosion in new e-sports start-ups.

Both corporate and financial investors will increasingly seek out businesses that are profitable and generating substantial revenues. The time is over when companies can live in a bubble where they are not clear on how to monetize current services. This means that there is a lot less patience in the market, both from entrepreneurs and investors. However, it also means that there will be fewer businesses being built by burning cash without producing results. All in all, we should expect back-lashes here as well, just like you have seen in other hot investment areas in the past year.

This shifting investment philosophy can be seen partly as a reaction to the turbulent times that we have experienced in 2016. I would not put too much emphasis on the impact of the US elections and the UK referendum. Technology will always trump politics so these macro-economic and political events tend to help to re-focus investment over time.

As a result, it is the industries with clear potential to make a profit in a sensible timeframe that are capturing the attention of investors. E-sports is one of these. Driving this rise in popularity is a significant shift in consumer behavior, with millennials consuming media and sport in totally different ways to previous generations.

First, this younger generation is looking for entirely new forms of entertainment. This has turned gaming from a personal hobby into an event with millions of viewers. Our Intel Extreme Masters event, held in April this year, had a peak online concurrent audience of 2 million viewers, with a further 113,000 spectators watching in person.

Second, millennials are demanding to watch content on-demand. There is an impatience in the market that has accelerated its rapid growth. E-sports went from being little known in the Western World to hugely popular almost overnight and is on the way to become mass-market. This was in no small part due to this millennial hunger for relevant streamed content. It coincides with early signs that traditional sports viewing starts to soften. In Sweden, online viewing of e-sports has rapidly overtaken online viewing of traditional sports this year in terms of daily reach.

There will be a growing demand in 2017 to see products emerge that can produce profit. I can see a scenario where there is likely to be a backlash from investors, for example the explosion of number of VR start-ups. Today there is a massive inflow of investments and the jury is still out there on how many of these that will make it in the end; E-sports certainly still needs to mature, but it has the fortune of being an industry with clearly defined revenue streams through advertising and subscription services. There are others that will not be so lucky.

THE DAWN OF *VR/AR Content*

Virtual Reality ("VR")/ Augmented Reality ("AR") is set to become the next major media platform in 2017 with the potential to be as revolutionary as the laptop and mobile phone. What remains to be seen is whether content developers can keep pace with the rapid progression of hardware capabilities.

Last year we predicted that VR headsets would flood the market. 2016 has been an exciting year for virtual reality, with the launch of Oculus Rift, PlayStation VR and Samsung Gear VR among several virtual reality products released to consumers. Over 16.5 million VR/AR headsets have been sold in 2016, including two million high-end headsets like Oculus Rift and HTC Vive.[1] Even traditional laptop and desktop manufacturers like Lenovo, HP, Dell, Asus and Acer have announced plans to enter the market.[2]

The recent announcement of Facebook's Oculus Santa Cruz and Intel Project Alloy marked the start of the race to develop powerful wireless VR/AR headsets. Many Silicon Valley and Asian tech giants, including Apple, will be tackling the engineering challenge of packing superior computing power and rendering capability into a small, portable headset. The development of a standalone headset will open endless applications and enable users to explore outside the range of the wired console. However, the superior headset is only one piece of the puzzle for widespread adoption.

The industry is at the peak of the hype cycle with hardware progressing ahead of content. Early pioneers of content will be crucial in building the VR ecosystem and maximizing the potential of the hardware. Media giants like Comcast, Bertelsmann, Time Warner, Disney, and Axel Springer are leading investment in VR/AR studios. Meanwhile, new entrants to the market Evolution Media/CAA and Shanghai Media Group recently invested $25 million and $67 million in Baobab Studio and Jaunt VR, respectively. Other investors and tech giants are also investing, having noticed the dearth in the market for content, as shown by Facebook spending $250 million funding Oculus content and producing Henry - an award-winning film.[3]

Contrary to the misperception that VR is limited to gaming, a wide variety of industries are set to benefit. In 2016, NextVR partnered with NBA, Fox Sports and Live Nation to broadcast live NBA, soccer and concerts. Additionally, Jaunt VR, Felix & Paul and Baobab Studios produced award-wining original VR films and animations while Netflix produced Stranger Things. We expect VR/AR editors and distribution platforms to emerge as the ultimate winners in 2017.

Realizing that VR is not just a passing trend, but a new way to engage with end users and provide unique brand experiences, led media companies and brands to allocate larger budgets for VR. This will subsequently generate demand for content. As content creation becomes ubiquitous with more tools and professionals, the cost of creating VR content will decline, thus further boosting the ecosystem.

Augmented Reality has been making significant progress albeit the technology and adoption are two to three years behind VR. Pokemon Go craze and launch of Microsoft HoloLens, Sulon Q and Meta AR have changed the public's perception and highlighted the potential of AR. Pokemon Go has 500 million downloads to date and 50 million daily active users at its peak.[4/5] Although the initial application of AR has been on gaming, healthcare and Industrial AR such as inspection, real-time guidance and operational support, we expect to see a wide range of applications as the technology evolves.

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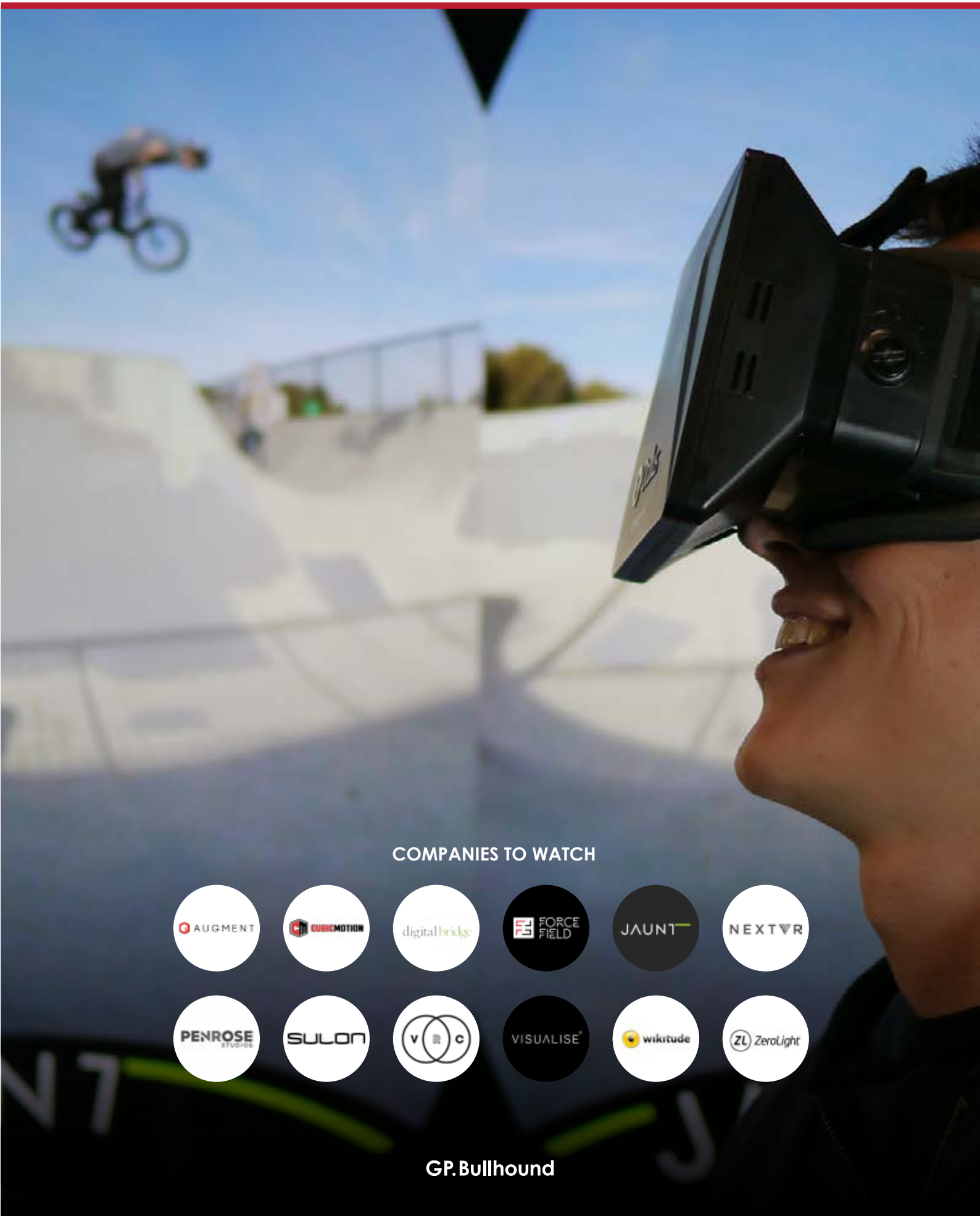
COMPANIES TO WATCH
AUGMENT
CUBICMOTION
digitalbridge
FORCE FIELD
JAUNT
NEXTVR
PENROSE STUDIOS
SULON
VRC
VISUALISE
wikitude
ZeroLight
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EXPERT VIEW

George Kliavkoff

CEO, Jaunt VR

If I were to sum up the state of VR/AR, it would be of an industry with increasing potential. In the US, you can't turn on a major sports event, or visit a shopping centre, without seeing a commercial or opportunity to experience virtual reality. Despite some questioning the slow uptake, I feel as though we are on the cusp of a serious breakthrough in uniting content and hardware to provide a truly unique customer experience.

Having worked in digital video for over 20 years, I have witnessed first-hand the birth and evolution of new formats for digital platforms, from subscription, mobile, streaming, and video on Snapchat. For the rise of each new format there has always been an inflection point, where innovation begins to generate capital and mass appeal. All the indicators point to 2017 being that inflection point for virtual reality (VR) video.

For me, there are two standout markers that this year will see mainstream adoption of VR. First, major video distributors and brands are beginning to commit considerable resources and investment into buying and providing VR content. All of the video aggregators like Netflix, Amazon, Hulu and Verizon have all, for the first time, set aside actual line items to provide VR video content to their subscribers. They are not only doing this by buying access to VR libraries but also by ordering their own VR originals.

Secondly, the majority of CMO's that we deal with have moved VR/AR from their research and development budgets into line items for their video production spend. This is a key market indicator that we have seen in previous uptake of new digital video formats.

There are other key drivers indicating that 2017 will be a breakout year for VR. The point is often raised about the slow uptake of headsets, with only 16.5 million sold in 2016. However, increasingly we are seeing companies approach specific mass-markets. The recent release of Sony's Playstation VR device, which can be paired to their gaming console, has opened up a 40 million-strong audience. A more accessible introduction to the market has also come from Google, with the addition of their android specific headset that lists for $79. This accessible price and use of unique mobile sensors will create an entry point for those not solely interested in the gaming side of the market.

The rise of 360-degree video has provided the on-ramp for widespread interest and adoption of immersive video content. It has demonstrated to advertisers and social media giants that there is an increasing appetite for virtual reality. Subsequently, there has been a huge uptake on social media platforms, and this is paving the way for companies to provide further VR content and hardware to seize on market interest.

The emergence of dedicated location based experiences will also do a lot in 2017 to encourage upward consumer trends. Goldman Sachs have estimated that in China alone, 2017 will see 100,000 new VR cafes spring up. A huge moment for what will be the largest VR market in the world. Companies are rapidly investing significant capital to keep abreast of this trend. For example, IMAX recently invested $50 million dollars into a fund with the sole purpose of providing VR experiences in their existing IMAX cinema locations.

Having been through iterations of new digital formats before, driving consumer uptake has always been up to the entrepreneurs. But in this case it has been the major organizations doing it and we're riding the wave. This opens up a flood of capital and interest that has been unavailable to previous innovators. To be at the forefront of this change is incredibly exciting, and I look forward to seeing what 2017 brings for the sector.

CHAPTER 2

FUTURE PROSPECTS

GP. Bullhound

DRIVERLESS CARS STILL REQUIRE *Human Attention*

$77bn
2035 value

15%
Of cars sold by 2030

$8bn
Harman acquisition

The self-driving car is no longer a sci-fi fantasy. This year will be incredibly important for manufacturers and advocates of the technology to prove reliability and safety, not just to satisfy regulations, but also to tackle concerns amongst potential consumers.

By 2035, more than 12 million fully autonomous cars will be sold every year as the industry grows to $77 billion.[1] Uber partnered with Volvo to launch a driverless pilot in Pittsburgh this September and acquired a self-driving truck company called Otto for $680 million, while Tesla has been selling electric cars equipped with a beta version of autopilot technology since last October. The self-driving car is one of the most popular headlines of 2016, giving the public a glimpse into a future of transportation with increased safety, efficiency and sustainability. With human error alone accounting for approximately 1.3 million fatalities and 50 million causalities a year, driverless cars are expected to make transportation significantly safer.[2] Autonomous cars are a real solution to safety and efficiency problems in the transportation industry – if they can jump the technical and regulatory hurdles.

Recent progress in autonomous technology has built on improvements in advanced driving systems, artificial intelligence and new advances in electric cars. As cars enjoy greater connectivity, tech players such as Google, Apple, Baidu and Samsung, who have recently announced an $8 billion acquisition of US car infotainment firm Harman, are beginning to venture into the transportation industry. Traditional carmakers are now exploring the possibilities of self-driving technology via partnerships, investment and in-house R&D. Volvo and Uber have agreed a $300 million deal to develop both hardware and software for self-driving cars and Japanese car giant Toyota and US manufacturer General Motors have invested in Uber and Lyft respectively.[3] We believe traditional car makers will focus on adding new assisted driving features while the Innovation of fully self-driving cars will be driven by tech giants and mobility providers such as Uber and Lyft who doesn't benefit from the assisted driving as it doesn't remove their biggest cost, the drivers, from the picture. Yet despite recent advances, fully autonomous cars have a long way to go before they are ready for general sale. Driverless cars are still in the process of resolving a host of technological, safety, security, insurance and regulatory issues. The technology is still at a nascent stage, with ongoing improvements in sensors and artificial intelligence required to understand the surroundings and make real-time decisions.

The biggest obstacle that driverless cars face is the need for regulatory clarification - with Google, Ford, Volvo, Lyft and Uber forming a coalition to develop national guidelines for the use of driverless cars on American roads.[4] The US National Highway Traffic Safety Administration (NHTSA) has recently issued a 15-point safety guideline for autonomous cars, which addresses issues ranging from privacy and system safety to post-crash behavior and object detection.[5] Though the publication of this guideline suggests a willingness by official agencies to embrace driverless technology, we do not anticipate the widespread adoption of autonomous cars without the development of a tighter regulatory framework that addresses safety, insurance and security concerns.

We believe that the adoption of autonomous cars will be determined by customer acceptance, especially as insurance and safety concerns persist, rather than the pace at which driverless technology develops. A fatal crash involving Tesla autopilot received substantial media attention as it was viewed as a new risk even though the likelihood of an accident is much lower for self-driving cars than human errors. This also leads to a question of whether the car manufacturers or drivers should be responsible for insuring the self-driving cars and acceptance from the insurance industry of these new vehicles. Though the development of autonomous technology continues to make substantial progress, a series of regulatory, insurance and safety issues must be resolved before driverless cars become a common sight on the road. In 2017, we expect an increasing number of drivers to use auto pilot/assisted driving on the highway and traffic jam, and more companies to test self-driving cars in more cities.

COMPANIES TO WATCH

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DESIGNED
AND
ENGINEERED

EXPERT VIEW

Laszlo Kishonti

CEO, AImotive

If I were to sum up progress in the development of automated vehicles, I would have to give it a seven out of ten. No one expects driverless cars to have an impact on a global scale overnight and I feel as though the industry is on a good track. And yet, there is such a long way to go before we see automated vehicles as the norm.

Given driverless cars have already captured so much attention in the media, it is easy to forget that innovation is a long-term process. It begins with research and development and widespread consumer adoption is only the final stage of the process. To reach that end point, you have to first create technology that is high quality, affordable, and easy to access. This whole process is accelerated by having regulation that allows creative innovation.

To start with the tech, the whole story of driverless cars started about ten years ago when a few groups were making progress with LIDAR-based cars. LIDAR used laser beams to detect obstacles and navigate uncertain terrain. The cars also had highly detailed HD maps of the environment and that is how they could get from A to B. That technology is not at all scalable; you can store and update HD maps, but they are large, costly, and inefficient.

The research that went into those projects was immense. However, in its current state, the technology will not experience any widespread consumer adoption. We need to replicate how humans drive because that will be the easiest way to get acceptance from other drivers. At AImotive, we do not want to replicate any of the old technology. I think we can have a driverless car in the next four or five years based on artificial intelligence.

Once we have the foundations of a technology that is easy to use, affordable to produce and highly specialized, we can begin to build a wider ecosystem for driverless cars. An added appeal of AI-based automation is that it can use the same transportation infrastructure as we do now. I also believe that this automotive AI is just a starting point for the production of many interlocking technologies, such as more advanced chips and longer-lasting batteries.

This brings us to regulation. A dedicated focus on making products that speak to the needs of the consumer is key but to ensure that this production process runs smoothly, we need government support. If I were in government, I would dedicate some of the highways, country roads, and even some in the cities to allow for testing. The technology cannot work if nobody knows how the cars function on a larger scale.

This is crucial to creating trust in the technology. If there was an accident involving people in an insecure environment, the whole regulatory process would slow down dramatically, and with it the investment in innovation and product development.

I also believe that advances in virtual reality could have a significant impact in our industry and beyond in the next year. I think VR will become far easier to use and simply a way of processing information better. The keyboard will soon be a relic. I think all user interfaces will be dynamic, pushable, but never a fixed format. I can see how this might operate in a car and I think that it could be transformative in so many other fields.

The next year will see progress in driverless technologies. Hopefully this year we will see something that can be properly tested and developed, but we are still years away from a product. This is a technology with a lot of potential, but a long way to go.

FINTECH
Shifting Tectonic Plates

2,000 *Companies*

58 *Countries*

$53bn *Funding*

Financial Technology (or "Fintech") innovation has come primarily in waves, starting with complementary banking services (e.g. digital payments) to alternative financial products (e.g. peer-to-peer ("P2P") lending) and ultimately transaction processing platforms (e.g. wire transfer using blockchain technology).

However, some of the explosive early growth in Fintech has slowed as companies, especially in P2P lending and blockchain, face operational and regulatory challenges.

P2P lending platforms have the potential to create an optimal lending process that reduces costs for borrowers and increases returns for lenders. P2P lending enjoyed significant rapid expansion until early 2016, primarily driven by more efficient loan origination processes and the substantial capital from institutional investors in a lower interest rate environment. In fact, US-based P2P lending platforms received roughly 80% of their capital from institutional lenders last year.[1] As competition in the P2P lending market intensified, some less qualified players focused on quantity over quality of their loans. This created bad publicity for the entire industry and raised the fear of increased default rates. Consequently, some P2P lending players are experiencing "capital flow" issues as both institutional investors and the general public are hesitant to invest in P2P loans.

Given the current situation in the P2P lending sector, we expect to see two stages of consolidation. First, we expect to see a "flight-to-quality" in 2017 as the large P2P players acquire smaller peers with streamlined loan origination processes to enter new lending verticals and geographies. Secondly, as P2P lending becomes more mainstream, we expect large traditional banks to acquire proven, established P2P platforms to offer alternative lending products and improve the entire lending experience.

Blockchain has the potential to be one of the most disruptive technologies, impacting many industries such as finance, legal and the Internet of Things ("IoT") where transparency, efficiency, security and traceable unique identifiers are key attributes. While bitcoin was the first well-known application of blockchain, the use cases have expanded to wire transfers and international payment settlement solutions between banks. Ripple raised $55 million to disrupt cross-border payments and R3CEV is raising a $150 million round to create a secure digital ledger and financial agreements among the consortium of more than 70 financial institutions.[2/3]

There are still some challenges slowing down the adoption of blockchain technology, most notably regulation, the public's confidence in the system and the significant upfront costs to replace established legacy transaction processing systems. Financial regulators are trying to assess the implications of blockchain and determine whether it could meet the broad technical, governance, legal and regulatory requirements of local governments.[4] While further applications of blockchain technology will continue to emerge in 2017, significant investment, time and collaboration among key parties in the banking ecosystem will be required to mitigate existing challenges and push for widespread adoption.

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COMPANIES TO WATCH
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B Secur
digitalOrigin
feedzai
IKFINANCE
Kabbage
lendinvest
N26
Prodigy Finance
RatePAY
zest finance
Zuto
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GP.Bullhound

EXPERT VIEW

Christian Faes

Co-founder & CEO, LendInvest

We could see some significant change come to the fintech sector in 2017. The groundwork is set: there is less funding available, fewer big ticket deals hitting the headlines and less hype fuelling excitement in the market. Yet despite this gloomier outlook, there is a real opportunity for businesses with genuine innovation to set themselves apart this coming year.

Throughout the last few years, fintech has enjoyed rapid growth and global success. However, even as Lending Club secured its landmark listing at $4.5 billion at the turn of 2015, it felt as though the tide was turning. As we have moved through 2016, the market has changed dramatically. The sector has been subject to scrutiny and has weathered the inconvenient reality of some industry scandals, u-turns and failures upsetting the party. All this while riding the impacts of unprecedented political instability and macro-economic uncertainty.

In the year ahead, the industry must prove it has the capability to mature and develop. It will be a time for businesses to focus on their core proposition, and to show that they can grow without relying on government. Put bluntly, it is a time to get on with it.

Greater emphasis will be placed on the nuts and bolts of the services that fintech firms are offering. Until recently, it was relatively easy to find investment; peer-to-peer transfer services and lenders hit the market at a rate of knots and entrepreneurs were raising money from a single pitch deck. With a changing investment climate, this window-dressing is no longer an option.

At LendInvest, we have focused on one of the largest and most fundamental financial services – mortgages. The banks have dominated this market for decades and little has changed to the benefit of the consumer. As entrepreneurs entering the market with a clean slate, we have been able to build the technology from the ground up. This presents unbelievable opportunities to confront longstanding inefficiencies. However, there needs to be a realization that fintech is not a magic new sector. At its core, it is simply new financial services companies using technology better than the old ones.

Ongoing political sagas will obviously have an impact, but from our perspective what we are seeing is a strong sense of resilience. We have been through several years where fintech has been a key priority for regulators and policy makers. Priorities may change and as institutional support potentially begins to wane, the industry must now display its independence.

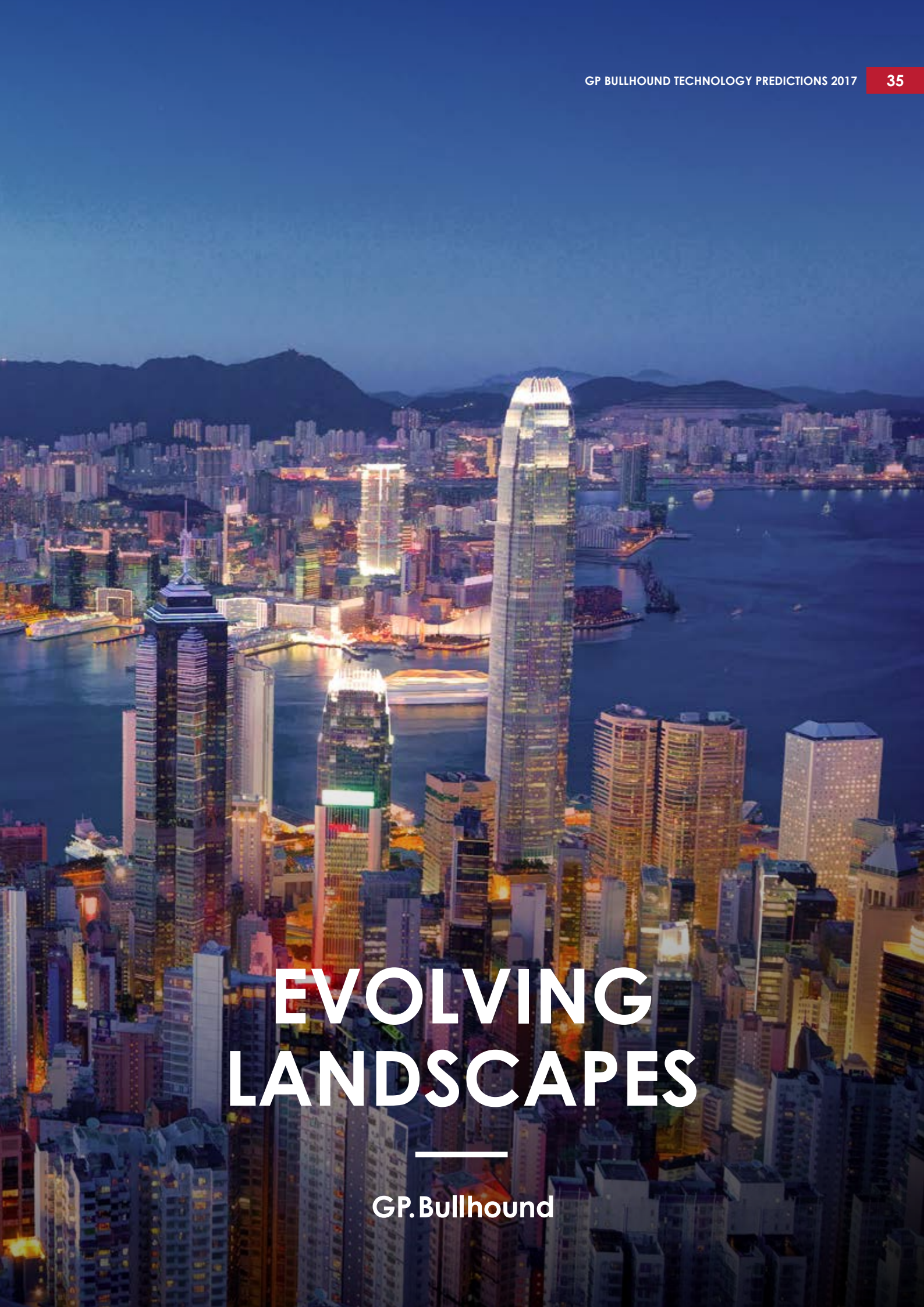
Looking beyond our own industry, 2017 may present significant challenges to fintech such as talent shortages across the sector and the constant drive for greater access to capital. And yet, there are innovations on the horizon that will redefine the entire technology sector, let alone our own market of financial services.

I would put my money on the greatest impact coming from the rise of Artificial Intelligence. It feels like people have been talking about AI for a long time, but now it is close to becoming a reality. Neural networks and machine learning are moving out of the laboratory and finding real-world applications. This will of course impact every industry, but I believe it can redefine financial services.

When compared with what we are doing, which is basically taking access to finance or investment returns and putting them online, AI holds huge potential. Just in mortgages as in insurance, machine learning could totally reshape the process of underwriting, as well as redefine how businesses protect themselves and customers against fraud. This will create greater efficiency and transparency through the market. Machine learning could also redefine the way we carry out any financial transaction.

2017 will see a shift away from rapid growth towards market consolidation. This is an opportunity for reflection and a deeper consideration of what technological innovation truly is. Perhaps we will see the growth of fintech slow, but the benefit of this introspection could be immense.

CHAPTER 3



EVOLVING LANDSCAPES

GP. Bullhound

SOCIAL MEDIA
The Next Generation

Since the birth of social networks, Western social media has dominated technological innovation, whereas Asian players have developed an edge on user retention and monetization. In 2017, as users are exposed to both domestic and foreign products in an increasingly flat world, we expect Western and Asian social media giants to offer vastly similar features.

For Western social media players, Asia presents a huge potential. However, it remains foreign due to substantial cultural and political differences. However, users in Asia spend more time on their mobile devices than people in any other part of the world, presenting a regulatory headache for governments but a burgeoning opportunity for Western networks. The region now accounts for 52.2% of global social media users.[1] As smartphone ownership and internet accessibility continues to climb, we expect social media usage rates in Asia to enjoy sustained growth.

Globally, social networks have demonstrated a clear shift from desktop to mobile. With high smartphone ownership and internet usage, Western countries are leading the world in terms of social media users. Couple that with the fiercely competitive markets dominated by multiple industry leaders such as Facebook and Twitter. Western players have been pushed into a race for innovation. For example, Snapchat has been the pioneer of innovations including AR glasses "Spectacles" and 3D stickers that attracted and engaged massive users, whereas Facebook was rebuilding its in-app camera to accommodate the future of augmented reality visual communication to stay relevant.

In comparison, Asian platforms continue to dominate domestic markets without expanding their international footprint. For example, WeChat has nearly 88% of its 806 million monthly active users located in China.[2] While this has enabled them to monetize their platforms quicker than Western competitors, they have neglected investment in innovation and products to allow for global expansion. As a result, they have been actively acquiring technology-oriented companies in the US and Europe to strengthen their international position. This is shown by Tencent's $8.6 billion acquisition of Finland-based Supercell, which created an entirely new European business unit for the Asian giant.

We expect Asian platforms to continue to pursue cross-border M&A transactions to achieve Western expansion, while selectively targeting European technology companies with attractive valuations.

While Asian platforms play catch up on innovation, Western platforms are following the path of their counterparts to exert greater control of users' journeys. In Asia, historically lower consumer pressure on innovation has resulted in disruptive business models that maximize the value of inventions originally made in the West. WeChat, along with LINE and KakaoTalk, pioneered the model of messaging apps as a gateway to all consumer services including e-commerce, games and mobile payments. This model enabled them to retain and profit from current users. Facebook has recently announced various value added services for its messaging app, including Virtual Assistant and marketplace for buying and selling goods. We expect more Western platforms to similarly refine their products, with Chatbots expected to play a key differentiating role in the battle for user control.

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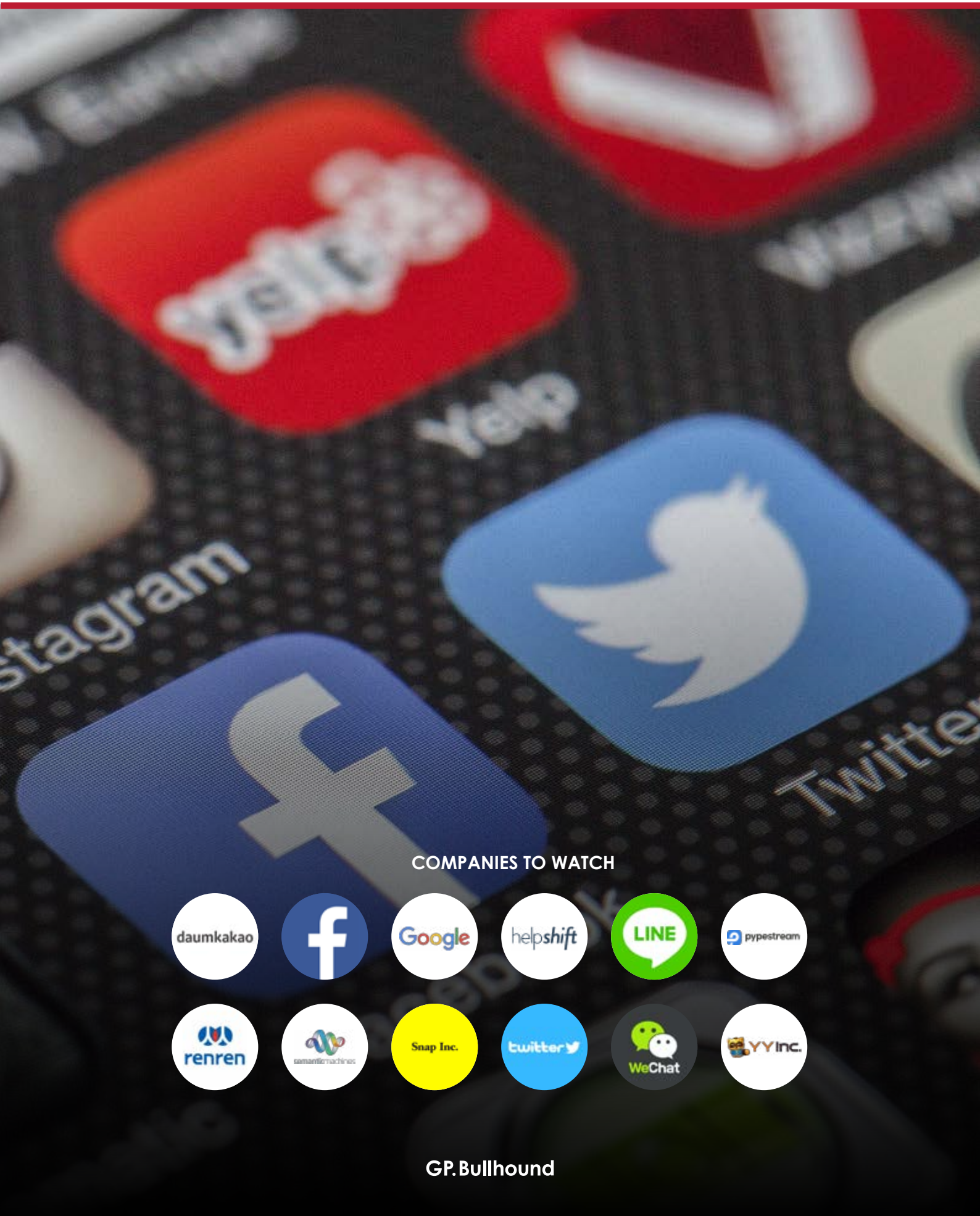
COMPANIES TO WATCH
daumkakao
Google
helpshift
LINE
pypestream
renren
Snap Inc.
twitter
WeChat
YY Inc.
GP.Bullhound

SaaS SOFTWARE
Reigning Supreme

$38.9bn
Market value

27%
CAGR

$59bn
M&A in 2016

With massive investment expected to flow into Software-as-a-Service ("SaaS") in 2017, the sector will further consolidate as the battle between strategic buyers and private equity firms for quality SaaS companies continues.

Investment by venture capitalists in emerging SaaS companies will remain strong in 2017, spurred on with successful exits. North America remains the primary destination for SaaS venture capitalists, representing 60% of total SaaS investment volume and 74% of total invested capital since 2010.[1] However, we expect to see an increase in capital flow into European SaaS companies that maintain attractive unit economics at more modest valuation multiples compared to many U.S. SaaS providers. In addition, European SaaS companies will become attractive acquisition targets for software consolidators looking to expand into the European market.

The volume of SaaS M&A has been remarkable, totaling $59 billion in the first nine months of 2016.[2] This strong level of M&A activity has been partly driven by the correction in public and private SaaS valuations as well as active participation of software consolidators, non-traditional tech companies and private equity firms. Average forward revenue multiples for public SaaS companies declined to 3.1x in February 2016 from its peak at 9.5x in January 2014. The forward revenue multiple for high growth private SaaS companies also decreased to 2x of its public peers, down from the 3x premium at its peak.[3] We believe that attractive valuations will continue to drive M&A activities in 2017.

Software consolidators are in need of "growth" M&A deals to expand product lines, business units, and geographical reach. Salesforce acquired Demandware for $2.8 billion at an 11.5x trailing revenue multiple to enter the digital commerce market, and Microsoft acquired Linkedin for $26.2 billion at an 8.1x trailing revenue multiple to expand its product suite and tap into the professional social network's user base and data.[1] Realizing the limited organic growth opportunity within their respective markets, many software consolidators are putting their strong cash balances to use by acquiring emerging SaaS companies in search of future growth and higher valuations. Meanwhile, non-traditional players have entered the race and acquired quality SaaS companies in an attempt to improve cross-selling opportunities and explore cost synergies with their existing businesses. Verizon's $2.4 billion acquisition of Fleetmatics and Cox Automotive's $4.0 billion acquisition of Dealertrack are primary examples.[1]

In 2017, private equity firms will continue to be aggressive in acquiring highly recurring, sustainable SaaS businesses through platform and add-on acquisitions of "modest" growth companies. They played a significant role in key transactions involving public SaaS companies this year; Vista Equity Partners' $1.8 billion acquisition of Marketo at a 7.5x trailing revenue multiple.[1] The high growth potential of SaaS businesses and pressure to deploy capital have motivated private equity firms to stretch outside of their typical valuation multiples, well above the 4.9x average forward revenue multiple of publicly-traded SaaS companies.[3]

With this influx of investment and strategic interests, we expect to see further consolidation of the SaaS industry in 2017. The tech giants and non-traditional companies will continue to acquire SaaS companies to improve cross-selling opportunities and strengthen their position in the fast-growing SaaS sector, while private equity firms will search for undervalued companies with strong recurring revenues and margins.

COMPANIES TO WATCH

ALKEMICS, bizagi, CustomerMetrix, ecovadis, HubSpot, MetaPack, movingIMAGE24, Performance Horizon, rant&rave, salesforce, slack, TALENTSOFT

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TECH IPOs *Set For Take Off*

36% *IPO volume down Q3 '16*

$25bn *Snap Inc. Valuation*

355 *Late-stage PPs*

In 2017 we expect to see a number of IPOs by tech companies around the globe, using public markets to secure investor capital and create shareholder liquidity. While global markets struggle to shake lingering anxiety, the technology IPO market is likely to enjoy a strong performance.

Technology IPO volume in North America, Europe and Asia fell by 36% in YTD Q3 2016 from the same period last year.[1] Uncertainty over rising interest rates and the UK's decision to leave the European Union, coupled with a slowdown in the Chinese economy and lower commodity prices, led to a sluggish performance in global IPO markets during the first half of 2016.

While the wider financial markets grapple with a prevailing climate of uncertainty, a quiet confidence is beginning to return to the technology IPO market. The US tech IPO market, for example, has showed strong signs of recovery. Nine companies successfully completed their initial offerings in the third quarter alone, most of which are now trading at a considerable premium over their initial offering prices.[1] Among the newly listed companies, Twilio's $150 million blockbuster IPO stands out as the best example of the public market's positively changing view on technology companies. Not only did Twilio open at a higher price and raise 50% more capital than initially expected, but the stock also jumped 92% on the first day of trading. Although the stock has since traded down, excitement and optimism in the market remain.

In the US, many technology unicorns are now moving towards the IPO route, driven by fewer options to raise capital and pressure to provide liquidity for investors and employees. Among the established players, Snap Inc. (Snapchat), Spotify, Dropbox, and Pinterest, are the most likely IPO candidates. Having raised a total of $2.4 billion from technology giants like Alibaba and Tencent, we understand picture and video sharing app Snapchat has engaged financial advisors and filed for IPO targeted for the first quarter of 2017, with an estimated valuation between $20 billion and $25 billion.[2/3] A successful public debut by these technology unicorns is likely to create a domino effect that could return the market to the level of IPO activity last seen in 2014.

In Asia, China is expected to be the most active IPO market of 2017 as its economy stabilizes and regulations are relaxed. The Chinese government is considering to allow Wall Street banks to operate in Mainland China as part of a joint trade and investment deal with the United States, a move that would flood the Chinese IPO market with foreign capital. Focus Media, a Nasdaq-listed Chinese advertising firm, nearly doubled its value when it was taken private by a Carlyle-led private equity group at a valuation of $3.9 billion in 2013 and subsequently relisted on the Shenzhen stock exchange at a valuation of $7.4 billion in 2015.[3] With a few other US-listed Chinese companies like Jumei.com and iKang Healthcare Group in the process of privatization, we expect to see a greater number of Chinese companies taking advantage of the opportunity to offer public stock.

In Europe, we also expect an increase in IPO volume in 2017, although not to the same degree as in the US and China. With many domestic and international exchanges across Europe, companies in the region have an ability to select from a number of listing venues, including one of the US exchanges. For companies choosing to conduct public offerings in Europe, the listing requirements and thresholds may be less stringent from a cost, size, scale and profitability standpoint with the potential for higher valuations due to scarcity value (e.g. AIM and NASDAQ OMX).

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COMPANIES TO WATCH
airbnb
DiDi
Dropbox
Palantir
Pinterest
sky BETTING & GAMING
Snap Inc.
Spotify
trivago
UBER
VICE
GP.Bullhound

CHAPTER 4

EUROPEAN DECACORNS

GP. Bullhound

YEAR OF THE *European Decacorns*

60% *Profitable*

$315m *European revenue*

$129m *US revenue*

The global unicorn market has battled against turbulent headwinds in 2016, with a number of sluggish funding rounds seeing a fall in the value of unicorns in the European, American and Asian markets. Despite these headwinds, we expect to see the market bounce back in 2017, with a strong possibility that several more European 'decacorns' will emerge.

In the face of continued financial uncertainty, we believe that European unicorns are well placed to brave market forces by leveraging a greater efficiency of capital, well-developed business models and rational valuations. European unicorns are more profitable than their American and Asian counterparts.[1] Our sample indicated that approximately 60 per cent of European unicorns are breaking even before interest, taxes, depreciation and amortization (EBITDA) which demonstrates a greater average level of profitability than their global competitors.

While European unicorns have enjoyed a high level of profitability, they have also experienced relatively less growth and muted valuations compared to the US and Asian markets. As a point of reference, European unicorns are valued at an average of 18 times their revenue whereas an American unicorn is valued at, on average, 46 times their revenue.[1]

European unicorns are more financially mature than their competitors, with average revenues of $315 million compared to $129 million in the United States. Furthermore, they have raised much less capital than their US counterparts, raising an average of $260 million where American unicorns have raised $560 million.[1]

These statistics suggest that European unicorns enjoy greater financial stability, are more capital efficient and hold more realistic valuations than Asian and American firms. These attributes allow for greater resiliency, allowing them to mitigate the effects of a potential undervaluation in volatile market conditions. Though not entirely immune from a potential down round or wipeout, European unicorns are likely to enjoy a greater degree of insulation from market forces than their global competitors.

European unicorns are also less dependent on non-traditional growth technology investors. They typically receive less capital from the asset management firms, pension funds and corporate investment arms that have inflated the value of American unicorns. Once market conditions become unstable, these investors are more likely to significantly reduce their investment, exacerbating any existing market turbulence and forcing the unicorn to seek alternate sources of capital.

These factors suggest that European entrepreneurs are more likely to be focused on sustainable growth rather than the generation of capital. With the European unicorn market positioned to withstand potential financial shocks, we believe that there is an emerging opportunity for the European ecosystem to close the gap on the United States and Asia.

These conditions suggest that 2017 may see the emergence of another European 'decacorn'. Spotify is the most likely candidate to claim the title - especially as talk of a potential IPO begins to gain momentum. Markit and Zalando are also well placed to see their values increase, although their listed status means they are more susceptible to market adjustments.

As the international unicorn markets continue to adjust in the face of persistent uncertainty, the European market is likely to see a significant net increase in value over the course of next year. 2017 will see European unicorns position themselves to begin closing the gap on Asian and American rivals.

COMPANIES TO WATCH

adyen · Bla Bla Car · blippar · conduit · Delivery Hero · FARFETCH · Klarna · mindmaze · SHAZAM · Spotify · TRANSPOREON · Veinteractive

GP Bullhound: Technology Predictions 2017
1. See our latest research report on European Unicorns
Source: Company data, Capital IQ, Mergermarket, press articles, GP Bullhound analysis as at April 2016
1. % of sample, sample includes 37 of the 47 companies.

METHODOLOGY

GP Bullhound canvassed its global analyst team for their collective predictions about the investment activity in tech for 2017.

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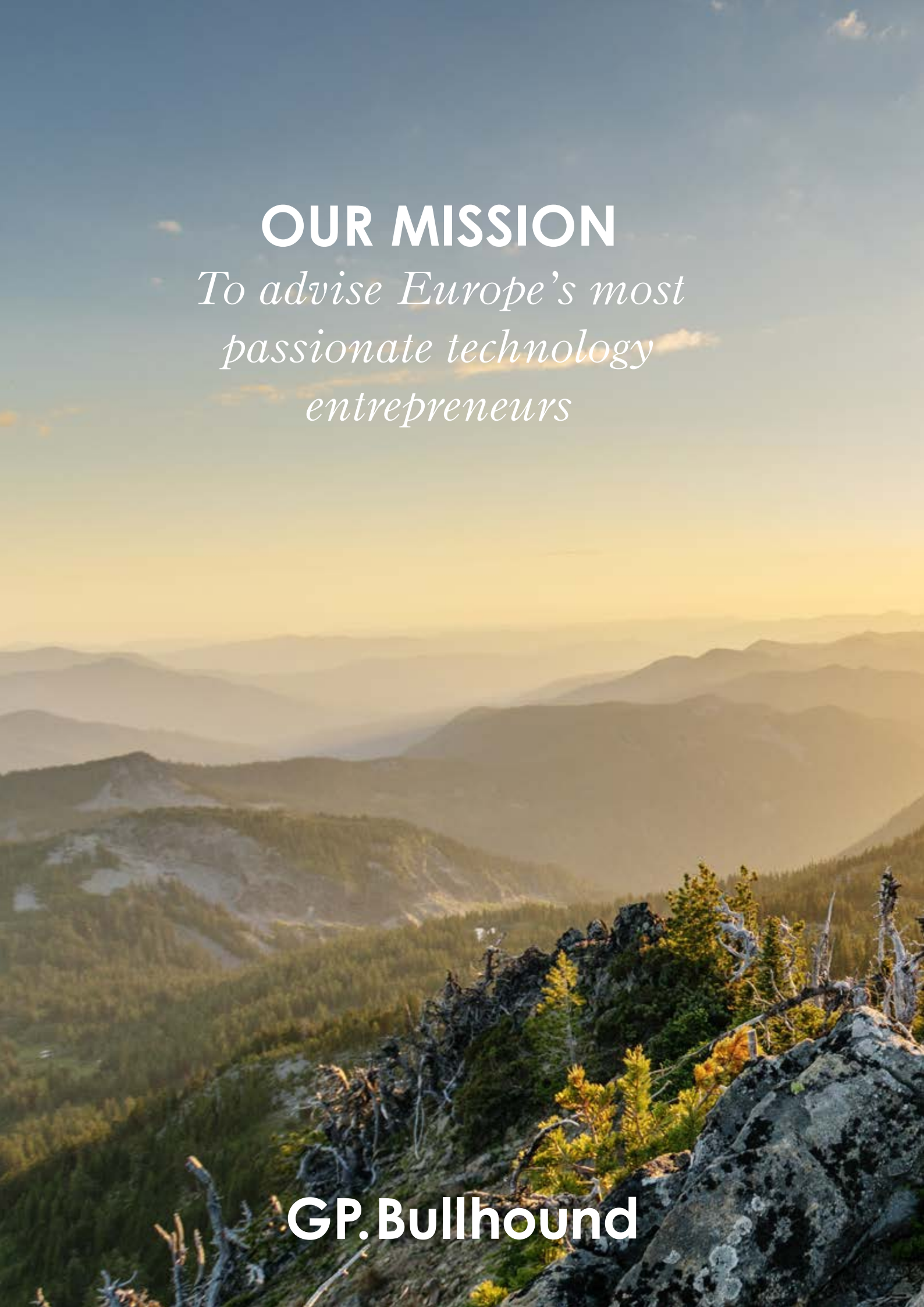
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