DRAKE STAR

TECHNOLOGY
OUTLOOK 2022

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HISTORIC M&A ACTIVITY WILL PEAK IN 2022

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2021 was a record year for M&A in a number of ways, with over 50,000 deals totaling over $5 trillion in value. Cross-border, tech, and private equity-backed deals made up outsized shares of these huge sums, and 2022 will see similar trends and volume. However, it may fall short of setting a new record as the appetite for mega mergers subsides and the global financial environment returns to pre-pandemic conditions.

THE GREAT ACCELERATION CONTINUE.

The cause of all this activity is what we are calling the Great Acceleration: a trend matched in scope only by the Great Resignation, to which it is intimately connected.

The Great Acceleration is something we all encounter on a daily basis. The pressure of the pandemic led to an enormous shift in the global work environment as it became almost entirely remote. This necessitated a sudden and massive acceleration in the deployment of work-from-home and other tech infrastructure.

Demand exploded for remote monitoring and administration in manufacturing, IT, retail and a hundred other industries. Online retail, already growing fast, saw unprecedented gains as it became nearly the sole shopping method for billions.

Companies of all sizes, from Etsy shops to multinational corporations, suddenly found that the cutting-edge tech they'd been thinking about adopting had become mission-critical almost overnight. Such rapid scaling might not have been possible a few years earlier, but the new generation of cloud-based services had been preparing for a rush of this magnitude.

In 2020 everyone scrambled to get their feet under them, and in 2021 those efforts paid off in rising revenues and valuations. Larger tech companies acquired smaller ones showing the strongest growth, while legacy and non-tech industries made crossover deals with tech targets to accelerate their own digital transformation.

TECH DEALS ON THE RISE

As a result, tech-related M&A accounted for $1 trillion of the total: a new high-water mark for the sector. Part of this record was due to the need for companies to move quickly and adopt technology that they could not possibly develop themselves in time. It made sense to own rather than license, either for financial or competitive reasons.

A domino effect also is created when one company in an active space decides to acquire the provider of a key service, like payments or database management. This prompts others, who may have been meditating the same move (and perhaps the same target) to do the same for fear of losing out on the next evolution of the market. Since digital transformation is a crucial and one-way process, many opted to buy outright to own the innovation they were taking part in.

That innovation has accelerated as well. Ideas and businesses that may not have seemed realistic five years ago began to make sense and even seem highly prescient — making these companies, often early-stage startups, perfect targets for a forward-thinking enterprise. Even highly traditional corporations made these kinds of investments, increasing the surface area for deals to take place in.

PRIVATE EQUITY SPINS ITS OWN FLYWHEEL

Private equity-backed deals made up a large proportion of that record $5 trillion, also crossing the $1 trillion mark for the first time ever. This was driven by a few trends.

First, PE simply had the money: with some $2 trillion in readily available capital earmarked for exactly this kind of activity, these firms were ready to move when the opportunity presented itself. With global corporates sniffing around the same targets and timelines shortened by pandemic pressure, there was no time or appetite for extended negotiations. But PEs have gained the sector expertise and well-honed deal processes needed to accomplish quick, accurate valuations and speedy dealmaking in the tech sector.

This contributed to the second trend, which was strong valuations and growth in general, spurring increased M&A activity. Such feedback loops are not sustainable over the long term, of course, but certainly for 2021 it was true that growth drove acquisitions, and acquisitions drove growth.

Third is the PE strategy of aligning with themes to build deeper expertise and synergies among their portfolios. Tech has naturally become a popular such theme, adding to the flywheel in that corner of the broader market. It was an auspicious time to specialize in tech, since the sector has shown remarkable growth during a period of uncertainty and unpredictable activity. PE firms had positioned themselves appropriately to capitalize on it.

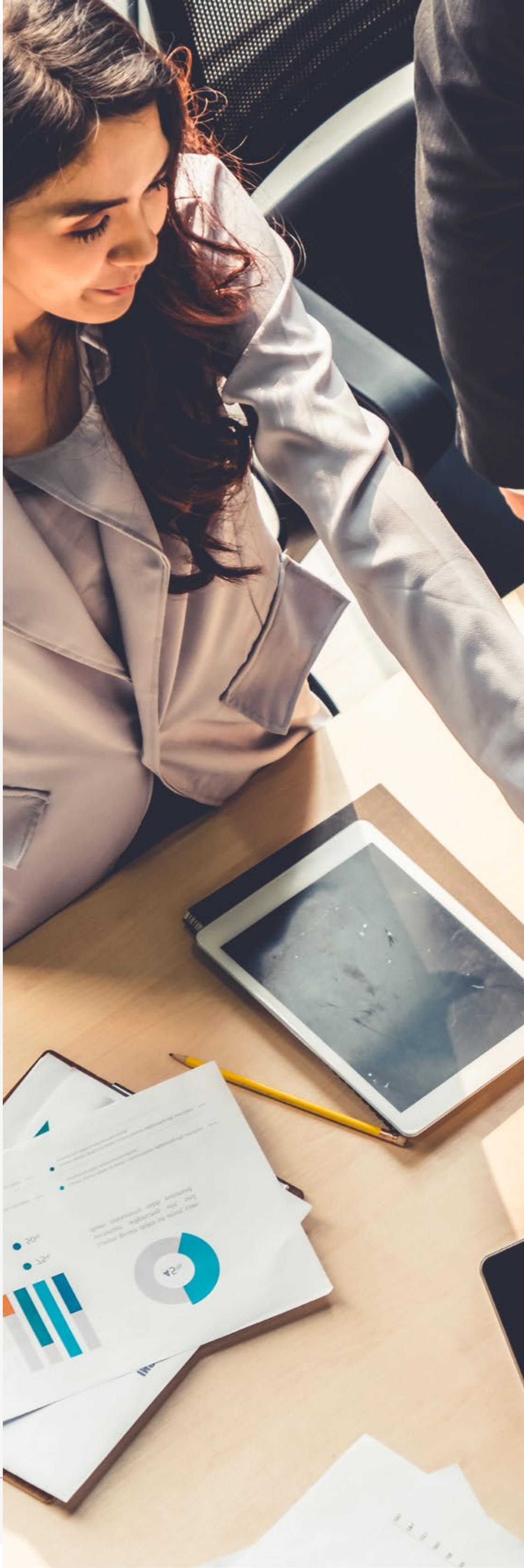
WE’RE NOT FINISHED YET

Looking forward, the trends defining 2021 will continue into the new year, partly because they simply have not run themselves out. By no means is the Great Acceleration complete; in many ways it is just getting started. It’s become more than clear that the changes made in 2021 are here to stay, and any company that hedged its bets will likely take the plunge this year into a deeper digital transformation.

It’s not just the normalization of video calls, something that no one even questions any more — though how to do these both securely and conveniently is an important new part of the enterprise economy. So many other things also now have to be done remotely: recruitment, R&D, sales, HR, IT. Every aspect of a business that once had its own section of the building is being spread across dozens, perhaps thousands of homes and individuals. How can you run a company without the beating heart that defined the last century of business: the office?

The answer to that question is still being formed, and 2022 will see the bets made in 2021 playing out and more conservative players putting their chips down as well. That includes the sleeping giants of legacy industries like oil and gas, automotive, and infrastructure, many of which have only made tentative efforts towards the comprehensive digitization that fast-moving sectors have already undertaken. Cross-border deals will also grow as tech, itself fundamentally international, intersects with globe-spanning industries.

Part of that will be these companies simply learning to make deals via the remote operations, something not every leader or company is comfortable with but is clearly an essential skill going forward.



POTENTIAL HEADWINDS

Private equity deals will continue to thrive as well, as long as they continue to pay off — perhaps a self-evident statement, but the trend will wear itself out in time. Although we are still in a period of optimism and activity, the threat of conservatism is visible on the horizon.

One factor here is that the pandemic has lasted much longer than most expected. In some ways this has driven growth, but what was considered at first to be a crisis of limited duration is turning out to be interminable: a new status quo. That means there's no hurry except where competitive pressure is being exerted.

This conservatism will likely be a top-down process: leaders will exercise more caution in evaluating the risks of any "bet the company" type mega-deal. Outside the existential threats faced over 2020 and 2021, the enormous financial outlay and potential for company-wide culture and organizational issues will be given heavier consideration.

Less friction will be felt in the middle market deals and tuck-ins, which may even see further increases, as the slow-rolling of big mergers frees up capital for more immediate and easily justifiable targets like startups.

Central banks worldwide have signaled their intention to raise interest rates, now that we have entered a period of greater certainty, and due to rising inflation. This will raise the cost of debt capital and make optimum conditions for acquisitions scarcer.

For PE in particular there is always the threat of a public market correction that affects the short-term growth and high valuations that have made their themed investments such excellent performers. A serious correction would chill PE firms a bit and slow the rate of deal making.

Whether 2022 will meet or exceed 2021's records is an open question, but it will still be a huge year for M&A even if it doesn't break new ground. 1H22 activity is already trending very high, and looking at the road ahead there are no obvious speed bumps. Perhaps the market will lift its foot off the gas a bit, but only because it would be hard to travel much faster than we're already going.

HR TECH – TRENDS AND DRIVERS

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The HR Tech landscape has changed a great deal over the past five years, and most recently the COVID-19 pandemic has highlighted the importance of technology for resilience and preparedness. Not only that, but it has impacted all business functions and brought HR itself to the forefront, demanding significant changes in how every company treats and manages its people.

Emerging HR Tech has already changed the way businesses recruit, hire, and manage employees. As a result, HR departments were already navigating a complex and ever-changing landscape even before the pandemic added to that complexity. While one-third of HR executives intend to reduce budgets this year, Gartner's data shows that 90% will keep or grow IT investments — so it's crucial to be sure that new HR technologies such as Talent Optimization Platform have a place in their portfolios.

HR GOES REMOTE

Remote and hybrid workers will be among the most significant, and likely permanent, changes to the modern workplace; in the US, remote workers are forecasted to make up 53% of the total workforce in 2022. HR professionals must adapt to this new reality.

HR departments will have to adjust not only to physically absent employees, but also the remote screening, interviewing, and onboarding of new workers. Software- and cloud-based onboarding software and tools are likely to be adopted to resolve many of the complications of remote and hybrid hiring practices.

HR employees, who may themselves also be working remotely or hybrid, will need to navigate the integration of these new technologies into managing the department, HR responsibilities, and daily tasks. This will require considerable new training and engagement with IT that may not have felt as urgent two years ago.

RECRUITING GETS AN AI BOOST

Artificial intelligence is revolutionizing HR, and nowhere more than in recruitment. AI-based processes are changing the way employers find talent by offering powerful insights into applicants' capabilities using a variety of sources, including their social media activity.

IBM, for example, uses AI to analyze the social media shares of a potential hire. It also analyzes the sentences and facial expressions of the applicant to see if they'll be a good fit. While this may seem a little frightening, this can be used to reduce hiring discrimination and create a diverse workforce. Like any powerful tool, it's up to the professionals to put it to good use.

EXPANDING HYPER-AUTOMATION

Hyper-automation is the concept of blending AI and RPA to increase efficiency in any situation that automation is applicable. Automation has already been widely adopted in payroll, recruiting, and service management, but HR executives should begin to apply hyper-automation to all HR activities. This will improve efficiency and reliability and prevent mistakes in activities prone to human error.

In particular, administrative tasks that have slowed down HR should be automated so that HR can focus on people and add value to the business. According to the McKinsey Global Institute, 56% of all activities performed by HR departments can be automated with current technology, and new techniques and applications are being developed constantly.

With automation in HCM, there will be more opportunities to mentor and train employees and focus on career planning and development, which directly impacts engagement and retention. However, technology cannot replace problem solving, collaboration, communication and listening. HR specialists offer a unique human perspective and a deep understanding of people that is essential to building relationships and gaining trust.

HR AND CYBERSECURITY FORM A NEW BOND

With the rise of work from home, the risk of cybersecurity attacks on businesses also increases. In addition to the increased "attack surface," cybercriminal efforts to damage businesses, steal personal data and cause chaos are intensifying. As a result, HR professionals must now participate in cybersecurity initiatives to protect businesses.

HR departments are required to collect and store personal and sometimes sensitive information about every employee, which is a potential risk in the case of a data breach. It's much more critical when HR workers work remotely, as cybercriminals are likely to target remote companies.

It is essential that HR professionals collaborate with IT experts and outside contractors to keep business data safe. The results of underestimating this threat have been observed over and over again: lawsuits, lost profits, a heavily damaged reputation, or all three and more.

ALL-IN-ONE EMPLOYEE MANAGEMENT APPLICATIONS

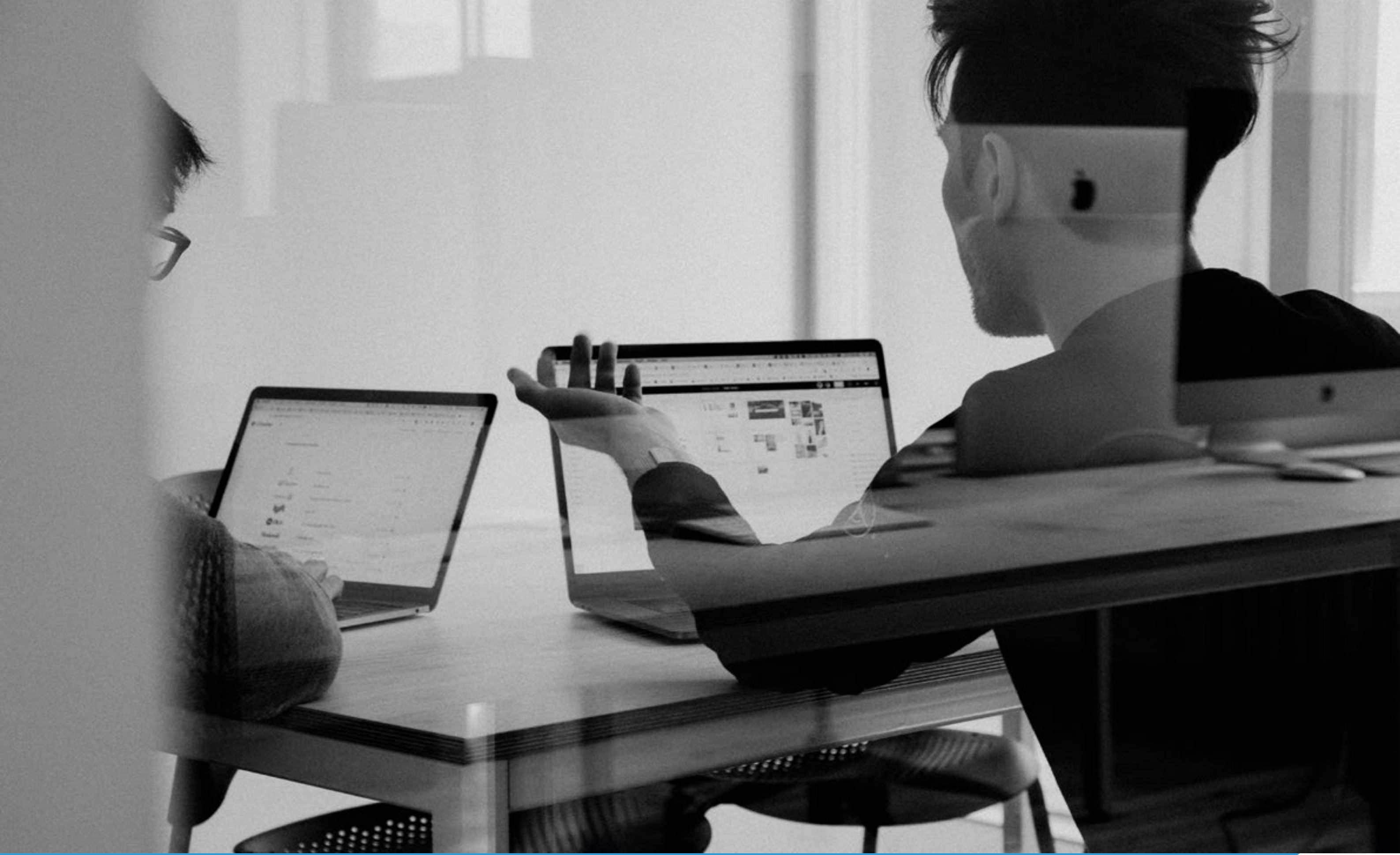
The benefits of HRMS apps go beyond employee engagement and productivity. From onboarding employees and monitoring productivity, to closing communication gaps, time-tracking, and more, all-in-one management applications will be the most efficient method for HR staff to keep track of remote and hybrid employees.

With all-in-one applications, HR staff will not be required to learn several new software platforms and can instead focus on becoming familiar with one main application for employee management. In addition, having one location for employee communication will prevent communication barriers and the loss of crucial information.

Finally, cloud-native applications will keep records of company processes and protect them from data loss. Countless other industries have made this transition and have never looked back.

OUTLOOK 2022: PLANNING IS KEY

HR leadership must adopt new technologies for HR procedures and applications to stay relevant and attract and retain top employees, both within the department and in the business at large. Even though the top technology trends are emphasized, HR executives must understand their own technical requirements and skills, and when IT or other experts should be consulted. Choices should be made based on what will best improve the company as a whole and the overall employee experience.



DRIVERS

DIGITAL TRANSFORMATION ACCELERATED BY COVID-19

Rapidly changing market environment forces companies to adapt to changing workforce requirements. This includes talent management, workforce management, and payroll management.

DEMAND FOR INTEGRATION OF AI

Live work simulations, on-demand labor forces, effective analysis of employee performance.

DEMAND FOR PREDICTIVE AND WORKFORCE ANALYTICS ENABLED TOOLS TO INCREASE MARKET GROWTH

Companies are shifting from back-office HR data warehouses to more advanced reporting and analytics dashboards to study sales productivity, employee and retention problems, and other issues that directly affect its productivity. Vendors in this market are integrating analytics as a core part of the software, including assessment, operational, or learning tools.

Machine learning enabled predictive and workforce analytics take employee engagement and retention to another level. It also helps in identifying the current and future skill gaps.

THE FINTECH DIGITAL REVOLUTION WILL CONTINUE

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2021 was a banner year for Fintech investments, with long-term trends and short-term pressures combining to accelerate the digital transformation of the financial services industry. One BIS study estimated that fintech has attracted a trillion dollars over 35,000 equity deals since 2010, and grown from 1% to 5% of deals globally.

2022 will most likely see this trend continue and perhaps even accelerate — but only if institutional players in the industry can stay ahead of the curve, something they have struggled to do in recent years. So, what can we expect for Fintechs in 2022?

FINTECHS ARE HERE TO STAY - IF YOU CAN'T BEAT'EM, JOIN'EM

The top 100 Fintechs already account for a value of \$2.7trn, while the top 100 banks achieve a value of \$7.1trn. There is no denying that challenger banks, insurance, wealth managers, payment companies as well as B2B Fintech solution providers have established themselves and they are here to stay. Laser-focused on the slowest-moving incumbents and the tech-savvy, demanding 20-40 demographic, these new services have siphoned off millions of customers with their convenient, web- and mobile-first approaches.

Basic mobile banking has become commonplace and challengers are leading the charge, and while the establishment has been playing catch-up the fast-moving startups have moved on to wealth management and digital insurance solutions. The simple truth here is the age-old adage: If you can't beat 'em, join 'em, or in many cases integrate 'em. Incumbents will need to partner with complementary Fintech companies to fend off threats from others.

DECENTRALISING FINANCE - BLOCKCHAIN, CRYPTOCURRENCY AND SMART CONTRACTS

The idea behind decentralized finance is to replace the traditional intermediaries like banks, brokers and insurances with peer-to-peer relationships offering the entire world of financial services. The core components are blockchain, cryptocurrency and smart contracts (and like always - data). It's clear that blockchain-based services will be a major part of any financial institution in the next 5-10 years, perhaps replacing centralized banking altogether for a generation raised on the tech. The goal is to offer more accessible, transparent, efficient and cheaper financial services.

Venture capital has supercharged the development of these new categories and most traditional financial services companies are still at the starting line. However, even the best-funded startups need the reach of established incumbents, and perhaps even more importantly, their data.

AI IN THE ARCHIVES - DATA WILL CHANGE CUSTOMER EXPERIENCE FOR GOOD

Deep reserves of data are the crown jewels of incumbent banks and insurances. But decades of records are as much a liability as an asset if one doesn't know how to access the insights inside them. The next phase of innovation and investment in Fintech will be data-driven applications that cater to and engage with individuals — an unexpected and valuable business proposition in an industry defined by regulation (and highly regulated) services.

Accessing the insights in this data will necessitate the use of AI and machine learning. These technologies may sound like buzzwords when shoehorned into pitches and product ideas, but they're a perfect match for anyone trying to make sense of huge piles of semi-structured data. Here again startups will lead the way, offering services that can securely and safely access and analyze billions of bytes of financial records to improve customer experience.

DIVERSIFY AND CONQUER - THE RISE OF EMBEDDED FINANCIAL SERVICES

Equipped with highly specific and data-derived trends and perspectives, a financial organization will be able to offer improved and faster risk assessment, customer-product matching, personalized recommendations, and better security and customer services. Happy customers are the best bulwark against hungry and trendy Fintechs.

Equipped with data, non-bank entities like Amazon and other tech giants are now offering financial services like buy-now-pay-later and other loan-adjacent products, since consumer investment in one platform makes it far more likely they'll use its other offerings as well. Convenience is key, but trust is also hard to come by when large sums are in play — an advantage incumbents have against startups that have yet to become household names. Embedded finance therefore also gives incumbents the opportunity to integrate other financial products into their offering.

VALUES ON DISPLAY - ESG CAN NO LONGER BE IGNORED

It's important to note that with the rise in visibility of matters like climate change, systemic racism, political disinformation, and other key issues, ESG values will be more important than ever going forward. Not only do consumers care, but regulations, board decisions, and business logic are tending towards favoring socially responsible investments and products. This is one area where institutions may be able to lead, as it is rarely a surprise when a small startup claims carbon neutrality or offers progressive benefits — but it definitely is when a major bank or 50,000-strong corporation does so.

Value-driven business decisions aren't just smart in this market, they're the mark of forward-thinking leadership that believes we can build an economic system that benefits both people and the planet they live on. Ignoring ESG is no longer an option.

HR TECH WILL CONTINUE TO HELP USHER IN THE NEW ERA OF WORK

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The nature of work is changing, and employers are rapidly evolving with it. Driven by the pandemic, the last two years have supercharged digital transformation, data analytics, AI, and engagement solutions, all of which were already fast-growing. The workforce and the very concept of employment have undergone revision — and HRTech will be a crucial part of ushering in this new era. While digital transformation and cloud migration clearly are big drivers, the impact of Covid is an unanticipated catalyst.

The most fundamental shift is simply the realization that most jobs can be done remotely, and new hybrid work models can actually increase productivity and employee satisfaction. It seems obvious in retrospect, but many companies were slow to make the change which the pandemic would ultimately require of them, so there was no chance to prove the idea on a large scale before now. What's more, employee engagement, communication, and remote learning solutions became an essential tool for managers to interact with employees and understand satisfaction and engagement levels during this time.

QUITTING TIME!

Of course, now that the chance has arrived, we immediately saw what is perhaps the most dramatic aspect of the new labor ecosystem: the Great Resignation.

This doesn't mean everyone is retiring early to enjoy a life of leisure — many have taken other jobs for any of a huge variety of reasons. The labor market, not necessarily being limited by geographical boundaries as well as the democratization of compensation data and information about company culture, created a seller's market for skills.

Not only has there been an explosion in opportunity, but jobs are easier to switch between, suggesting the wandering eye of the modern employee will become a permanent feature. That is, unless they actually like where they work, are motivated by the employer's values and mission, and have a sense of belonging - which is why employee retention and engagement are of the utmost importance.

What used to be nice add-ons, like generous leave and benefits packages, are increasingly becoming must-haves as the landscape of companies potential employees have access to grows. But it's more than just good insurance and parental leave — employees are looking for a workplace with an attractive culture, career opportunities and values.

NEW CHALLENGES AND NEW SOLUTIONS, COMPLIANCE AND ESG

The market is evolving quickly - start-up companies offering innovative solutions are becoming scale-ups growing rapidly and expanding their solution set, while large incumbents are modernizing their solutions and increasingly engaging in aggressive M&A expansion. We're seeing overlap and integration of a myriad of HRTech solutions including employee engagement, recognition, learning and development, communications, performance management and HR data solutions. While previously quite active, the employee engagement and experience sector saw about 30 significant M&A and growth equity scale-up transactions in 2021 alone.

Interestingly, there seems to be a convergence of regulatory compliance initiatives and employee-driven HR imperatives. While EEOC regulations are broadening out to the states in areas such as pay equity, and discrimination lawsuits have been on an upward trend since the early 2000's, all areas of the market are calling for diversity, equity and inclusion. Employee engagement and communications tools can play a valuable role in helping employers understand and implement DEI initiatives. Adding to this, ESG has become more than a buzzword and investors, partners and other stakeholders are demanding it.

All of these trends are welcome ones, as diversity spurs innovation, ESG promotes goodwill, and accountability and is essential to a fair market. But doing them incorrectly carries major risks — yet another reason why taking these on should be in collaboration with vendors with expertise and ready-to-launch infrastructure.

DATA AND AI

The last few years have been transformative for HRTech solutions — this robust innovation has been supported by a revolution in data and analytics, which will continue to provide enhanced productivity and benefits.

More than ever before, every workplace is now a fount of useful data. The proliferation of digital tools for planning, tracking, and executing tasks of every kind means there is a wealth of information to mine. There are of course nips and tucks to be made to things like logistics and operations, but the right analysis can produce people-centric insights as well. AI-based solutions have proven especially promising, able to tease out patterns like natural leadership, probability of success, career development, burnout, and unproductive initiatives.

STARTUPS AND SCALEUPS TAKE THE LEAD

Lastly, it should be noted that startups are increasingly driving innovation in HRTech. The simple fact is that small, recently formed companies are the earliest adopters of new tech and the originators of effective methods of using it to disrupt the field.

This trend has been aided by a huge increase in venture capital, growth, and private equity funding for early-stage and emerging companies — not only are they providing real value to their customers, but they present a compelling case for acquisition and integration by larger, more established companies. Large incumbent HRTech players can bolster their position in a quickly evolving market through smart, accretive acquisitions and partnerships.

AI WILL HAVE A RECORD YEAR, BUT NOT THE WAY YOU THINK

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Artificial intelligence is being used in an increasing number of industries and business categories, leading to a record year of revenues and investment in 2021. That trend will only accelerate in the coming year as the race to apply the technology to new industries and new purposes within leading industries leads to record numbers in venture capital and acquisitions.

It's difficult to overstate the importance of AI as a systematic force; according to a Statista report, the AI industry generated some $35B in revenue in 2021, and is likely to increase that by 50 percent or more in 2022. On the other hand, it's quite easy to overstate its effect in any single application. That it is a considerable part of the future of any software-based business is inarguable, but its power comes from being almost universally helpful, not a miracle solution for a particular problem.

THREE FRONTS TO THE AI MELEE

As such, interested parties are looking beyond the hype and realizing the actual limits and potential presented by the technology as a whole. The opportunities for advancing it fall into three general categories.

Data, which one might think of as the raw material for machine learning systems, is arguably the most important and one where we will see increasingly sophisticated competition and investment. Software has always been limited by the "garbage in, garbage out" idea and AI is no exception — and its designers are learning how much data is needed to avoid that trap.

The US and China in particular have begun siloing their precious data stores and companies are hoarding wherever possible; the EU, with its tighter regulations on collection and storage of data, will likely lag in this respect due to fear of violating frameworks like the GDPR. Intellectual property in the form of actual models or machine learning engines and platforms, is the next most important. One way to track this is in numbers of patents filed, a metric that puts US companies like IBM, Google, Microsoft, and Intel well out in front, with Korea's Samsung and the EU's Siemens behind. However, this picture is incomplete due to China's unique approach to IP, and the shrewd observer will assume that, as in other measures, the country is likely competitive on the level of the US even if it’s difficult to reliably quantify its presence.

The last area of competition is funding, which is of course important but hard to summarize. AI startups attracted some $36B in venture capital in 2020, and that number was surpassed within the first six months of 2021. This growth is impressive, but so is investment by governments and research institutions that fund basic research and open-source projects often cited or iterated on in private research. China especially has dedicated tens and likely over a hundred billion towards AI research through direct funding or through corporations under government influence. Whatever the real numbers, they will only increase in the near and medium term.

FROM DIPPING A TOE TO PLUNGING IN

According to a Deloitte survey, half of all companies asked were bringing AI processes into their operations, and this number is likely to increase to 75 percent by 2023. But increasingly these companies are realizing that AI is a game changer in a broad, systematic sense rather than a magic bullet.

Leader industries like communications, entertainment, financial services, and healthcare have experimented with and ultimately integrated AI in ways that don’t attempt to reinvent the wheel. Instead, they are finding it provides reliably improvements to user experience and productivity, with things like better recommendations, smart document handling, and automated compliance.

This low-flash success means companies feel safe building a portfolio of AI-powered features or services and keeping only those that produce results. The promise of AI revolutionizing any given process or industry is rarely true, but the other side of the coin is any company that fails to integrate helpful AI-based improvements in an inclusive and smart way will be left in the dust.

Following these leaders are more conservative industries like logistics, manufacturing, and energy. Having observed the initial flailing settle down into more predictable improvements, they too are now ready to bring in the AI tools that have graduated from experimental to essential.

Expect big contracts between enterprise AI leaders and legacy industries looking to check another box on their digital transformation roadmap.

BREAKING DOWN BARRIERS BETWEEN INNOVATORS AND INCUMBENTS

One area of the industry that will evolve over the next year is M&A. Until fairly recently startups and large companies like pharmaceuticals have operated in close coordination but ultimately independently. That will soon change as they both hit the soft limits imposed by lack of access to either data or new IP.

To take biotech as an example, large companies like Pfizer have made some gains by using fairly basic AI to activate decades of data they've accumulated. Meanwhile startups have also made limited gains by applying cutting-edge AI to the modest stores of data they can access. While some data-sharing and IP-licensing agreements have been hammered out, we can expect those relationships to deepen in 2022 with an increase in strategic investments and outright acquisitions by large IP-starved corporations.

On the other hand, we may see a decline in international deals and data-sharing as the value of certain AI processes and databases are recognized from a national security and IP protection perspective.

AI AND LEADERSHIP

The last trend worth mentioning here is that there may well be a shift away from AI itself and towards improving how it is used and integrated. CEOs and CTOs will not just be using AI at a high level to help manage their companies and make smarter risk assessments, but they will have to make choices as to how AI is brought on in the first place.

Expect an increase in usage of AI-adjacent services that help deploy and track the effects of AI services and products. Almost recursively, many of these will themselves employ AI — after all, machine learning models are good at teasing out insights from chaotic datasets like social networks and employee activity.

In other words the largest shift will be not simply towards “more AI” but towards quantifying, understanding, and streamlining its use. Having graduated from “nice to have” to “must have,” it's time for leadership to get serious about how this new tech can be closely integrated with existing business processes. Drake Star, having assisted on numerous AI deals, is ready to contribute its expertise as 2022's paradigm shifts take place.

FIVE TRENDS DEFINE INDUSTRIAL TECH

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2022 will be a pivotal year in the digitization of industrial markets. It will be marked by the spread of industrial technology to new sectors and the rise of platforms within more established markets.

NEW CAPABILITIES BROADEN ROBOTIC HORIZONS

Within certain pockets of the industrial value chain, such as automated mobile robots in warehouses and machine tending, automation has seen rapid adoption and is beginning to scale more widely, while implementations of more complex applications have remained quite limited to date. Automated bin-picking and automation of complex welding procedures are all examples of areas where customers face significant labor supply shortages and where the technology had not yet matured sufficiently for wide market adoption.

But a confluence of improvements in the underlying supporting technology and the continued development of application-specific algorithms have combined to extend the range of applications that can be automated at scale. We're beginning to see a number of players addressing these next-frontier challenges shift focus from R&D and pilot deployments to a sales and marketing and channel development phase.

At the same time, both well-funded startups addressing more mature areas and industrial-focused strategics are aggressively seeking new markets and growth opportunities. Having raised significant capital, we expect disruptor platforms to face pressures to increase their addressable market by acquiring promising application-specific startups in areas adjacent to those targeted by their core solutions. Large strategics will also be locking onto these smaller companies as M&A targets in order to deny disruptor platforms further advantage and to bolster broader solutions packages.

EASE OF DEPLOYMENT BEATS THEORETICAL RESULTS

With new capabilities come the difficulties of executing them, however, and in 2022 there will be an increased focus on interoperability and ease of deployment.

As investment increases, so too will the demand for more immediate results. There will be little tolerance for pilot purgatory and the pursuit of total transformation. Instead, we will see a pragmatic approach of looking for incremental gains from immediate deployments.

Attempts to reinvent a manufacturing or assembly line with near-total automation may take years, while accepting an "80/20" solution may provide a more immediate return on investment.

These deployments, as they tie into key industrial subsystems, will not only improve over time but may produce valuable and proprietary data as well.

Finding the right balance of human-in-the-loop will be an ongoing process; at first humans may fill gaps in robotic processes, then later act more as facilitators than labor, managing multiple robotic cells and resolving issues at a high level. In the near term, those platforms that optimize for a human-in-the-loop may outperform those solutions attempting to fully automate processes.

DATA MIGRATES TO STRATEGIC PLATFORMS

The amount of data available to customers has never been so vast, and it is increasing exponentially. As sensors proliferate and connectivity increases, the physical world is becoming increasingly digitized. Harnessing this data will increasingly be table stakes to remain competitive. This will be as true in the factory and warehouse as it will be in farms and on construction sites.

We have seen significant strategic interest in piecing together key data sources that feed into holistic recommendation engines. Such platforms will increase in value as new data becomes available. For example, a digital platform offering farmer insights based on weather, satellite and weed data becomes even more powerful when it unlocks insect data that had heretofore been difficult to digitize. This effect is amplified further as the data models improve from the continued feedback loop from increased data and results in the field. Those with more widely deployed solutions may gain a significant early-move advantage.

The benefit of quickly deploying data platforms in increasingly digitized industrial markets may drive M&A into companies that may be smaller than those traditionally targeted by strategic platforms. We are already seeing signs of this and expect it to continue in 2022.

LATE ADOPTERS LEAD NEW INVESTMENT

The proliferation of e-commerce and omni-channel retailing is driving huge demand for automation as retailers strive to catch up with Amazon and its logistics capabilities. While we expect this acceleration to continue, we're seeing an increased focus on developing platforms in other markets, including agriculture, construction and marine.

The proliferation of e-commerce has driven demand for automation as retailers and supply chain participants transform to be able to deliver low-SKU orders, on-demand. Amazon, with its early investments into robotics and automation, catalyzed this dynamic and the pandemic reinforced the shift to e-commerce. As such, it is not surprising supply chain robotics remains the area with the most scaled collaborative robotics platforms. These startups have attracted the most capital and have been the target of many of the largest acquisitions to date.

However, the ecosystems, technology infrastructure, collaborative robotics know-how and talent will support the rapid spread of automation to other industrial markets where automation has lagged. We're already seeing a notable increase in the scale of companies we follow and a rapid acceleration of investor and strategic interest in automation solutions in marine, agriculture, mining, space and construction.

Notwithstanding obvious continued pandemic-related supply chain issues, we have seen an industry-wide dynamic where inputs of sensing devices, cloud processing power, chips, etc. are generally decreasing in price as volumes of such inputs are increasing from adoption in adjacent industries. This, combined with the availability of underlying key infrastructure technology and software platforms, have helped startups build new solutions targeting different industries.

AUTOMATING SERVICE JOBS

We expect a significant uptick in automation of the service economy in 2022. Continued global demographic shifts suggest a widening gap between the supply of service labor and the demand for such services. We see this throughout the service economy, from restaurant labor, nursing, janitorial work, among others. Many employers have suffered losses from the inability to hire to meet demand. As a result, augmenting human labor with automation is a key strategic priority.

Meanwhile, technology advances in other areas of automation and adjacent industries is being leveraged to bring to market service-robots. For example, we're seeing a remarkable increase in the number of disinfection robotics companies deployed.

Similarly, we expect commercial cleaning robotics to continue to increase. Food service and security robots have also been moving from pilots to a scaling phase. These solutions leverage the positioning, sensing and other technologies that have been battle-tested in industrial environments.

We see 2022 as the year when the robot becomes more visible in the mainstream. While we may be some time away from delivery robots ringing the doorbell, we may grow more accustomed to a security robot in the parking lot, a robotic arm preparing a burger or an automated cart in a hospital setting. Each of these examples also opens the door to further accompanying software solutions around workflow and optimization. These systems will each represent the further digitization of more physical environments, and will likely be the first, visible example of a much greater level of automation on the horizon.

AUTONOMY GAINS TRACTION AND PULLS IN OTHER INDUSTRIES

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Autonomous vehicles continue to pull forward across the globe — with more torque than speed, it is true. But with pilot projects multiplying, regulatory and tech barriers falling, and industrial applications proving themselves out, 2022 will be a breakthrough year in many markets.

Consumer-focused autonomy in the form of so-called robotaxis is the most visible aspect of this large and diverse market, and arguably the one driving the most change. China, Europe, and the U.S. are building and expanding their official frameworks for accommodating and encouraging robotaxis.

MORE AVS ON MORE ROADS

China's AutoX, backed by Alibaba Group, will expand its Shenzhen-centered driverless vehicle zone to 168 square kilometers (65 square miles), making it the world's largest — no idle boast when large areas produce valuable datasets and test data that can't be simulated or bought.

In Beijing, Baidu and Pony.ai will test a fleet of approximately 100 vehicles in the city's challenging urban terrain, and Shanghai is the site of smaller-scale tests from SAIC Mobility and Momenta. The outcomes of these pilots will determine the scale and location of another location launching next year.

Munich and Paris will see robotaxi services from Intel and Sixt, though as is frequently the case there are significant regulatory barriers to operating at a large scale in these closely watched and (despite the pandemic) tourist-crowded metropoli.

Germany may pull ahead of its neighbors, however: like others, it is weighing allowing Level 3 vehicles on public roads, but also getting ahead of the game with preparations for Level 4 services. The vehicles and infrastructure to allow the latter are still some years off, but existing tests hint at how it might be best facilitated— for instance, building out the charging network that will certainly be needed for these fleets to operate at scale.

BUILDING THE BUILDOUT

According to a Bloomberg analysis, autonomous vehicles will account for 10 percent of EV electricity demand by 2040, and 20 percent by 2050 — and some may call those predictions conservative. But what is certain is that countries and companies that have invested in the pertinent infrastructure will find their foresight rewarded. One company with an eye towards the future is Faurecia, which over the summer acquired industrial giant Hella for USD8.4 billion. This promoted the resulting company into the top 10 global automotive suppliers, and its broadened expertise (Hella has significant positions in power and batteries, radar, and sensing, and ADAS) will serve as a powerful foundation for a next-generation mobility supplier.

Comparatively unsettled is the sensing and hardware suite for Level 3 and 4 autonomy. Lidar prices continue to fall (Bosch says it will have units below $500 soon), while capabilities rise — but the poster child for machine perception is increasingly being displaced by other modalities.

Continental and ZF will both include 4D lidars (i.e. that offer an object's position in three dimensions, plus velocity) on 2022 production vehicles. Tesla has dropped lidar and radar, relying on more traditional cameras empowered by improved AI.

Meanwhile, Honda has at last implemented Level 3 capabilities in its currently Japan-only Legend, which uses all three types of sensors. The company's experience in safety and reliability is not to be discounted, so while more experimental automakers may specialize, larger players may well hedge their bets for the time being.

There is also room for new entrants and approaches, and next-generation systems based on unsupervised learning, like Helm.ai's, may yet become the Android of autonomy.

DOING THE "DIRTY, DULL, AND DANGEROUS" WORK

So much for consumer autonomy, but though exciting it is far from the only area being transformed by this technology. Another such industry is mining, where the sleeping giants at the base of the supply chain are increasingly adopting autonomous trucking. It's enough to support dedicated heavy equipment autonomy companies like Pronto AI, which specializes in this exclusively.

BHP has operated a fully autonomous fleet of trucks in Western Australia at its Jimblebar mine since 2017. Far from a mere experiment, the site has become one of the safest operations in the company's portfolio, with major incidents involving trucks dropping by more than 90 percent since the project started.

The company plans to bring on over a hundred more to be split between a Western Australian site and another in Queensland. And Brazil's Vale has begun operating a handful of trucks at the enormous Carajás iron mine there, with more on the way.

Logistics are one way in, but autonomy also has a role in finer operations like mapping and inspecting mines and caves, and monitoring work sites for security and safety purposes. No doubt as major operations like BHPs succeed, others like Vale will jump on board.

As usual there are high-profile cases that excite public interest, but opportunity extends far beyond the consumer market. Just how far will be increasingly clear in 2022 as the true reach of autonomous vehicles and support services continues to be explored.

GAMING M&A, FINANCING & IPO DEALS TO EXCEED $150B

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2021 was a record year for deals in video gaming, with $85B of value disclosed in over 1,159 announced or closed deals, up almost 3x compared to 2020 (Drake Star Global Gaming Report 2021). We believe this is only the beginning of a historic era of both consolidation and diversification in the industry and given the early signs, we might see deal volume of over $150B in deals 2022.

The year has already started with a bang with two proposed mega-deals: Take-Two's $12.7B acquisition of Zynga, and Microsoft's proposed $68.7B takeover of Activision Blizzard.

ACCELERATING CONSOLIDATION AMONG PC / CONSOLE AND MOBILE, ASIAN AND WESTERN PLAYERS

The video gaming M&A market will be pushed ahead on several fronts. Video gaming companies that have historically focused on the PC / console segment are expanding and diversifying into mobile, and mobile-focused players are acquiring PC / console-focused companies, so the lines are blurring. Furthermore, we will see more true cross-platform games across PC / console and mobile in the years to come, and having development and live-operations expertise in all segments will become increasingly important.

Take-Two has historically focused on the PC / console segments, with mega franchises like Grand Theft Auto, but has expanded into mobile with several smaller acquisitions (Social Point, Two Dots, and Nordeus). The $12.7B acquisition of Zynga makes Take-Two a major player in mobile gaming and also diversifies its revenue. On the other side, Tencent — the biggest global player in the mobile gaming segments — has been heavily expanding into the PC / console space, with 11 acquisitions in 2021 (Sumo Group, Turtle Rock and Klei Entertainment, etc.), and we expect the company to continue acquiring many AAA PC / console developers this year.

Acquisition of western studios by Asian players will accelerate in 2022. Japan-based Sony acquired 6 gaming companies in 2021 (Housemarque, Spitfire, etc.) and Korea based Krafton (which went public through its high-profile IPO in 2021) acquired Unknown Worlds and made strategic investments in several gaming companies. The increasingly challenging regulatory environment in China, which is restricting content, play time and monetization strategies, is accelerating both M&A and minority investment in western companies as Asian strategics are trying to find further growth. We expect to see continued consolidation this year from Tencent, Sony, Netease, ByteDance, Krafton and Nexon.

Several western players acquired Asian studios, either to get access to Asian players or to content that is successful in the west. Sweden-based Stillfront just acquired 6Wave (focused on Japan) and Zynga acquired Golf Rivals / StarLark based in China.

TOP WESTERN ACQUIRERS TO WATCH THIS YEAR ARE EMBRACER, EPIC, AMAZON, AND NETFLIX.

As the gaming industry consolidates, the resulting companies will also look for new revenue streams that harmonize with their existing audiences and core competencies. Companies traditionally focused on creating mobile games will likely see that the broader mobile entertainment space is ripe for expansion. Dating, meditation, and lifestyle apps can be seen as a similar type of content as games that require an expertise in acquiring, retaining, and monetizing mobile users. Expect successful brands to add new mobile entertainment verticals to their portfolios.

NEW WAVE OF UNICORNS

Investments in private companies reached a record $13B in over 700 deals in 2021. There were 9 disclosed large investments in promising developers that were at or above $100M amount in 2021 alone and a dozen similar large funding rounds in gaming platforms and hardware category.

The capital invested in private companies steadily increased from Q1'21 to Q4'21 and reached a record of $4.1B with over 200 deals in Q4'21 alone. At the same time, numerous new funds were formed in 2021, and they will likely put all this money to work this year to take part in the industry-wide growth.

We expect 2022 to reach a new record in both deal value and volume of gaming private placements and numerous financing round at or above unicorn level.

Investments will come from both VCs as well as strategic investors, such as Tencent, Netease, and Warner Music.

HIGH-PROFILE IPOS

We are excited to see several high-profile IPOs in 2022, such as EPIC Games and Discord, two companies that are in the midst of multi-industry expansions and eager to capitalize on the growth potential they signify. There is also a growing list of companies that have reached an IPO-ready stage, such as Niantic, Scopely, Voodoo, Jam City, Moon Active, Dream11, and MPL and some of them may decide to go public this year.

2021 was a banner year for IPOs, direct listings, and SPACs, including Roblox, Krafton, Unity, IronSource, AppLovin, Playtika, Playstudios, Nexters, Skillz, and Devolver. That optimism for gaming SPAC deals has cooled as deals fell through during the later part of 2021, some SPACs did not perform well and traditional IPOs and direct listings proved effective. However, with an expectation of overall market rebound in 2022, we expect to see some gaming companies going public via SPACs as SPACs aggressively look to find targets.

RETURN OF VR/AR

There is already renewed interest in the VR/AR space in what could be considered its second cycle (the first being the initial rush around 2017) and one far less likely to implode.

The new interest is partly driven by the promise of the metaverse. The interest paid by Facebook in its rebranding to Meta and pivot to supporting the metaverse has also prompted new speculation in the VC community.

Support from Meta promises a healthy ecosystem in the near and medium-term, reducing the risk that a startup will be starved for infrastructure and potential customers. Business models that faltered

years ago may be resurrected in an environment more conducive to them, and with valuable insights from their predecessors.

The hardware front is promising as well, with new headsets achieving levels of both quality and affordability that far exceed the previous generations. Sony has detailed its PSVR2 headset, likely to be in as constant demand as its PS5 console, while low-end competitors like Google have been pushed out of the way by affordable standalone headsets like the Oculus Quest — itself due to be succeeded soon. Meta CEO Mark Zuckerberg has also confirmed that the company subsidizes and will continue to subsidize the cost of its headsets.

SUBSCRIPTION BATTLEGROUND

The subscription business is fast becoming one of the most contested in the gaming world. What began as access to certain premium online features has become a battleground for crucial recurring revenue.

Sony has slowly increased the perks and free games available via its PlayStation Plus membership program, but Microsoft has invested far more heavily, clearly seeing an opportunity to pass up its rival by pressing its advantage in the PC market. Over the last year, its Xbox Game Pass subscription has become a huge value proposition for gamers on both PC and Xbox platforms, with dozens of free games and features rolled in from other subscriptions like Xbox Live Gold.

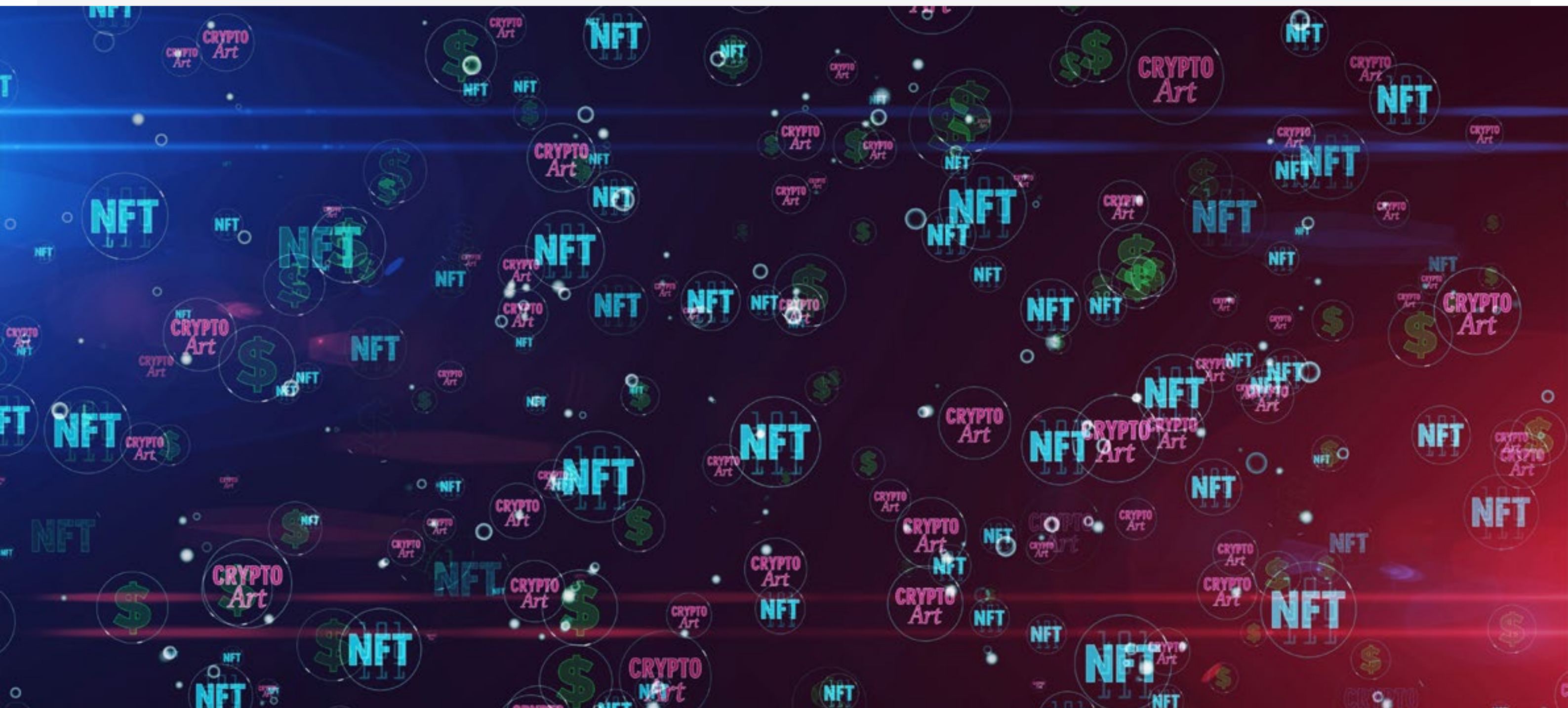
The company just announced that it has reached 25 million players paying for Game Pass — and Sony is working on a new and improved subscription service code named Spartacus that is expected to launch in the spring of 2022. Even Nintendo, which rarely takes its cues from the broader gaming industry, has begun expanding its comparatively barebones Nintendo Switch Online service.

Microsoft's acquisition of Activision Blizzard could put several of the world's most popular gaming franchises at their disposal for Game Pass inclusion or discounts. We would not be surprised if Sony responds to the Activision Blizzard acquisition with attractive offers to acquire other top-listed PC / console gaming companies.

NFTS AND BEYOND

There will continue to be heavy investment in the NFT and blockchain gaming space driven by both strategic investors like Animoca (invested in 52 gaming companies in 2021) and VCs like Andreessen Horowitz (rumored to be raising a $4.5B crypto fund). 2022 is expected to significantly exceed last year's investments of $3.6B and we will likely see many new NFT unicorns among young gaming companies.

We will see the first wave of highly successful games with a play-to-earn economy beyond Axie Infinity. Broader adoption of NFT based gaming will probably take many years, and 2022 will likely also bring the first wave of losers among the NFT focused startups. We believe that the established top gaming buyers will carefully watch the NFT gaming and the associated regulatory environment to unfold before making any major acquisitions in the space.



MOBILITY AS A SERVICE SHIFTS INTO HIGH GEAR

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Transportation is a market in flux, and high new and used car prices will combine with tech-based opportunities to shift mobility as a service (MaaS) into high gear over the next two years. Here's how the current trends in mobility will play out and how you can take advantage as an individual or organization.

WHERE ARE ALL THE CHIPS?

The most recent and acute pressure on the market comes from the ongoing chip shortage, a complex situation resulting from pandemic-related supply chain disruptions and unprecedented demand, especially among the latest models of vehicles. A new GM pickup might need dozens of chips to run everything from its engine timings to the cellular connection and GPS to the increasingly complex infotainment system — and missing even one or two means it can't ship. That's why thousands of them are sitting in lots waiting to be completed.

This, among other things, has pushed consumers towards used cars, clearing out inventories and driving up prices. Even rental car agencies are running out of stock. Part of this is due to the higher — and likely to continue to increase by 10-20% yearly — proportion of online listings and sales. The more dealers sign on to fully digital processes, the more people access the inventory and the faster it disappears.

But as inconvenient as this is, new, used, and rental are decades-old paradigms. What's truly going to produce change is embracing the wealth of other services and vehicle types that the last few years have made available.

NON-TRADITIONAL POWERTRAIN, NON-TRADITIONAL OWNERSHIP

The closest to the old regime is the new crop of electric vehicles. Demand is rising for EVs as range anxiety is alleviated by improved efficiency and the proliferation of charging stations, some mandated by local governments. If the chip shortage doesn't end, however, these models too will eventually be unable to keep up with demand. But as long as manufacturers can provide for it, growth will only accelerate.

EVs and other energy-intensive infrastructure may soon prompt investment in green hydrogen production and distribution methods as demand for industrial scale battery arrays rises. Lithium ion simply isn't an option when you're storing gigawatt-hours, so next-generation energy storage is ready to take off.

New means of circumventing traditional ownership models, however, will see the greatest growth of all in the next few years. Car subscriptions will be a major part of that — somewhere between gig cars and leases, this new model focuses on convenience and simplicity, with no need for loans, dealers, or any other tedious aspects of the car-buying process.

For a monthly fee a person can have a new car with insurance, maintenance, roadside assistance and more built in. The increased cost per month versus other means is more than offset for these people by how easily they can stop and start the service: all the benefits of car ownership, none of the downsides, on a practically month by month basis. Think of it as car ownership as a service.

Subscriptions will soon count for some 15 percent of new car sales (if sales is the right term), and is projected to grow to 25 percent by 2025. That is, if no newer, even more convenient method supersedes it by then.

TYPE, TAP, AND GO

For those opting not to have a car of their own, options are thick on the ground. MaaS platforms globally are tending towards "superapp" status, meaning the same app where you're u check the bus route is the one where you pay your fare, then snag a by-the-minute car near your destination — or perhaps a scooter or electric bike.

Again, ease of use is the theme here: the goal ultimately is for the user to be able to put in a destination and pay the cost, and have every aspect of the trip worked out automatically regardless of platform.

Car rental beyond the traditional model is being pursued in both centralized (as with Avis and Zipcar) and decentralized (as with Turo and Getaround) versions with a two-sided market attractive to both owners and renters. These accommodate all budgets and encourage use across a diverse set of circumstances.

These apps and services are being supercharged by improvements to mapping, real-time locations of things like gig cars and public transit, and partnerships with municipalities.

They will only grow in importance, though which app in particular will reign supreme is still very much in the air. Uber and Lyft had a head start on traditional rideshare, especially in the U.S., but that does little to deter strong competitors with more forward-thinking offerings, like BlaBlaCar in Europe. These iterate on the Uber model by integrating more transport modalities, providing a broader and more appealing mobility platform.

One last interesting result of these trends is the imminent replacement of things like company cars and even shuttles by monthly transportation allowances built right into the MaaS superapps. If a company can slim down its budget a bit by not operating a fleet, it will — and a lot of employees may very well prefer to have a more flexible method of getting around.

OPENING THE SILOS

The main barrier to these is not their execution but pieces still out of their control: data sources and payments.

For data, the locations of resources like cars and scooters is valuable and may not be shared with others in order to lock users to a given app. And city governments may not have the APIs to provide the level of real-time location information needed by these services. The trend is towards more data being available, but it's not yet universally shared by a long shot.

Lastly, it's far from settled exactly how money, whether it's bus fare or a weekend in a peer-to-peer rental, should make its way from one wallet to another — and who gets to skim a little off the top in the process. The industry may well await regulation on these fronts before moving forward.

Simplicity and convenience are the consumer priorities over the next few years, and the mobility market will shift to accommodate it. It doesn't mean no one will look for bargains or that traditional sales will decrease, but the way they happen and how exactly people perceive savings is changing with the times. And it's a major opportunity for anyone ready to change with them.

FREELANCE VIDEO WILL DRIVE VISUAL CONTENT M&A LANDSCAPE

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The last two years have seen extreme and anomalous growth and activity in the visual content sector due to lockdowns, broader industry trends, and changes to the global labor market. 2022 will see the products of that growth vying for dominance — with strong consolidation and M&A activity from the smallest to the largest companies out there.

The slower growth rates in 2022 will have different effects on different segments of the market. In the case of smaller companies that have seen sudden and perhaps unsustainable growth, they will begin to look for favorable exits or accelerate existing talks while M&A appetite remains high. We also expect more consolidation within the mid-tier players in the space as they look to get to critical scale.

SECURING GAINS AND SNAPPING UP INNOVATIONS – 2021 SAW RECORD LEVELS OF M&A ACTIVITY

2021 saw a significant increase in M&A activity in this space, most notably from incumbents attempting to integrate the innovations of smaller, more agile firms. This push resulted in 25 notable M&A transactions in the sector, more than double the volume the sector has experienced in recent years.

Among the larger incumbents, Shutterstock was clearly looking to broaden its content offering and increase its subscription revenue with the acquisition of TurboSquid and PicMonkey. Getty acquired Unsplash to help better address the long tail of the creator community, something they may consider a missing component in their existing platforms.

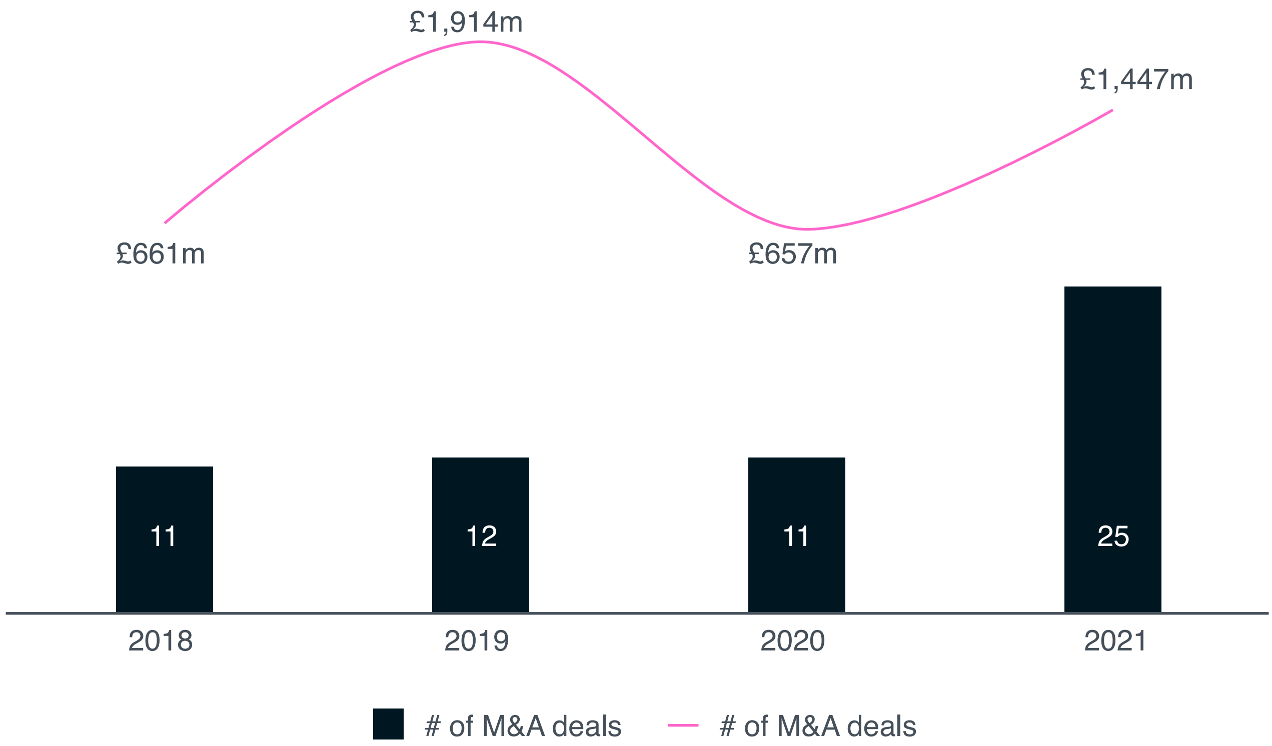
Adobe has continued its push to strengthen its position in enterprise with the $1.3bn acquisition of fast-growing cloud collaboration startup Frame.io.

Vista has continued its expansion in the sector, repositioning itself as a full-service design powerhouse for SMEs and prosumers with the acquisition of Crello and Depositphotos. And TalentHouse, the Swiss content creative network, acquired Berlin-based EyeEm in a bid to expand its presence as well.

Emerging players like Canva, PicsArt, Miro, and InVision have quickly risen from upstart startups to powerful enterprises with considerable client bases. Their high valuations and momentum have helped them become drivers of M&A activity at a stage when many companies would be struggling to retain customers. Canva in particular has focused on its bolt-on acquisition strategy with the acquisitions of Kaleido and Smartmockup in 2021.

While M&A activity from corporates hit record levels in 2021, private equity backed transactions slowed down. The only notable transaction was Blackstone co-investing into Epidemic Sounds in 2021, alongside exisiting investor EQT, valuing the Company at $1.4bn.

M&A ACTIVITY IN THE VISUAL CONTENT SECTOR



The rollercoaster may be slowing down, but it's far from the end of the ride. One thing the pandemic era has produced is a large and extraordinarily well equipped freelance workforce and burgeoning gig economy.

FREELANCERS MULTIPLY IN NUMBER AND CAPABILITY CREATING AN UNPRECEDENTED MARKET OPPORTUNITY

The gig economy overall is valued around $350 billion right now, and we expect that number to rise considerably as the creative industry advances its position thanks to tech advances and emerging trends.

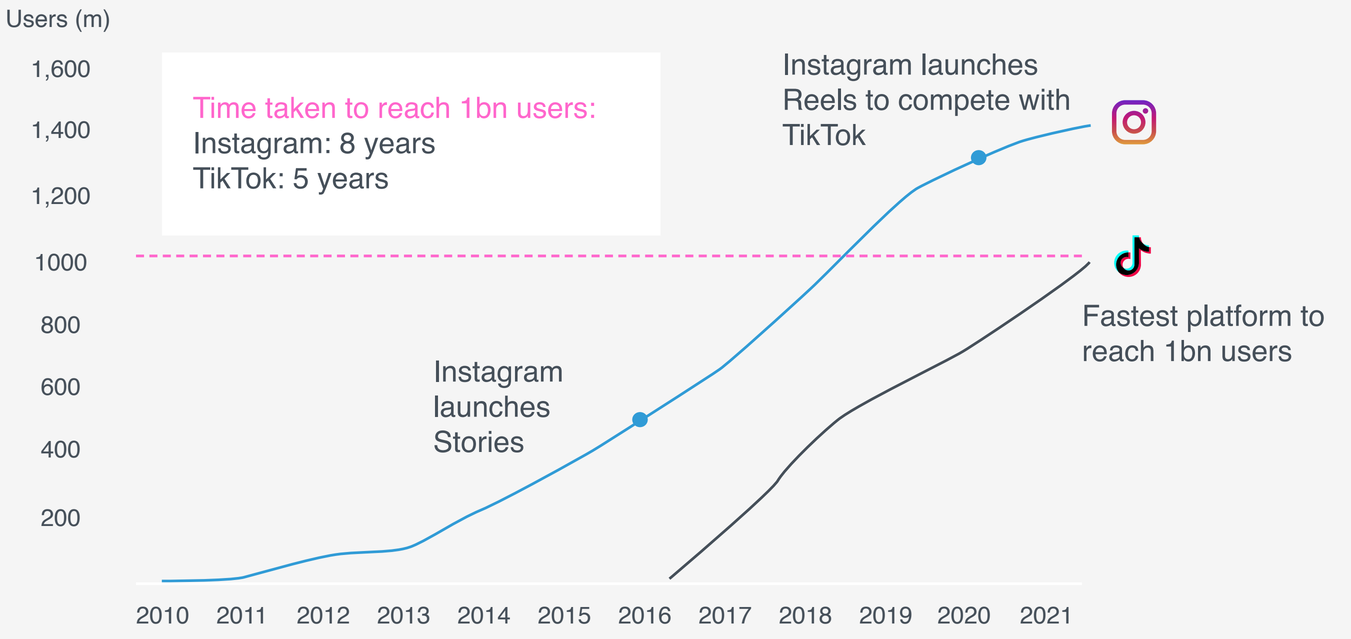
In the first place, the tools available to freelance and gig economy workers in the creative field have improved enormously over the last few years. DIY platforms like Canva have helped to expand professional content creation processes to small businesses, social media influencers, and popular bloggers. Content that once required multiple people and an expensive suite of software can now be achieved at home with free tools and off-the-shelf hardware.

Off the shelf at an Apple Store, even: smartphones have gone from “good enough” to “professionally viable” in a hurry. Not only are the sensors and image processors better, but many flagship phones now include multiple lenses of different focal lengths, making it possible to do what looks like a multi-camera professional shoot with one person and an iPhone. Nearly a third of pro photographers said they use phones in their process, according to a recent survey by Suite48.

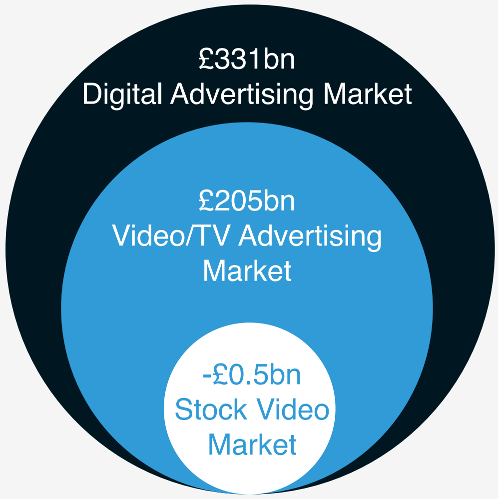
Better tools have combined with the Great Resignation and the broader shift to remote work to create a ready, willing, and extremely able creative freelancer supply. This trend will likely continue as the labor market continues to change through 2022 and people seek alternative income sources and extra free time.

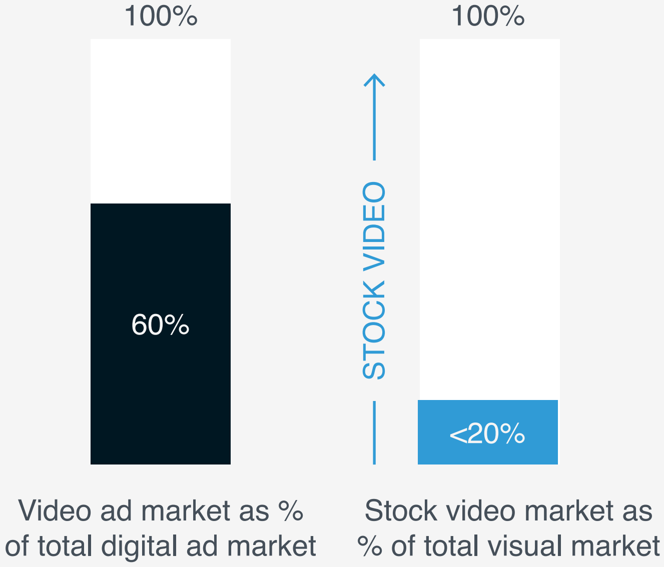
DEMAND FOR VIDEO CONTINUES TO SKYROCKET

All this coincides with spiking demand for video content. Video traffic in general has increased 4x over 2016, and in 2021 if accounted for 80 percent of all internet traffic, Cisco estimates. Part of this is streaming platforms like Netflix, but also TikTok, which has shown that short-form video is the next big social media format. Instagram hurriedly pushed out its Reels feature to compete, and engagement on both has been through the roof — in fact, consumers have embraced it wherever it appears.



Source: Statista, Drake Star Analysis





Source: Statista, Drake Star Analysis

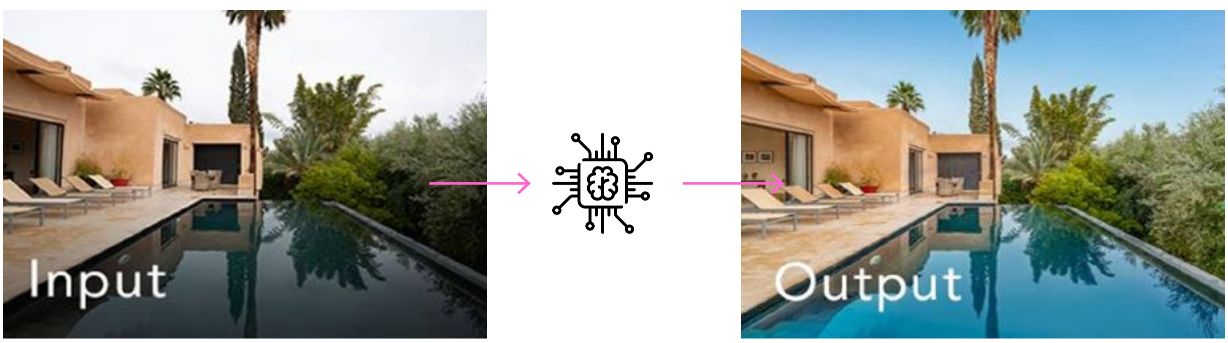
More structurally speaking, the Video Advertising market today represents close to 60% of the total digital ad market globally. However, the stock video market, still in its infancy, represents less than 20% of the total stock market content. This imbalance is expected to drive the rapid adoption of stock video , making this a hot battleground in the years to come in which incumbents such as Getty, Shutterstock, Adobe Stock, Freepik, Envato to establish leading positions. Video stock players like StoryBlocks and Pond5 are well positioned to see continued growth and could be interesting M&A targets in the next couple of years.

To take part in the stock video market, brands need high quality, timely, and relevant video content, and lots of it. Global campaigns no longer mean sending an ad to 30 countries, but shooting micro-ads for dozens of population centers and using blink-and-you'll-miss-it human capital like local influencers.

This kind of distributed production process is nearly impossible to achieve for even large enterprises — but with an army of freelance creators on tap they can pull it off for a surprisingly reasonable price.

On-demand content platforms like Meero and OCUS will grow in size, importance, and value as brands come to rely on them. The cost of content will likely drop, not only as competition intensifies among creators, but as the tools of this growing industry mature.

In addition to growth and diversity in stock video, expect consolidation between content and editing platforms — it makes sense to combine them, but building an editor or marketplace from scratch is seldom the first resort of an ambitious company when there are perfectly good acquisition targets out there.



Source: Meero

AI BEGINS TO SHIFT TO THE FOREGROUND

AI will continue to attract investment, but while it has become an effective tool for automating low-value but resource-intensive tasks for creators, the technology is still very much in its infancy.

In places where AI can be applied reliably and effectively, it will grow and become a standard: for instance, visual search powered by scene recognition allows for efficient content management and browsing. A single creator may produce a huge volume of imagery, and AI can handle things like batch color balancing, tagging and other metadata, automatic captions, and other value adds.

Meanwhile on the other side of the market AI, customers may use AI-assisted design for things like creating content variants for A-B testing, automated watermarking and design processes that adhere to brand guidelines, and other processes that generally involve multiple departments and meetings.

While there will be M&A activity around innovative startups and breakout platforms, leading players will also invest heavily internally in order to strengthen existing product offerings to meet constantly rising expectations.

BIG NAMES MAKE BIG MOVES – 2022 SET FOR ANOTHER RECORD YEAR

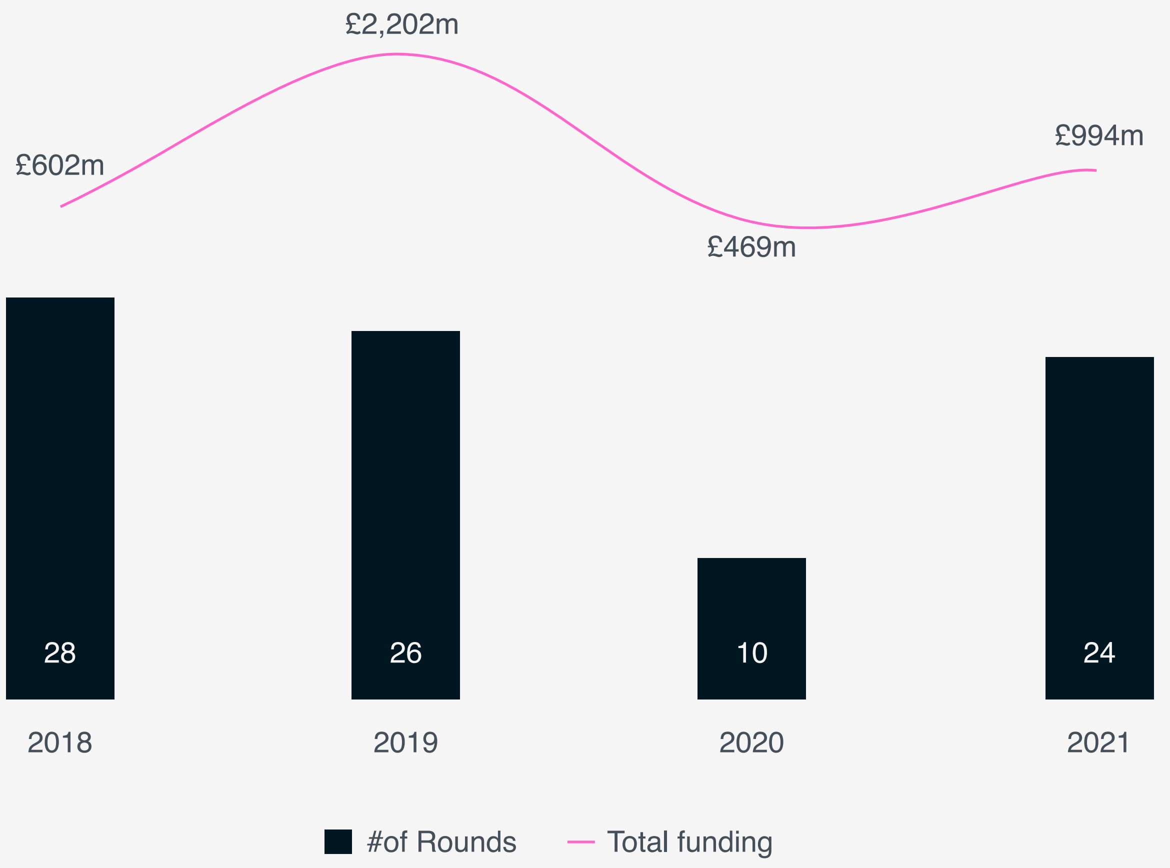
Among those big players, a few deserve special mention for 2022 expectations. Getty is in the process of going public via SPAC with a expected valuation of $5bn (15x 2022 EBITDA), which we expect to go well and lead to increased acquisitiveness next year. Monotype, backed by HGGC, is no doubt likely to be also weighing an exit, whether through IPO or the SPAC route, its approach informed by the outcome of Getty's play. We expect Shutterstock to continue to leverage its balance sheet strength to make further acquisitions, potentially looking at even larger and more transformative deals.

Canva's valuation exploding from $1B in 2018 to $6B in 2020 to a remarkable $40B in 2021 suggests the company will be firing on all cylinders to continue this growth, including a large fundraise capitalizing on revenues approaching $1B. This will naturally put pressure on Adobe's Creative Solution platform, and the creative giant will need to respond with enhanced free options that can convince users to convert to subscriptions.

Other players to watch are EQT-backed Freepik, which may finally look at leveraging its global scale to make a series of bolt-on acquisitions that could enhance their multi-brand strategy. We could also see Australian based Envato, which is the fourth largest stock content player in the world (excluding Visual China Group), pursuing a more active growth strategy as their subscription business Elements gains momentum.

2022 is set to be another fascinating year in the industry with the potential of some major ground-breaking transactions from both existing players and new entrants.

FUNDRAISING ACTIVITY IN THE VISUAL CONTENT SECTORSECTOR



ALIGNING DIGITALISATION, TECH ADOPTION & BUSINESS OUTCOMES WILL DEFINE M&A

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The pandemic created an environment that forced the need for accelerated digital and cloud transformation. Digital adoption no longer became a question of 'if' but 'when' and 'how fast'. Digital Services saw landmark dealmaking in 2021 as the sector continued to show resilience through the global economic shocks of the pandemic. Digitalisation, technology and AI-driven solutions are crucially embedded in the new ways of working and have become more important than ever in the era of workplace flexibility.

Heading into 2022, we believe M&A appetite will remain strong as organisations strike the balance between business outcomes, scalability and the pace of global digital transformation and adoption. As we all know, there is significant drive to increase revenue optimisation and operational efficiencies whilst facilitating better decision-making processes.

IT AND SAAS DRIVING GROWTH

IT Services has seen record M&A transactions in 2021. The increasing shift to the cloud driven by global shutdowns and working from home has led to an uptick in deal-making in professional and managed services. Global IT spending is projected to total $4.5 trillion in 2022, an increase of 5.1% from 2021, according to the latest research by Gartner. As cloud adoption keeps forming increasingly complex IT environments, IT Services experts and providers play even more strategic roles. This continues to create tremendous opportunities for consolidation and investment in the space.

SaaS businesses played a prominent role in the M&A arena in 2021. This vertical contributed to over $200bn of disclosed M&A activity and more than $130bn of funding (1). With business and revenue models progressively pivoting towards a SaaS model, we expect a diversity of deals as new entrants and legacy providers strengthen their value propositions and gain bigger market share with acquisitions.

INVESTING IN INDUSTRY 4.0.

Investment in Industry 4.0 processes across the tech ecosystem has also increased and organisations will seek support to modernise operations at the required pace. With the roll out of IoT and the subsequent explosion of data, operationalising supply chain data will be essential. The increased data volume from the adoption of IoT will drive AI implementation in operations and supply chains. Companies that can operationalise data with artificial intelligence will trigger significant gains across all sectors and stand to dominate disrupted industries.

An example of this may be found in supply chain management, where embedded AI, robotic process automation, and deep analytics will break down silos and create more agile and adaptive processes to shorten or solidify product timelines. Some of these same technologies will be applicable across the entire company's structure, creating better employee engagement and productivity tracking while providing seamless customer journeys.

SUCCESSFUL TRANSFORMERS TAKE THE WHEEL

As these digitized processes embed themselves strongly in the new business landscape, organisations are laser focused on how to 'turbo charge' growth and keep up with the pace of digital transformation.

The appetite for acquisitions and market consolidation will continue through 2022, especially for companies with resilient and scalable business models. We particularly expect strong global demand for businesses that are focused on AI-powered solutions for business improvement, ERP systems, big data and analytics, digital and cloud transformation programmes as well as cyber & information security.

ABOUT DRAKE STAR

Drake Star is an award-winning global tech investment bank that has completed over 450 transactions since 2013. Drake Star team of over 125 senior professionals across offices in New York, London, Paris, Munich, San Francisco, Los Angeles, Berlin, Geneva, Dubai, and Singapore focuses on mergers & acquisitions and corporate finance services worldwide in Consumer & Retail Technology, Digital Media, FinTech, Mobility & Sustainability, Software/SaaS, Digital Services, and Industrial Tech sectors.

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