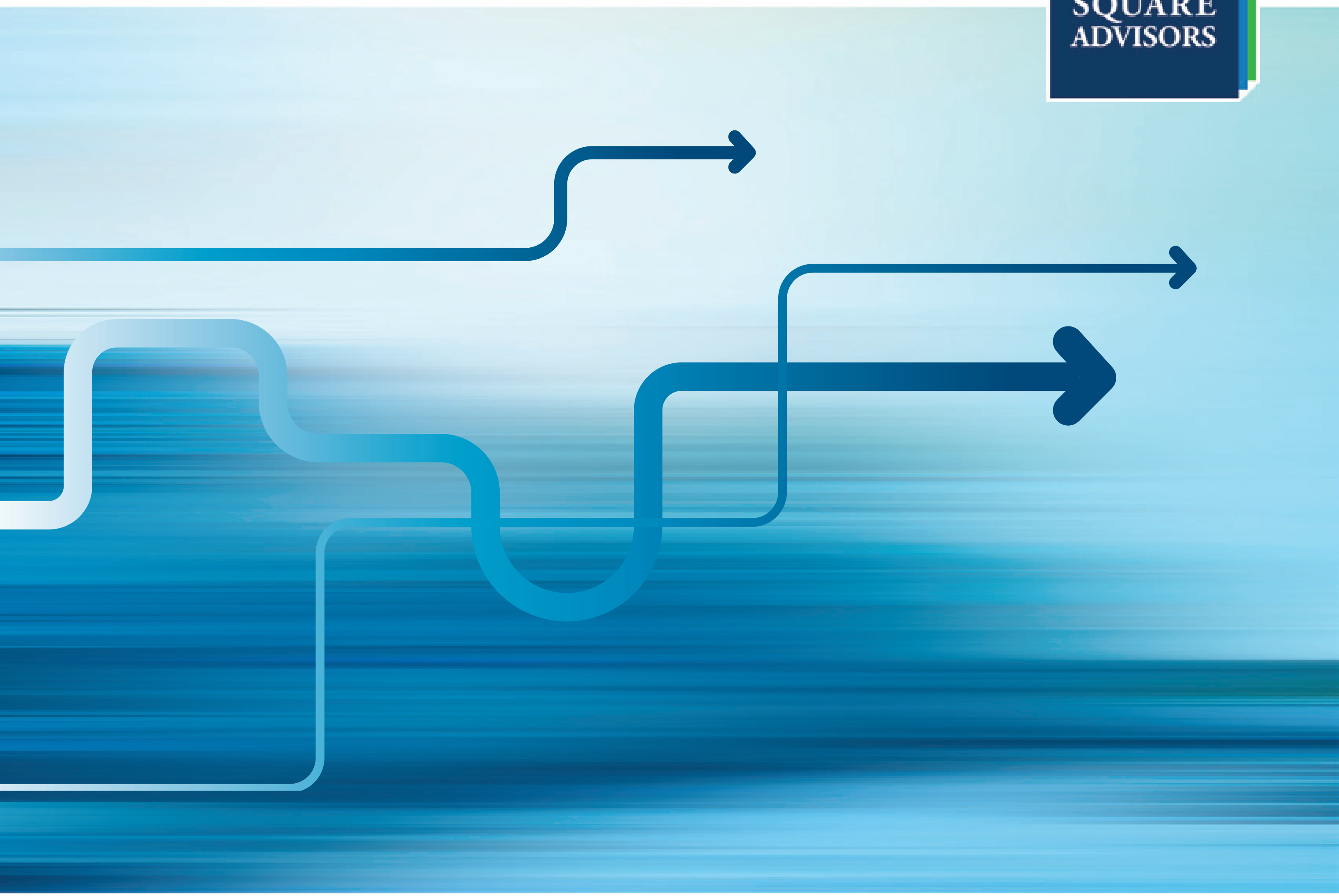
OUTLOOK 2023

Navigating the Path Forward

UNION SQUARE ADVISORS



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Union Square Advisors is a leading technology-focused investment bank that supports clients in pursuing and executing their most important strategic transactions.

Our team includes former heads of the world's largest technology investment banking practices, plus senior professionals with deep experience providing superior advice to boards of directors and management teams in multiple arenas.

We specialize in board advisory and special committee assignments, mergers & acquisitions, buyouts, restructurings, special situations, public and private capital raises, capital structure optimization, liability management and other capital markets transactions.

With extremely deep sector knowledge and strong relationships throughout the tech ecosystem, our business centers on advising the leading companies and pools of capital across the technology universe.

Since its founding in 2007, Union Square Advisors has advised on more than 160 transactions, with total transaction value in excess of $115 billion.

Our expertise spans many aspects of the technology landscape:

and other key segments and trends:

- **Big Data and Advanced Analytics, powered by AI/ML**
- **Next-Generation FinTech, Payments, Procurement and Risk Management**
- **IT-as-a-Service Across Layers 4 – 7**
- **NPM/APM, Infrastructure Visibility and ITOA**
- **Vertical Marketplace Models**
- **Evolving Consumer Needs and Customer Experience Management Responses**
- **AdTech Meets MarTech**
- **Changing Human Capital Management Requirements**
- **Mobile-First Applications**
- **Converged and Edge-Based Solutions for Faster and More Secure Computing**

Welcome

2022 Was Tough, and 2023 Will Be Too — But Tantalizing Opportunities Still Abound

In a business where numbers are crucial, we have a couple to share with you: one of us is celebrating 50 years on Wall Street, and Union Square Advisors is marking 15 years in business.

Founded just ahead of the 2008 financial crisis, our firm has seen its share of ups and downs as a result of the natural dynamics of the financial markets. And yet here we are, looking forward to the next 15 years and beyond.

In 2022, the public markets definitely were down. But remember, over the long term, financial downturns happen quite regularly. In fact, there have been 12 over the last 50 years — averaging one every four to five years — with half of them being labeled as "serious." But, after each one, a calmer environment has prevailed: capital flowed, companies grew, and patient investors were rewarded with meaningful returns. This, too, shall be the case following the challenges of 2022.

So where do things stand as of now? Stubborn inflation, rising interest rates, a red-hot job market, the war in Ukraine, chronic supply chain problems and lingering COVID-19 effects all make for a difficult environment. As a result, we expect the volatility of 2022 to continue into 2023. But, that said, meaningful opportunities are still out there. The economy is fundamentally solid — Americans, collectively, have $4+ trillion in savings, individual and institutional investors are eager to invest, many companies continue to hire while others trim to gain efficiencies, and the Federal Reserve is aggressively moving to contain inflation. It will be a bumpy ride, but we are getting near the bottom where things will turn for the better.

Although tech IPO activity slowed to a virtual standstill in 2022, the private capital markets across the entire debt-equity spectrum remain very active. The investment dollars are there – even if the terms are more expensive (in many cases significantly so) than they were six to 12 months ago – as growth equity, private equity and private credit investors continue to pursue capital deployment opportunities. M&A activity has slowed meaningfully compared to last year, but we still are seeing consolidation as enterprise technology vendors look to deliver full-featured platforms versus point solutions, especially with next-generation, cloud-based offerings.

Adding to the dynamic nature of the markets, the Fed remains a bit of a wild card. If it takes a slower approach to tightening rates in the future (as signaled by Jerome H. Powell, Federal Reserve chair, in recent comments), interest rates may stay elevated for a longer period of time, the cost of capital will remain higher, and valuations paid by investors likely will remain lower as a result. The entire integrated investment ecosystem — the companies themselves, as well as public and private capital providers — will need to complete the valuation reset started in 2022, and then get back to more normalized levels of deploying and consuming capital in pursuit of successful business building. It likely will take much of 2023 for this reset and reignition to complete, as companies finally acknowledge and accept the new valuation reality.

Despite these headwinds, the enterprise technology sector continues to grow. It remains amazingly resilient to overall economic and market volatility, with enterprise-grade technologies continuing to attract significant investment across multiple sub-sectors of the landscape. Cybersecurity is a priority for all industries as the threat base expands around increased digitization, and the bad guys keep getting smarter and more numerous. Risk management software also has seen elevated importance in these cautious times, with data observability and supply chain visibility more critical than ever.

Environmental, Social and Governance (ESG) initiatives continue to grow and gain momentum inside corporations looking to adopt more sustainable and ethical business practices. These organizations are putting increased emphasis on enhancing programs for regulatory compliance, corporate governance, emissions reductions, other climate change improvements and additional sustainability projects. We also are seeing a surge in technologies that support and automate these corporate ESG initiatives, as well as in investment dollars targeting ESG tech solutions providers.

Digital transformation, long a key initiative of forward-thinking enterprises, will remain an important area of investment regardless of any economic slowdown — its benefits and efficiencies are simply too great to ignore. We are also keeping an eye on various elements of the enterprise data ecosystem, including solutions for enhanced data management and observability, predictive analytics and next-generation identity management (including passwordless technologies).

Approaching a Complex Environment with the Right Advisory Partner

In today's volatile markets, all participants need an informed and creative approach to pursuing capital raising and M&A transactions. Even the most experienced players may not know just where to look to find optimal capital solutions, or which entities are eager to pursue strategic combinations. A superior advisory firm can help navigate this extremely complicated landscape, and ultimately ensure a successful transaction outcome.

Our number one recommendation for the year ahead is: Don't sit idle. Great ideas, promising financing alternatives, and unique strategic opportunities don't take a holiday during a downturn; neither should you. Now is the time for innovation and disruption, the time to prepare for incredible possibilities by ruthlessly determining priorities, preparing for financing necessities and evaluating critical strategic imperatives. We are here to help.

At Union Square Advisors, we are actively helping our clients secure new capital and pursue M&A transactions today. Our deep knowledge of the technology landscape and our unmatched transaction execution experience are enabling us to get deals done, despite the challenging market environment, in what promises to be one of our best years ever. With your continued support, for which we are immensely grateful, we expect to continue that success in 2023 and beyond.

In the following pages, our industry thought leaders will give you the benefit of their experience and insights into what's ahead for 2023. We invite you to read, reflect, and engage with us on these topics — and we look forward to helping you achieve your key objectives in the exciting year ahead. Thank you for your ongoing belief in and support of what we are building.

Carter McClelland, *Chairman (left)*

Ted Smith, *Partner and President (right)*

P.S. A Happy Milestone

Before we close, let's finish the story of the special anniversary we mentioned. As you may have guessed, Carter McClelland is celebrating 50 years of working on Wall Street! As a young man, Carter entered the investment banking industry on the cusp of the brutal 1973-1974 bear market, which saw a 44% decline in the Dow. Those were tense days, with skyrocketing inflation, an oil embargo, and other assorted national and global crises (sound familiar?). It was quite an introduction to the world of finance, but Carter took it in stride and learned a valuable lesson he's been applying ever since: keep cool, stay focused, and look for creative opportunities — they are there in every market cycle.

Happy anniversary, Carter!

Challenging Macroenvironment

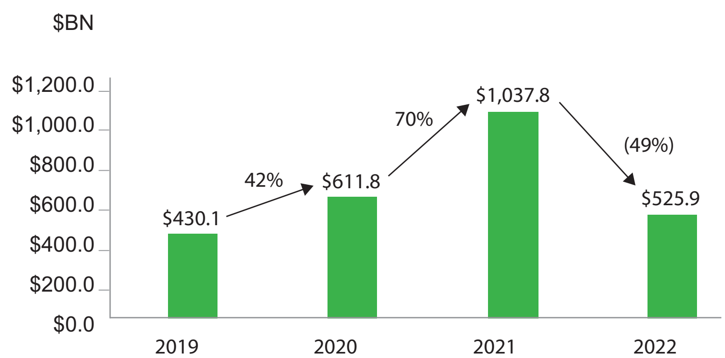
After an extremely active environment in 2021 for technology M&A and fundraising, 2022 was nearly the complete opposite. We saw technology M&A and private placement volumes drop significantly, and IPOs, including SPAC IPOs, become almost nonexistent. What caused this dramatic shift? The after-effects of a post-pandemic bump, Russia's invasion of Ukraine, China/U.S. economic and political tension, rising inflation, supply chain constraints, and rising oil prices all contributed to a precipitous drop in market indices, limited public offerings, and lower levels of private placements and M&A activity.

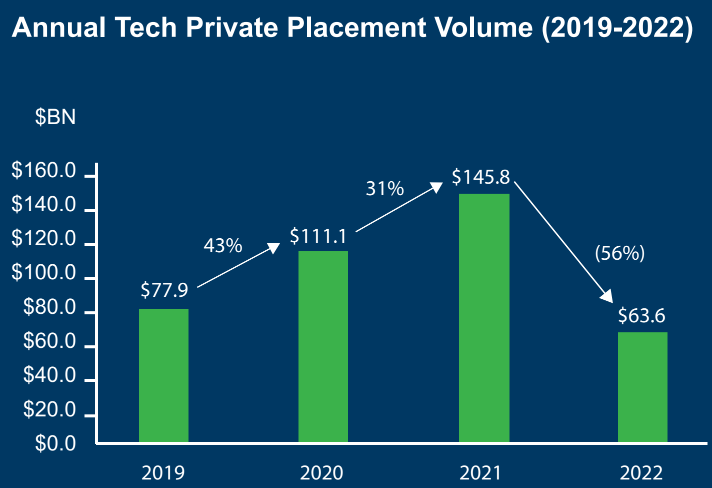
As we look back on 2022, we also reflect on whether 2023 will offer more of the same with a looming global recession or if it will see improvements in activity for technology M&A and fundraising. We believe the environment is likely to remain choppy and uncertain for the foreseeable future, albeit with stability increasing as the year progresses. Navigating such a challenging environment requires boards to undertake a full assessment of their companies' operational, strategic, and financing priorities, and to engage with strong financial advisors to help them evaluate their options.

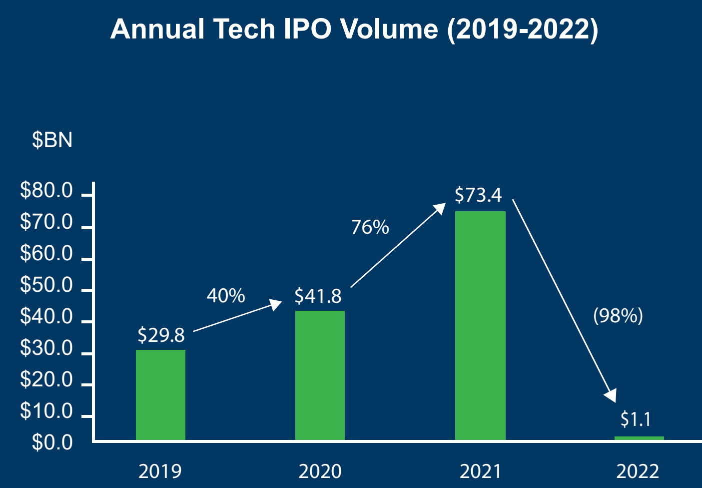
M&A Volume Declined but Strategics/Private Equity Still Active

After topping $1 trillion in technology M&A in 2021, 2022 volume of $526B was down 49% Y/Y. As market indices dropped throughout the year hitting 12-month lows in the second half of 2022 (DJIA down 20.9% at its lowest but recovered to be only down 9.4% at December 31, 2022, S&P 500 down 24.8% at its lowest but was still down 20.0%, and NASDAQ was down 35% at its lowest and was still down 34%), valuation expectations between buyers and sellers diverged meaningfully. It became difficult for public boards to entertain offers at market premiums anchored to their 52-week low prices, or for

Annual Tech M&A Volume (2019-2022)







private company boards to agree to sell at levels below their last post-money fundraising valuations. For buyers, conducting diligence on sellers' financial projections became more challenging as these buyers grew less comfortable with how companies might perform under a pending recessionary environment. Further, the higher cost of debt combined with lower equity valuations made it more challenging for strategics to finance transactions.

Despite these challenges, strategic buyers were fairly active in 2022 and printed some large deals in the social media, telecom infrastructure, enterprise software, cybersecurity, commerce and customer experience, healthcare IT, video gaming, and fintech sectors. Notable strategic transactions included: Broadcom/VMware ($69.2B, virtualization software), Microsoft/Activision ($68.7B, video game development), Elon Musk/Twitter ($47.4B, social networking/micro blogging), Adobe/Figma ($20.0B, collaborative interface designing/prototyping), DigitalBridge/Deutsche Telekom tower assets ($17.6B, mobile telecom towers), Intercontinental Exchange/Black Knight ($16.0B, mortgage lifecycle management software), Take-Two Interactive/Zynga ($12.7B, mobile gaming), DigitalBridge/Switch ($11.0B, co-location data centers), Standard General/TEGNA ($8.6B, TV stations), CVS/Signify Health ($7.8B, health assessment and clinical workflow software), Kaseya/Datto ($6.2B, backup and recovery software), OpenText/Micro Focus ($5.6B, enterprise software), Google/Mandiant ($5.4B, cybersecurity), and Intel/Tower Semiconductor ($5.4B, semi foundry).

For private equity firms, having valuation multiples decline was a clear positive, but the cost of debt financing became more expensive with rising interest rates. Nevertheless, private equity shops were not idle in looking to scoop up recurring revenue-based software businesses in critical domains such as infrastructure software, cybersecurity, business performance, customer experience, and financial technology. Noteworthy private equity deals included: Evergreen Coast Capital and Vista Equity/Citrix ($16.5B, digital workspace and application delivery), Evergreen Coast Capital and Brookfield/Nielsen ($16.0B, media measurement), Thoma Bravo/Anaplan ($10.7B, business performance orchestration), Permira and Hellman & Friedman/Zendesk ($10.2B, customer experience software), Vista Equity/Avalara ($8.4B, tax and compliance management software), Brookfield/CDK Global ($8.3B, retail commerce and auto dealership software), Thoma Bravo/Coupa (business spend management), and Thoma Bravo/SailPoint ($6.9B, identity and access software).

Financing Activity Was Significantly Challenged

Private placement volume also declined significantly by 56% Y/Y to $64B of volume in 2022. Many venture and growth equity firms pulled back on new platform investments, focusing instead on their existing portfolios with bridge financings, reduced spending, and a focus on cash flow and profitability. Despite these trends, some notable private placements still got inked across cybersecurity, AI, cryptocurrency, digital transformation and experience, DevOps, mobility, gaming, and collaboration: Epic Games ($2B, video game developer), Securonix ($1B, big data security), Flexport ($935M, inventory tracking), Ramp ($750M, finance automation), Anthropic ($580M, AI safety and research software), Fireblocks ($550M, digital asset infrastructure), ConsenSys ($450M, Ethereum software), Yuga Labs ($450M, gaming), Wisk Aero ($450M, air mobility), SonarSource ($412M, clean code platform), KaJ Labs ($400M, cross-chain decentralized applications), Velocity Global ($400M, HR software), Contentsquare ($400M, digital experience analytics), and Miro ($400M, visual collaboration).

The IPO and SPAC IPO markets were basically closed for business in 2022 as investors traded out of technology for seemingly safer havens. Companies that were looking to go public also sought private capital in various forms across the entire equity-debt spectrum in order to sustain their cash burn and wait for IPO markets to reopen. There were just six tech IPOs totaling $1.1B in volume in 2022, with the one bright spot being in the autonomous driving sector: MobileEye's $861M IPO in late October 2022 saw a jump of 31% on the first day of trading and a value for the company of $22B.

Looking Ahead; Where Do We Go from Here?

With 2022 wrapping up as an extremely challenging year across the macroeconomic, geopolitical, and overall tech M&A and financing environments, it is possible that 2023 could deliver more of the same. With that said, governments around the world are taking measures to combat inflation, while both companies and consumers are actively preparing to manage through a pending recession. Geopolitical tension across Russia, China, North Korea, Iran, and Saudi Arabia likely will continue to persist and create challenges in supply chain and commodity pricing — and this unpredictable macroeconomic and geopolitical backdrop will continue to create volatility for M&A and financings.

In this environment, earlier-stage technology companies have been proactively taking measures to curb expenses and shore up balance sheets, often with a target of having 18-24+ months of cash runway to support ongoing operations. Post-money valuations from the recent past will be difficult to achieve again in near-term financing rounds, except for the most well-run, disruptive companies. Venture and growth equity firms will continue to review their portfolios and identify which companies they still want to hold, finance and support, and which ones they will put up for sale. For those private companies that need to raise additional capital, the financing terms have been and will continue to be stringent in the near term, with new investors seeking 1.5x to 2.0+x liquidation preferences and forced redemption clauses.

Many were hoping 2022 valuation declines were going to be short-lived; however, these multiples (which now have fallen slightly below pre-pandemic levels) are likely to persist for a while. As a result, we anticipate a greater level of sellside activity from private companies in the coming year, and from public companies as well. If public boards and management teams (including those of de-SPAC'd companies whose valuations cratered in 2022) are not proactively evaluating their strategic, operational, and financing priorities, then hedge fund activists are likely to agitate and do it for them (e.g., Jana/New Relic, Elliott/Pinterest, Elliott/PayPal, Starboard/Wix, Starboard/Liveperson, Starboard/Splunk). While private equity firms can continue to hold onto their higher quality assets, fund dynamics may cause them to seek full exits in some cases. Alternatively, they may opt to pursue a partial sale to another private equity firm to take some chips off the table and get a second bite of the apple for a future liquidity event. Lastly, with the continued volatility of the equity markets, the IPO window remains only very narrowly open; therefore, exit options via an IPO or SPAC are unavailable for all but a relatively small group of tech companies, and we think this also will push most companies to seek a sale as the preferred (only) path to liquidity.

While there will be some strategic buyers and private equity firms that will retrench from M&A in this uncertain environment, most will continue to view this as a golden opportunity to find and invest in both large and mid-sized quality companies or non-core businesses of conglomerates, even if the cost of financing is higher. Strategic acquirors will seek to consolidate existing markets or diversify into new ones — and they will use M&A as a way to do this — as well as to strengthen their strategic and financial positions; allowing them to come out even stronger on the other side of a potential recession. Private equity firms will continue to bolster existing portfolio companies with tuck-in acquisitions, and they will also return to pursuing new platform deals that look more attractively valued today. The bet these firms are making is that, when they exit these investments down the road, they will benefit from a return to (at least somewhat) higher valuation multiples. Finding debt financing sources at desirable terms will continue to be difficult, but the private lending and hybrid equity markets are areas for debt sourcing if the institutional market remains challenged.

The value expectation gap between buyers and sellers was an M&A deterrent this past year, but we anticipate that these expectations will begin to converge if depressed public market multiples persist and continue to influence private market valuations. Still, deal negotiations may stall in some M&A transactions without employing creative solutions to bridge the valuation gap — we are likely to see parties employ more earnouts, use stock as a currency, add seller paper, or increase the size of any roll-over of equity for management and selling investors.

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Also, the regulatory environment for technology M&A is getting tougher. U.S./China political tension will make cross-border transactions between the two countries more challenging, with SAMR review in China and CFIUS review in the U.S. focusing on competition, consumer data, and intellectual property protection. Although driven by different political dynamics, we also have seen European regulatory panels, particularly in the U.K., flex more muscle recently in their assessments of technology transactions; these can no longer be considered “rubber stamp” organizations. Furthermore, domestic regulatory reviews, particularly where Big Tech is involved, have grown more stringent as well (e.g., in both vertical and horizontal combinations), as there is a growing focus on the M&A deals and competitive practices of the largest technology companies.

M&A and Investment Activity

Where will we continue to see tech M&A and investment activity? We are likely to see it in sectors that exhibit very large total addressable markets, high growth, countercyclical dynamics, disruptive technologies, and market fragmentation. We believe enterprise application and infrastructure software will be active, particularly in ecommerce, customer engagement/experience, digital transformation, 5G-enabling technologies/mobility, workforce management/collaboration, supply chain risk management, industrial automation and AIoT, DevOps, data observability, containerization, cybersecurity (including next-generation identity management), risk analytics, blockchain-based solutions, healthcare IT, AgTech, and ESG. And all these areas will benefit from ongoing advances in AI/ML that will drive solutions with greater automation, faster throughput, and better decisioning.

To reiterate, the market is likely to remain volatile in 2023; however, we believe the tech M&A and financing markets will continue to be active, even if volumes will not be breaking records. Market uncertainty will persist, and companies and investors will remain cautious as a result. However, they will also be looking for some signs of a tapering of inflation and rising commodity prices, easing of rate increases, tempering of a hot employment market, and easing of geopolitical tension as they evaluate becoming more active again in pursuing M&A and financing activities — and we are seeing green shoots even today in several of these areas. Ultimately, we anticipate a recovery in activity during 2023 because there is simply too much capital in private investment (both equity and debt) funds and on corporate balance sheets for it to sit idle for too long.

Lastly, for technology companies to navigate these volatile markets successfully, executive teams and their boards should be talking regularly and retaining financial advisors to assist them in evaluating strategic and financing priorities. At Union Square Advisors, we have advised companies through multiple disruptive market cycles, including this one, and we understand how to assess and shape M&A and financing decisions during challenging times. We would welcome a discussion with you as we explore ways to partner. We wish you a successful 2023!



Wayne Kawarabayashi, *Chief Operating Officer, Head of M&A*
Devon Ritch, *Partner, M&A*
Phil Kim, *Managing Director, M&A*

**Data sources for volume for M&A, private placements, IPO, and SPAC activities: 451 Research, CapitalIQ, Pitchbook, Renaissance Capital and Mergermarket.*

Mega Trends

Even with the overall market volatility we collectively experienced in 2022, we continue to see significant and exciting disruption occurring in the technology ecosystem. Although the ride is bumpy, and any one endeavor is never assured of ultimate success, great new ideas still can become great new technology, products, companies, and markets. As long as this flywheel continues to spin, meaningful investment and consolidation opportunities in tech will remain abundant.

Going into 2023, here are a few areas we are watching that we believe will have significant impact on the ongoing growth and success of the technology arena — and that will be ripe for additional investment and acquisition interest in the new year:

1 Risk management solutions elevated in a risk-averse time.

Despite an uncertain global economy — or perhaps because of it — risk assessment and management solutions will continue to be top of mind. Supplier and supply chain risk management offerings will remain hot through 2023 and beyond. Gaining visibility into and gaining manageability over third-party risks not only minimize disruptions, but also can help companies get a better handle on revenue leakage, channel dynamics, and key geographic disparities. We are paying close attention to Know Your Supplier (KYS) systems that efficiently and accurately monitor suppliers and can identify places of potential noncompliance and risks. Data observability and predictive analytics solutions also are hot technology areas to watch, offering ways to map out defined risk scenarios and determine how best to respond to them.

2 Resilience-based enterprise software: keeping the lights on.

Maintaining organizational continuity and remaining responsive to customers are key to keeping businesses running in an age of pandemics, inflation, recession, warfare, cyberattacks, etc. As a result, enterprise-grade technologies that enhance infrastructure resilience and "healing" are growing rapidly. AI and AIoT (Artificial Intelligence of Things) are taking center stage here, with new solutions and companies looking to help large customers future-proof their IT investments while navigating the ongoing threats. Operational technology (OT), specifically time-series data analytics, is also hitting prime time by optimizing operations at the systems level to predict the failure of individual assets before they occur. The ROI benefits are significant, with reduced machine down-time, improved yield, and carbon consumption reduction. Platform providers across DevOps, security, and the data ecosystem are major drivers of this momentum.

3 Enhanced customer engagement: building loyalty and lifetime value.

The rise and consolidation of customer-centric solutions continues (albeit still in the early innings), as companies look to deploy omni-channel engagement platforms versus sales and marketing point solutions. As with their core product offerings, brands are recognizing that they must provide consumers with a range of engagement options (live voice/video, email, chat, SMS text, dynamic web libraries, etc.), along with the ability for the consumer to seamlessly move from one to the other. And, although these solutions primarily have been delivered in B2C industries, we see their analogs beginning to gain traction in B2B markets as well. In either case, the transition to more complete (and more highly automated) solution platforms results in better collection and analysis of customer and prospect data, which leads to better decisioning and alignment across departments and teams. Deployed properly, these solutions can significantly enhance prospect-to-client conversion, increase cross-sell/up-sell opportunities, improve customer engagement and satisfaction, and drive strong customer loyalty and lifetime value.

4 ESG is poised for further growth.

With the increasing emphasis on compliance, governance, risk management, and sustainability, ESG-driven management is gaining momentum inside the largest corporations. Governmental ESG policies and regulations will only become more stringent over time, pushing companies to adopt sustainable and ethical businesses practices — especially in climate reporting, emissions accounting, and carbon reduction. Investors and consumers alike are responding, and as a result sustainable consumer brands are finding success while making an impact. On the other side of the coin, industries adversely affected by an increasing focus on ESG are pushing back on these initiatives (e.g., fossil fuel companies responding to climate change initiatives), muddying the near-term investing waters somewhat. However, we believe that ESG-driven approaches to corporate management and operations will continue to proliferate, creating significant additional opportunities. How companies measure, manage, and report on their ESG compliance are and will be critical (and today remain in flux), leading to a surge in technologies/solutions that monitor and automate these functions.

5 The age of crossover tech.

We continue to be fascinated by the explosion of incredibly powerful enterprise AI technologies accessible via easy-to-use APIs and consumer interfaces. ChatGPT, DALL-E, Jasper, and numerous other tools now freely available showcase the tremendous promise of AI to automate complex tasks and enhance human interactions — and, when pressed to their current limits, these tools also reveal that they are far from ready for prime time (SkyNet has not yet arrived). At the same time, next-generation AR/VR/Metaverse technologies initially targeted at entertainment/gaming consumers are now being developed with enterprise use cases in mind to enhance engagement and productivity in the workplace. What began as the consumerization of IT phenomenon continues to evolve into a further blurring of the bound-aries between individual and business technology users and use cases. With the largest tech heavyweights (Apple, Google, Amazon, Microsoft, Meta, etc.) playing on both sides of this permeable border, keep an eye out for continuous leaps forward and the emergence of additional new ecosystems around their platforms.

Back Office Technology: Continuing its Strong Run in 2023

We are likely to see several of 2022's most positive trends persist in the new year, but the good times may be over for other previously hot themes. Not so with risk management, however – this sector has been robust and will continue to gain strength, across several dimensions. Companies of all shapes and sizes will continue to adopt solutions to better protect themselves and their shareholders, and to maintain a better understanding of their operations. Third-party, vendor, and supply chain risk management will be major focus areas next year, as organizations now understand the necessity of having greater visibility into their business relationships andpartner ecosystems.

Given the disruptive events of the past two years, executives are well aware that global supply chains remain brittle and vulnerable. They need a deeper understanding of where their goods and raw materials are being sourced, and upon whom they and their vendors are dependent. They now appreciate the need for greater flexibility and adaptability in their supply chains, and creating greater visibility is the first step in the journey toward a truly autonomous supply chain. In this environment, supply chain management, planning, and risk management solutions will become even more important, as they enable companies to standardize their supply chain inputs and processes while also connecting all participants for increased visibility, and ultimately, intelligence.

"Supply chain visibility is key for resilience, but [it is] poorly established in many organizations," states Gartner.[1] Companies often have multi-tier supply chains, thereby requiring what are typically referred to as n-tier visibility and analysis solutions. Knowing your supply chain ecosystem in all its multi-tier complexity has leveled up in importance, especially in a recessionary environment where business failures may increase without such insights.

There certainly is room for improvement. A recent McKinsey survey[2] reported that less than half of senior supply chain executives understood the locations of their tier-one suppliers and the key risks those suppliers face, while only 2% understood the locations and the risks of third-tier suppliers and beyond. Executives are starting to realize the danger and are ready to act. According to Data Bridge Market Research,[3] the global risk management software market is expected to experience substantial growth over the next several years, to more $35 billion by 2029. Maintaining business continuity and responsiveness to customers are key to keeping corporate operations running in the age of pandemics, recessions, warfare, cyberattacks and numerous other threats.

The Automation of B2B Finance Will Continue to Accelerate

The B2B finance and B2B payments market opportunities are massive and remain drastically underpenetrated, as businesses continue pushing for the same conveniences in payments that consumers have enjoyed for years. Lessons learned, processes adopted, and investments made during the pandemic are here to stay.

Digital transformation in finance is well underway for enhanced efficiency and visibility, as companies innovate and move to digital workflows for traditionally analog functions and transactions. PYMNTS.com estimates that digitized B2B payments now exceed $120 trillion globally; we believe growth in this arena will continue to be strong as firms look to modernize every aspect of their business payments management processes, increase efficiencies, and better manage fraud and risks.

This market will continue to attract both strategic acquirors and financial investors. For example, Oracle[4] recently stated its desire to become a market leading B2B payments network, connecting buyers, suppliers, and partners across the finance, insurance, and logistics segments. B2B finance is a complex ecosystem, though — certainly not a winner-take-all market — and there will be multiple players driving growth across accounts payable/accounts receivable automation, spend management, e-invoicing, virtual cards, cross-border payments, and working capital financing. While hurdles to faster adoption remain — IT resource limitations, interoperability challenges, lack of initial network effect, transactional complexity, and overall cybersecurity concerns — the digitization and automation of these mission-critical workflows will continue and increase exponentially over the next few years.

After years of unfulfilled promises (and despite the 2022 cryptocurrency market meltdown), we also are seeing the emergence of real enterprise blockchain solutions. Blockchain technology still promises to facilitate fast, secure, low-cost payment processing and other transaction-related services using encrypted distributed ledgers; these ledgers provide trusted real-time verification of transactions without the need for traditional intermediaries. Companies that deliver meaningful value via true enterprise blockchain use cases are going to be long-term winners — but be patient, as these solutions will still take a while to mature.

Public Opinion and the Prospect of Government Regulations Driving ESG

Finally, ESG solutions are poised for robust growth, especially as government regulations are only going to become more stringent over time, pushing companies to adopt sustainable and ethical businesses practices — especially in climate reporting and carbon reduction. For example, at the U.N. Climate Change Conference (COP27) in November 2022, the International Sustainability Standards Board (ISSB) announced its framework for global partnership disclosure standards. The SEC also has proposed updated mandates that would require disclosure of information on climate-related risks, including greenhouse gas emissions, as well as data on the impact associated with companies' upstream and downstream suppliers.

It's no wonder that corporations are becoming increasingly aware that climate change presents very real risks to people, physical infrastructure, and other assets. That's why technologies that help companies report, measure, and manage ESG compliance are expected to shine in 2023, as are hardware and software solutions that directly impact emission reduction. Related to this, we see lots of growth in and funding of technologies that help automate ESG, including geospatial mapping and process automation.

We're also seeing sustainable consumer brands find success while making a positive impact on the world. For example, Aspiration Financial is a company combining fintech with ESG — a green bank that allots money from every transaction toward environmental issues. The Grove Collaborative is on a mission to transform the products used in the home to minimize plasticwaste, prevent deforestation, and reduce carbon emissions. And One Concern is helping businesses plan better for, and become more resilient to, climate change, using AI and physics-based modeling to "make disasters less disastrous."

As for the "S" in ESG, we note strong trends that showcase improved inclusion, with technologies that help expand economic and business opportunities for previously excluded or marginalized portions of society – including women, people of color, small businesses, and even entire third-world countries. This sector also will exhibit increasing investment and, ultimately, consolidation.

Not all trends in this broad arena are maintaining their upward march. Buy Now/Pay Later, a white-hot space just a year or so ago, has cooled significantly. And neobanks, up against stiff competition from large traditional banks, have not panned out to be the disruptive force that some thought they would be. No doubt there will be other pockets of turbulence across the markets for back office, supply chain, risk management, payments and ESG solutions. However, we think the trends are far more positive than negative, with an active environment overall and meaningful rewards for continued prudent investment.

Andrew Atherton
Partner, Software

[1] *Gartner, https://www.gartner.com/en/documents/4011228*

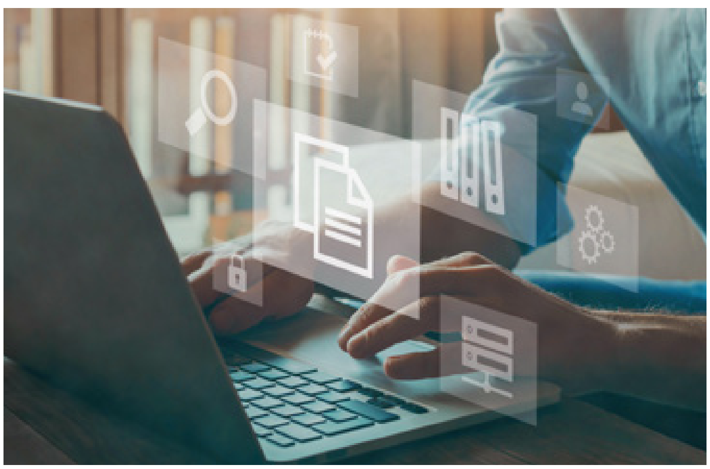
[2] *McKinsey, https://www.mckinsey.com/capabilities/operations/our-insights/future-proofing-the-supply-chain*

[3] *Data Bridge Market Research, https://www.databridgemarket-research.com/reports/global-risk-management-software-market*

[4] *PYMNTS.com, https://www.pymnts.com/news/b2b-payments/2022/oracle-ceo-sees-companys-future-as-b2b-payments-network/*

The Consolidation of Customer-Centric Software

Consolidation across Customer Experience (CX) software continues, as companies migrate away from sales and marketing point solutions to Customer Engagement platforms that serve as the foundation of a complete data strategy.



A bit of history. Companies that built customer-centric operations using these platforms have proven to be more successful and profitable through the pandemic. They have made the customer experience integral to business objectives and integrated across divisions. As a result, more companies are looking to future-proof their customer service and CX strategies with platforms that offer end-to-end capabilities, versus having to integrate various point solutions that tend to silo data and restrict the data flow and data sharing.

The transition to end-to-end platforms with data hubs as a central element results in better collection and analysis of customer and prospect data, better decisioning, better orchestration, and ultimately better customer outcomes. Other reasons for the trend toward platform solutions are the lower total cost of ownership, fewer vendor relationships, better alignment across departments and teams, and the desire for increased standardization. In addition, the qualitative and quantitative insights gained may enhance better customer engagement practices and even better product design and development.

Land-and-Expand Strategy, Get More from Less

As the functionality outside of core enterprise resource planning (ERP) and customer relationship management (CRM) continues to mature, vendors are increasingly focused on the land-and-expand model, which is only possible with a platform strategy versus a point solution.

Consequently, point software solutions are adding capabilities and expanding into platform plays, especially in revenue enablement, customer success, marketing automation, unified communications, contact center, and even human capital management. For example, Zoom is adding capabilities — such as contact center, email, and calendar — to evolve into a small and midsize business platform competitor. We are going to see more consolidation with competing companies joining forces to expand their value propositions and try to win the market.

This past year was a difficult year for many companies to get to break-even. Some have raised more capital (many at lower valuations) while others have pursued mergers to gain scale. Still others are attempting to transform themselves by focusing more on efficient cross-sell go-to-market (GTM) strategies. This typically involves building data-centric platforms connected to a range of applications and capabilities that span the target journey — whether that's a customer or an employee. The vendor can then sell its platform and cross-sell its various applications into its existing customer base to drive efficient growth. For example, we're seeing a trend within talent management software whereby vendors are evolving into end-to-end platforms with an employee-analytics core and capabilities that span the employee journey — including applicant tracking, talent acquisition, onboarding, engagement, performance management, learning management, and even compliance.

What's ahead? The focus for both investors and vendors will be getting more from less. Across the software ecosystem — from front office to back office software — we are entering a phase where it's not enough to just be near-term profitable. Efficiency and profitability are both critical. This is helping shine the light on more efficient GTM strategies, including product-led growth (PLG), that emphasize lower upfront sales investment by building products that are easy to adopt, configure, and use. At the end of the day with the markets in flux, efficiency metrics like LTV:CAC (the ratio between customer lifetime value to acquisition cost) and gross and net retention rates are critical to assess company value.

With a tighter labor market and tighter budgets, we are also seeing a shift toward critical software capabilities that can clearly point to ROI. End-to-end software platforms with the ability to ingest data from a range of touch points and leverage AI to provide actionable insights — such as how to best convert a prospect or improve an employee's performance — are winning solutions.

Will Andereck
Managing Director, Software

Know Your Suppliers, Know Yourself

Know Your Supplier (KYS) solutions continued to grow in importance throughout 2022, as corporations looked to minimize risks across their supply chains and third-party vendor ecosystems. While for many enterprises the pandemic was a wake-up call to the risks embedded within their and others' networks of suppliers, it is not just hindsight that is driving interest in these KYS solutions — increased regulatory activity in the U.S. and across Europe is playing a key part in driving their creation and adoption as well.

KYS solutions leverage a host of technologies to define and monitor suppliers and the web of relationships they have among one another and with the end client. They also help identify sources of potential noncompliance and risks, involving everything from sustainability and business continuity to fraud and money laundering.

We are paying close attention to this sector for multiple reasons: supply chain agility and resilience is increasingly key for sustained competitive advantage, particularly in an economic environment tipping toward a recession. Most large enterprises have multiple, often interconnected, layers of suppliers, making true insight into a supply chain an important but challenging objective. And risks can emerge anywhere, at any layer of an enterprise's supply chain — whether from the vendors that source finished goods, the underlying raw materials suppliers, or even the cloud hosting providers.

Ultimately, the more complex an enterprise's supply chain relationships, the more critical it is to be able to analyze and manage them proactively. Gaining oversight of third-party risks not only minimizes disruptions by ensuring continuity of product from the supplier base, but it also helps companies get a better handle on potential revenue leakage that stems from operating across multiple channels and geographies — for example, learning where a key supplier may be overly reliant on certain components or raw materials sourced from a particular region.

Regulations: The Risk Side, The Sustainability Side

Businesses also are cognizant of the governmental interest in matters related to KYS. Important new laws are coming out of the European Union that are driving U.S.-based companies operating within the E.U. — as well as their suppliers — to respect certain sustainability and environmental standards and to adopt appropriately supportive policies. One such law is the Corporate Sustainability Due Diligence Directive,[1] the goal of which is "to foster sustainable and responsible corporate behavior and to anchor human rights and environmental considerations in companies' operations and corporate governance." Regulatory requirements in the U.S. also are changing, with new ESG initiatives and proposals on the table, including California's newly proposed supply chain transparency rules. We expect to see more and tighter regulations in 2023, all of which will lead to greater adoption of solutions to help companies address and comply with them.

The increased regulatory focus on and enforcement of corporate risk governance is prompting enterprises to be extra diligent in ensuring that all the suppliers that are part of their operations — wherever they are located — are addressing risk management and complying with associated policies and regulations. This is compelling companies to deploy people and technologies to manage these efforts in-house, and/or to work with specialized third-party risk management firms that leverage such solutions.

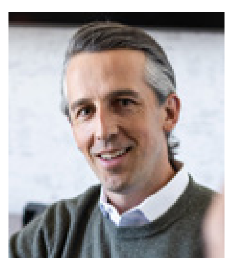
Trending: AI, Predictive Analytics, Machine Learning

For all these reasons, we think that KYS will be a fertile space for technology investment and deployment going forward. We are working with companies that use AI to automate the tracking of suppliers and to trace what entities manufacture the components used in production, how the components are manufactured, and from where the inputs are sourced. Once these elements are identified, a next step is to examine whether they are compliant with regulations (such as the proposed EU law) and ask a series of questions — are they operating in a sustainable manner? A compliant manner? Are they subject to risk? Eventually these questions will be asked and answered via an automated, AI-driven approach.

Predictive analytics is another hot technology area in supply chain risk management, offering enterprises a way to map out defined risk scenarios and then determine how to best respond to them. For example, it can be used to predict whether a supplier is able to meet demand given a specific set of circumstances (e.g., increased end-user consumption, changes to the inputs to a bill of materials, or the effects of a natural disaster in a region of the world where raw materials or components are sourced).

The market for supplier and supply chain risk management offerings will remain active through 2023 and beyond. We are seeing an increase in growth and private equity investing, platform acquisitions and overall consolidation. Large strategics are building out

their product suites in response to customer demand and regulatory tailwinds, via both internal development and targeted acquisitions. We believe consolidation will continue across this space, as the benefits of visibility into increasingly complex supply chains and the need for appropriate corporate risk governance continue to influence enterprise buyers.

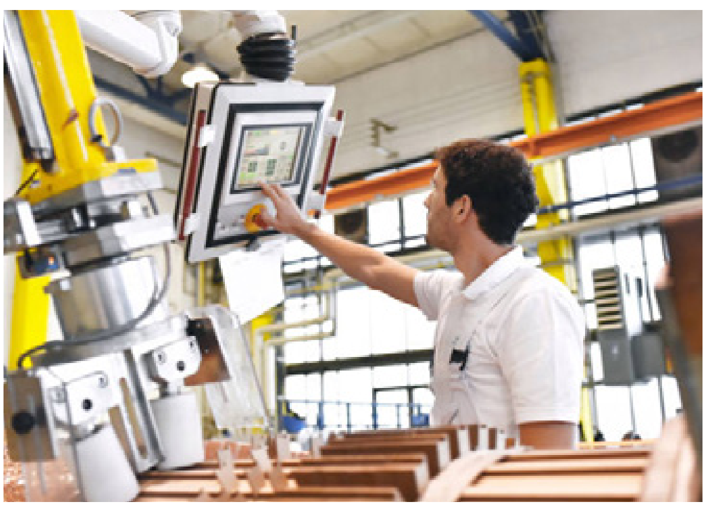


Todd Holman
Managing Director, Internet & Digital Media

[1] *European Commission, https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en*

Trends to Watch: AIoT, Industrial Technology, and ESG

During 2022, we saw forward-looking companies continue to review the adequacy and resilience of their existing strategies and operations; these efforts accelerated throughout the year in anticipation of an economic downturn. Next-generation AI and Artificial Intelligence of Things (AIoT) technologies and platforms are taking center stage with enterprises that are looking to future-proof their organizations and navigate the storm as distributed, connected devices continue to proliferate.



There are many one-off AIoT products in the market today, ranging up and down the stack and across the connectivity, middleware, platform, and application layers. We see the majority of these as being building blocks to more complete offerings. Since market leaders generally take an ecosystem-driven approach to delivering full solutions, at least at first, we expect that less vertically integrated vendors will need to be active in building out technology and go-to-market partnerships with larger players to remain competitive. Eventually, all but the largest platform providers will need to drive consolidation or be acquired as the market coalesces around a smaller number of longer-term winners — we see this consolidation activity accelerating in 2023 and beyond.

As evidence of this evolution, current IoT platforms already tend to be viewed as mostly commoditized, with the bulk of AIoT value ascribed to their analytics (the AI component) and application layers. IoT platform providers that continue to operate as stand-alone entities will face increasing risk from Microsoft Azure and Amazon AWS (and potentially from Google, Apple, and Oracle as well). These tech giants have the broadest and deepest capability sets, to which they will continue to add by both organic and inorganic means, as well as the balance sheet strength to engage in virtually limitless market development and price competition.

Emerging Technologies Thriving: Operational Technology, ESG

Relevant venture capital investment activity in the first half of 2022 was robust and largely as expected — albeit some of it contributed to the ultimate detriment of entire markets and overall sentiment (e.g., the impact of FTX's implosion on the already-battered cryptocurrency market and beyond). This investing activity waned meaningfully in the second half of the year, driven by a combination of rising interest rates, historically elevated inflation, geopolitical events, the U.S. election cycle, and fears of a likely recession with an associated slowdown in growth.

These factors have heightened the risk aversion of many private investors, causing them to shift their focus away from a hyper-growth mindset for their portfolio companies to one that embraces earlier profitability combined with reasonable growth expectations. Such an environment where growth capital is more difficult to find also has increased the demand for experienced agents to help achieve successful fundraising outcomes, and numerous capital raising projects have flipped to full sale processes, often catalyzed by a strategic inbound and/or the capital raising process itself.

Nevertheless, we see numerous areas of opportunity that continue to attract significant investment and strategic interest. Among those markets that have begun to approach prime time is operational technology and, specifically, time-series data analytics. These solutions optimize operations at the systems level and can predict failure at the individual asset level, with the ROI benefit of reduced machine downtime, improved yield, and lower carbon consumption. We also note that corporations across multiple industrial and government sectors — in addition to venture capital and growth equity players — have acknowledged the significant value of next-generation automation and are circling the top-tier assets within the segment (e.g., Seeq, Falkonry, MachineMetrics, Nikola Labs, Augury, and Noodle.ai). And we see forward-thinking, multi-strategy investment funds devising roll-up strategies within this segment, all of which we believe can lead to meaningful consolidation in the coming year.

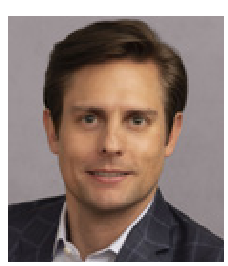
Lastly, companies with environmental, social, and governance (ESG) and sustainability offerings will continue to be in high demand in 2023, particularly those focusing on improving and automating emissions accounting and reduction. New government regulations take effect this year that require public companies to report details on their carbon consumption; over time these metrics will become key determinants of corporate valuations, just like scale, growth rate, and profit margins. We also expect widespread corporate mission statement repositioning around the new ESG realities; in this area, Watershed and Persefoni are companies to watch.

Meaningful Consolidation in 2023: Analytics, IoT, OT, Telematics

Despite the current macroenvironment backdrop and overall market volatility, we believe that top-tier, scaled assets that solve critical pain points within the industrial domain will continue to attract strategic and private equity interest and trade at premium multiples (e.g., Prometheus Group, Redzone, Energy Exemplar, Gamma Technologies). We also believe that meaningful consolidation will occur in 2023 across the IoT, operational technology, and critical infrastructure security sectors; Viakoo, SCADAfence, Nozomi Networks, and Claroty are some of the rising start-ups to watch in the coming year.

We also expect to see horizontal technology providers (which currently are underexposed to the industrials end-market) acquire in-segment companies for access to their respective industrial customer bases — ultimately exposing them to large new markets and enabling them to benefit from the significant resulting cross-sell. At the same time, large industrial players also will continue to pursue meaningful acquisitions in the industrial software arena to compensate for their lack of internal software development expertise/resources. And with continued supply chain and manufacturer uncertainty, and associated liquidity concerns, companies with supply chain-focused solutions will be in high demand; Noodle.ai represents a prime example of the many rising stars in this arena.

Finally, we continue to monitor the market for fleet management and telematics software closely; 2022 brought advances in greater integration of enhanced voice capabilities and more AI-driven features. We will see a meaningful shift in 2023 and beyond, as aftermarket telematics solutions will be further disintermediated by those technologies built right into vehicles on the production line. As a result, we expect significant telematics consolidation and take-privates to occur, likely in many cases at depressed valuations (for those providing aftermarket solutions). Ultimately this will create a healthier market, allowing participants of scale to better compete for global RFPs and more effectively transition to recurring revenue models away from the challenges of public scrutiny.



Erich Fritz
Managing Director, Software

Infrastructure Software: Looking Ahead

Infrastructure software — the layers of technology on which enterprise applications are built — has been one of the primary beneficiaries of the historic bull market and capital-rich investment environment that has lasted well over the past decade.

The financial reports of publicly traded infrastructure software companies indicate that business remains strong for the highest quality platform providers across DevOps, security, and the broad data ecosystem, even as valuations have experienced considerable downward pressure due to macro headwinds. Well-executed recurring revenue and land-and-expand business models provide support to adjusted growth plans, while cloud-based offerings are a major driver of additional top-line momentum. Management commentary is now distinctly cautious, placing emphasis on enhanced operating leverage and sustainable growth, as companies evolve and adapt to a more capital-constrained environment.

We believe there continues to be a sizable bid-ask spread in the value expectations of successful mid-to-late-stage businesses and those of their potential acquirors, especially the large, public strategic buyers that have seen a negative impact on their own valuations. Financial sponsors continue to be selectively aggressive, particularly those with significant capital to deploy out of recently raised funds. Short-tenured public infrastructure software companies that have traded off from post-IPO highs are very attractive acquisition/take-private targets. With all these dynamics in play, we expect a convergence of valuation expectations to start showing up in the infrastructure software arena as early as Q1 of 2023.

Key Trends in Infrastructure Software We are Excited About

1 Changes to Consumer and Enterprise Identity Infrastructure

One of the most important developments in identity this year was when Apple announced its implementation of the WebAuthn specification, called passkeys, in June 2022, available for general adoption and usage in iOS 16. Google made a similar announcement in October 2022.

The WebAuthn specification is part of the FIDO2 framework, a set of technologies that enables passwordless authentication to work seamlessly between servers, browsers, and third-party authenticators. These announcements are crucial in the evolution of identity infrastructure, because FIDO2 brings together the gatekeepers of some of the most important consumer and enterprise technology ecosystems to achieve the common goal of eliminating passwords — since passwords are among the biggest weak points exploited by hackers.

We expect broader implementation of the FIDO2 framework to significantly alter the identity landscape by promoting portability, emphasizing improved security, and reducing implementation costs for consumers and enterprises — further driving the convergence of physical and digital identities to drive new use cases in privacy, security, authentication, verification, governance, and compliance.

We are keenly watching several innovators in identity and expect them to be potential targets and consolidators in the next 12 months. These include Venafi, ID.me, Prove, Secret Double Octopus, 1Kosmos, LoginID, 1Password, Veriff, Beyond Identity, Unico, and Alloy.

2 The Container Ecosystem: Consolidation Continues

Containers and technologies enabling application containerization have continued to evolve since Kubernetes effectively won the orchestration battle in 2018. Initial waves of innovation and M&A in the container ecosystem were centered around compute (Spot.io acquired by NetApp in June 2020), storage (Portworx, acquired by Pure Storage in September 2020; Kasten acquired by Veeam in October 2020), and security (Twistlock acquired by Palo Alto Networks in May 2019 and StackRox acquired by Red Hat in January 2021). We expect the next round of consolidation to focus on orchestration, visibility, and management of container infrastructure, in addition to continued consolidation of scaled container security businesses.

Some of the companies we think are exciting and actionable in container management include Rafay, Spectro Cloud, and Nirmata.

We see increasing interest and investments in kernel technology, such as eBPF-powered visibility companies (with Isovalent being the most well-known, given its association with the open-source Cilium project). Other startups we are closely watching are Tel Aviv-based Groundcover, which raised $20mm in a Series A round in September 2021, and New Jersey-based ContainIQ. Later-stage container security companies we believe are, or will be, actionable in the near term, are Aqua Security, Sysdig, and Tigera.

3 Shifting Investment Focus from Web3 to Generative AI

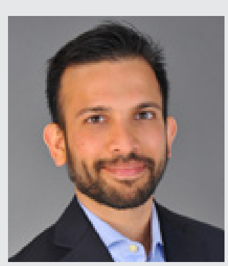
This past year is likely to be remembered for the onset of a “crypto winter,” where the enthusiasm around cryptocurrency — and adjacent technologies, including other blockchain-based applications and non-fungible tokens (NFTs) — has declined, in part because of the lack of regulation, oversight, and real-life use cases that solve specific problems. Oh, and also due to the vaporization of many billions of investor dollars, as numerous interconnected crypto companies and exchanges suffered from an existential crisis and a “run on the bank.” Nevertheless, we still believe cryptocurrency is here to stay and there is strong case to be made for Web3 as the privacy-focused evolutionary aspiration of the current web.

The slowdown in crypto investing has meant VC interest has now shifted back to AI, where it was focused just two to three years ago. Particularly, Generative AI — the ability to create new text, images, and even software code using a range of different models — is rapidly gaining attention and adoption. Generative AI has started to gain momentum due to easily available APIs that allow users to leverage the technology and generate a rich variety of content that has previously been exclusively the domain of sentient humans.

While still in early stages, models like Generative Pre-trained Transformer 3 (GPT-3) can generate high quality text for a variety of use cases; Stable Diffusion can generate richly detailed graphics; AlphaFold can predict complex protein structure; and CoPilot can generate functional code, all from just a few prompts. OpenAI, creator of GPT-3, launched a chat interface to its family of large language models called ChatGPT that has been greatly welcomed with excitement in the technology community and well beyond (vaguely reminiscent of the exuberant optimism following the first moon landing!).

The companies behind these models are experimenting with a mixture of open source, API-driven, and usage-based revenue models to drive market traction and create value for enterprise customers. We see the creators of these models and the platforms for next-generation technology businesses as a key focus for infrastructure software investments and M&A over the next decade. Some of the companies we are watching with interest in Generative AI include OpenAI, Stability AI, GitHub, Jasper, Cradle, DeepMind, and Hugging Face.

Innovation in infrastructure software continues to be underwritten by venture capital firms with deep expertise in early-stage business development, private equity firms executing the SaaS playbook for later-stage growth companies, large technology businesses solving complex computer science problems to gain competitive differentiation, and highly skilled entrepreneurs leveraging developments in data science, AI, cryptography, cybersecurity, and virtualization to create the next generation of software businesses. We expect deal activity to pick up in 2023 as current macro headwinds dissipate — and we are eager to offer our expertise to infrastructure software clients as they navigate complex and evolving market conditions in the coming year.



Ubaid Dhiyan
Director, Software

Capital Markets, Private Equity, & Venture Capital

Macroeconomic Backdrop Remains in Focus

Volatility dominated global markets this past year, as investors grappled with numerous crosswinds including persistent inflation, rising interest rates, slowing global growth, the likelihood of a U.S. recession, and geopolitical uncertainty. The private capital markets were no exception, with investors reassessing their risk appetite to deploy capital across the entire debt-equity spectrum; this led to more binary investment decisions, with processes taking much longer and a holistic repricing of risk.

We anticipate this backdrop to persist in 2023, as the narrative around inflation and the new normal for growth expectations will continue to play out on a global scale. Investors remain acutely focused on the rate environment and how global economic activity will be affected by the monetary stance of the Federal Reserve and other central banks. Market participants will be watching closely for convergence between the Fed's rate increases and moderating inflation as an early indicator of a new bull market (or at least a less bearish one). While the markets remain extremely challenged, capital can be raised in this environment with the right preparation and go-to-market strategy — and the right advisor.

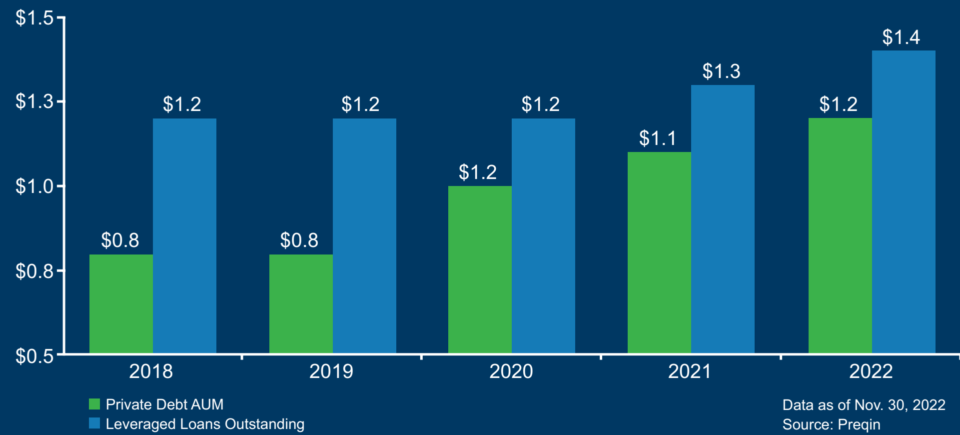
Private Credit: Opportunities Still Abound

Over the past 12 months, the private credit market has taken meaningful share from the institutional market. Historically, borrowers and sponsors looked to private credit investors to provide capital in more challenging situations or to place second lien financing in buyout scenarios. In 2022, we saw private credit players provide a true alternative to the institutional markets, which have become dislocated due to banks' overextended balance sheets (a result of numerous hung, committed financings) combined with extremely depressed secondary levels.

Given the dislocation in the institutional markets, the private credit market has become the primary outlet for issuers to raise debt; the private credit route offers borrowers a high degree of confidence in execution as they seek speed and certainty of close in a volatile environment. In 2022, the private credit market priced $116 billion in total volume, compared to $110 billion in 2021,[1] outperforming the institutional market year over year. Issuers have been able to obtain flexible solutions in an extremely capital-constrained environment because of the bespoke nature of this market.

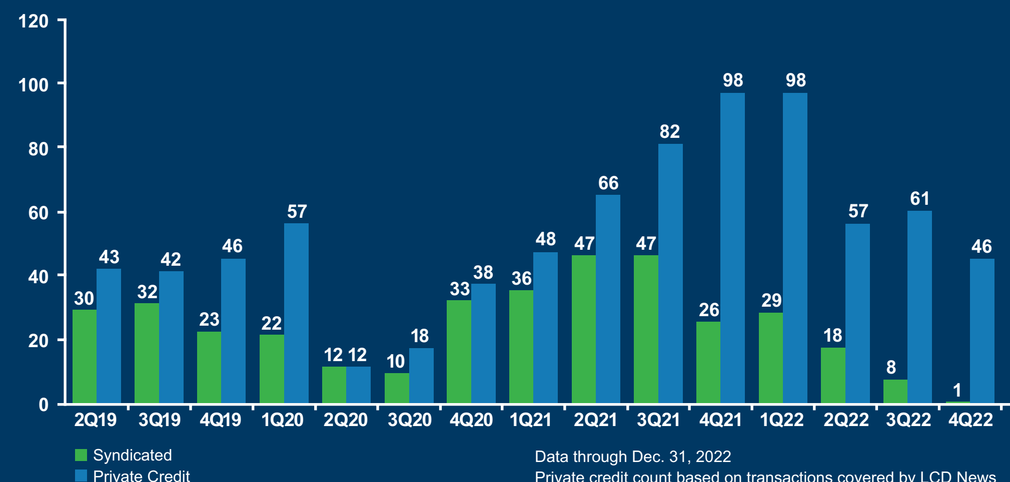
Private Debt AUM vs Leverage Loans Outstanding ($Tn)

Private debt AUM increased to ~$1.2Tn in 2022 (a 12.7% CAGR)



Data as of Nov. 30, 2022
Source: Preqin

LBO Count Between 2Q19 and 4Q22 - By Leverage Financing Type



Data through Dec. 31, 2022
Private credit count based on transactions covered by LCD News
Source: Leverage Commentary & Data (LCD)

The private credit markets remain open and accessible as investors primarily underwrite risk on credit fundamentals and turn to internal fund yield mechanics. Looking ahead, we expect private credit to play an increasingly significant role as issuers, including private equity firms, continue to seek alternatives to the institutional market. Dry powder for private credit remains strong and, given favorable performance of the asset class during historical periods of volatility, many investors continue to see it as a shelter in the storm.

Equity Markets: Still Active, but Creativity Required

Persistent inflation, volatile market dynamics, declining growth, and lower corporate earnings have slowed investment activity this year, resulting in compressed public company valuations and declining investor appetite for risk. Buyers and investors at all stages are more cautious and risk-averse than they were 12+ months ago, with each displaying heightened scrutiny in reviewing even “down the fairway” opportunities.

As in every downturn, there has been a lag in valuation expectations, with sellers still tethered to peak 2021 multiples and buyers viewing today’s reduced market metrics as the undeniable new normal. This disconnect is particularly acute when comparing the real-time valuations of public companies with the delayed (and often still overly lofty) valuations and expectations of their private company counterparts.

While the overall buyer/seller valuation gap persists, there are now concrete signs of the willingness of public company boards to entertain transactions based on current market dynamics, and of private companies beginning to acknowledge the new valuation reality as investor portfolio markdowns are realized. This has resulted in a shift back toward more buyer- and investor-friendly terms, as structure and downside protection mechanisms have reentered (and in many cases taken center stage in) transaction considerations. Active investors and buyers have been testing the

> Overall, despite substantial volatility, the broad market remains active as private and growth equity firms look for ways to deploy new capital and to generate meaningful returns for their LPs.

market's updated valuation parameters throughout the fall of 2022, probing on the conviction of public and private company boards to ignore reality and pass up potential liquidity opportunities that reflect current market dynamics.

This market evolution also has driven private and growth equity investors with ample dry powder to broaden their investment strategies and to get creative around capital deployment models, in order to meet their internal return targets. Traditional majority investors are developing minority investment strategies, and vice versa, with both types of firms working to ensure that they don't lose out on any chance to invest in a top-tier company.

Growth buyouts and take-private transactions are two activity bright spots, along with continued tuck-in M&A for scaled, sponsor-backed assets. Venture capital firms are working with their portfolios to navigate the current choppy environment, leading growth and private equity investors to hunt for high-quality investment opportunities in venture-backed companies that can benefit from having a new financial partner. Overall, despite substantial volatility, the broad market remains active as private and growth equity firms look for ways to deploy new capital and to generate meaningful returns for their LPs.

The Venture Capital Perspective: Igniting New Strategies

The venture capital market is larger than it has ever been, with $290 billion in dry powder — including $162 billion reserved for new investments. With such a large surplus of money available, early-stage companies are presenting attractive capital deployment opportunities, and venture capital firms are developing new strategies across their funds. For example, Sequoia Capital and Andreesen Horowitz, as well as other venture funds, have been using their dry powder to buy stock in public companies — reinvesting in their portfolio companies post IPO to take advantage of market volatility and depressed valuations.

As described above, we expect to see venture capital funds start to move existing portfolio companies toward liquidity events. This will create new standalone investment opportunities for both growth and private equity firms looking to partner with companies that may not be on a direct IPO path, while earlier-stage companies will continue to present attractive bolt-on opportunities for existing sponsor-backed assets. In some cases, venture capital investors will retain small post-transaction stakes, allowing them to benefit from additional upside at a future exit date.

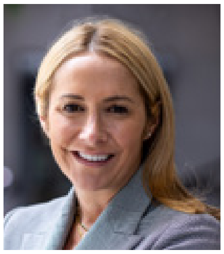
The venture capital market is larger than it has ever been, with $290 billion in dry powder — including $162 billion reserved for new investments.

Going into 2023, we expect the environment for private investing by both financial and strategic players to be very active. Investment funds and corporate balance sheets are flush with cash, there remains an abundance of good companies seeking growth capital, and new valuation dynamics portend greater potential long-term returns. Right-sizing will slow, growth outlooks will normalize, and ultimately there will be a meeting of the minds between buyer and seller valuation expectations; in the interim, we will continue to see creative solutions and structure used to bridge that gap. Now is the time to build connections, venture outside traditional silos, and prepare for actionable windows of opportunity — there will be deals to be had for nimble and creative investors and for companies seeking smart capital.

[1] *Source: KBRA Direct Lending Deals*

Capital Market Team Expands

Late in 2022, we announced that Emily Anderson has formally joined the USA Capital Markets team. In addition to her role as Head of Sponsor Coverage, Emily also now manages the execution of equity and structured equity transactions within our Capital Markets business. Emily has more than 15 years of advisory experience across a broad range of investment and strategic transactions, with the most recent six of those years here at Union Square Advisors.


Michael Meyer *(top left)*
Partner, Head of Capital Markets

Emily Anderson *(top middle)*
Managing Director, Head of Sponsor Coverage

Michael Moore *(top right)*
Managing Director, Capital Markets

Jono Peters *(bottom left)*
Director, Capital Markets

Dean Riskas *(bottom right)*
Vice Chairman

Our Experts

Experience

Carter McClelland
Chairman
carter.mcclelland@usadvisors.com
212-376-1750

50 years of investment banking and advisory experience on Wall Street, including Morgan Stanley, Deutsche Bank and Bank of America

Ted Smith
Partner and President
ted.smith@usadvisors.com
415-501-8007

30+ years of technology investment banking and advisory experience at Morgan Stanley, Deutsche Bank and Credit Suisse

Wayne Kawarabayashi
Partner, Head of Mergers & Acquisitions, Chief Operating Officer
wayne.kawarabayashi@usadvisors.com
212-376-1730

27+ years of technology investment banking and advisory experience at Barclays and Lehman Brothers

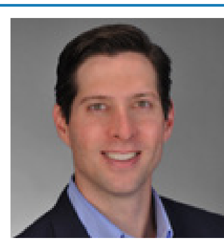
Michael Meyer
Partner, Head of Capital Markets
michael.meyer@usadvisors.com
212-376-1725

30+ years of Leveraged Finance, Global Credit and Fixed Income with Morgan Stanley, RBC Capital Markets, and Bank of America

Devon Ritch
Partner, Mergers & Acquisitions
devon.ritch@usadvisors.com
415-501-8040

18+ years of technology investment banking and advisory experience at RBC Capital Markets; practiced M&A law as an Associate at Wilson Sonsini Goodrich & Rosati

Andrew Atherton
Partner, Software
andrew.atherton@usadvisors.com
415-501-8022



18+ years of technology investment banking and principal investing experience at RBC Capital Markets, Goldman Sachs and Raymond James

Dean Riskas
Vice Chairman
dean.riskas@usadvisors.com
415-501-8080

35+ year track record providing or privately placing debt and equity financing; former President, North America, of TriplePoint Capital

Phillip Kim
Managing Director,
Merger & Acquisitions
phillip.kim@usadvisors.com
212-376-1777

17+ years of technology investment banking and advisory experience at Greenhill & Co., Lehman Brothers, and Deutsche Banc Alex. Brown

Emily Anderson
Managing Director,
Head of Sponsor Coverage
emily.anderson@usadvisors.com
212-376-1760

17+ years of transaction advisory experience at CODE Advisors, Goldman Sachs, and Ernst & Young

Will Andereck
Managing Director, Software
william.andereck@usadvisors.com
415-501-8023

12+ years of technology investment banking and advisory experience at Union Square Advisors focused on the enterprise software sector

Todd Holman
Managing Director, Internet &
Digital Media
todd.holman@usadvisors.com
415-501-8025

12+ years of technology investment banking and advisory experience at RBC Capital Markets

Erich Fritz
Managing Director, Software
erich.fritz@usadvisors.com
415-501-8035

10+ years of investment banking experience at Robert W. Baird, Jefferies, RBC Capital Markets and UBS; began as Systems Engineer in Northrop Grumman's Advanced Concepts and Technology Group

Michael Moore
Managing Director, Capital Markets
michael.moore@usadvisors.com
212-376-1740

15+ years of Leveraged Finance experience primarily focused on the technology and consumer industry verticals at Citigroup

Ubaid Dhiyan
Director, Software
ubaid.dhiyan@usadvisors.com
415-501-8024

18+ years as an investment banker, technologist and engineer at J.P. Morgan, Jefferies and Juniper Networks

Jono Peters
Director, Capital Markets
jono.peters@usadvisors.com
212-376-1724

7+ years of Leveraged Finance experience at Citigroup; served as an Artillery Officer in the United States Marine Corps, completing one combat tour in Afghanistan

www.usadvisors.com

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registered broker-dealer and member of
FINRA and SIPC.


1350

New York Office

1350 Avenue of the Americas
Suite 700
New York, NY 10019

212.376.1700

San Francisco Office

1 Embarcadero Center
Suite 950
San Francisco, CA 94111

415.501.8000