MARKETS IN FOCUS
TECHNOLOGY

Insurance Pricing & Market Update

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Introduction

Peter Diamandis has been known to say that there will be more progress in the next decade than in the previous 100 years. In fact, if you look at the past 10-15 years, you will already see tremendous progression in the technology space and how that is quickly hurtling us toward the "Fourth Industrial Revolution." Within just the past 15 years, YouTube was created; Google acquired Android; a drone was a "Unmanned Aerial Vehicle" used solely by the Government; and blockchain did not exist. "The best way to predict the future is to create it yourself," per Diamandis; and an abundance of technology funding supports this entrepreneurial drive globally.[1]

Our Advanced Industries Professionals estimate that within the next decade, there will continue to be significant growth within the sectors of Automation, Connectivity, Quantum Computing, Artificial Intelligence, Machine Learning and Zero Trust. Embracing these cutting-edge technologies as well as global innovation will increase the talent pool and create new funding facilities for the future. As such, having a broker that understands this ever-changing landscape will be crucial for protecting these complex assets with cutting-edge risk management programs.

Next Generation Automation

There is a significant anxiety in the manufacturing industry concerning automation done by Artificial Intelligence and "robots." Training for the traditional laborer jobs will indeed be changed forever to incorporate additional technology training to work alongside robots. Laborers will not only become more proficient in leading edge technology, but the move will also protect employees from on-site injuries and quite possibly shape "re-shoring" manufacturing plants back to the United States. Employees would require continuous training and be knowledgeable in Internet of Things (IoT) (software plug ins), Additive Manufacturing (programming for 3D and 4D printing), and Digital Twinning (software to showcase real-time configuration to support engineering and design scenarios). Next Gen Automation is likely to largely affect manufacturing and the automotive industries the most significantly within the next decade. The rise in electronic vehicles and the sophistication of new automotive models means the processes in manufacturing and assembly are as complex as the finished product. With all these advancements improving the speed and precision of production, quality control professionals could be challenged to keep up with the pace. Having proper finished product recall protocols and risk management programs in place before an issues occurs will be key for obtaining the best outcome.

Connectivity

To discuss connectivity, we must start in the past. Looking back to 2010, social media users increased from 970M to over 3B. In that same timeframe, mobile moved from 3G to 4G networks. By the end of 2021, there were 6.5B users using broadband width on 4G or 5G networks. The move to 5G will allow for connectivity at longer distances and faster downloads. Faster downloads are just as important for the automobile industry (autonomous vehicles), healthcare services (telehealth visits have increased significantly post-COVID), as for those employees working from home. Per McKinsey, 5G could "increase global BDP by $1.2-$2T by 2030 and have estimated that more than 50 billion IoT devices will be connected by 2025.[2]"

Top Internet of Things (IoT) Use Cases

- Asset Tracking
- Industrial Monitoring
- Smart Badges
- Fleet Management
- Smart Buildings

Source: https://comptiacdn.azureedge.net/webcontent/docs/default-source/research-reports/emtech-top-10-list-download.pdf?sfvrsn=1afab1e0_0

Quantum Computing

Quantum Computing is in a nascent phase but is gaining momentum. Harnessing quantum mechanics can create multidimensional space to solve extremely large problems that supercomputers cannot due to memory and size constrictions. Future implementation of quantum computing could cut processing time, reduce costs and transform cybersecurity with quantum cryptography.

Artificial Intelligence & Machine Learning

In the next decade, every aspect of human life will be augmented by Artificial Intelligence (AI) and Machine Learning, which is currently already heavily used in call centers, online retail, and tech giants Google and Amazon. In 2020, McKinsey predicted that more than 50% of the customer experience will utilize AI by 2021 and they were right.[3] Per Sailpoint, "approximately 3.25B people used voice-activated search and assistance worldwide in 2021 – almost half the world's population."[4] Although the use of AI will eventually eliminate certain labor, it will improve speed and accuracy of processes, utilizing data for decision making and overall increase operational efficiencies. Even the world of insurance, which many consider to be a laggard in the space of innovation, has adopted AI and machine learning to help with their underwriting and actuarial processes (often referred to as "Insurtech"). Carriers are relying more and more on Insurtech technologies to help them take advantage of their data-rich organizations to draw upon thousands of data elements to provide personalized analysis and drive insurance purchases.[5]

Top Artificial Intelligence (AI) Use Cases

- Predictive Sales/Lead Scoring
- CRM/Service Deliver Optimization
- Chatbots/ Digital Assistants
- Cybersecurity Threat Detection
- Marketing/ Automation

Source: https://comptiacdn.azureedge.net/webcontent/docs/default-source/research-reports/emtech-top-10-list-download.pdf?sfvrsn=1afab1e0_0

FinTech and Blockchain

Blockchain technology utilizes a virtual ledger that is capable of recording and validating high volume digital transactions.[6] The uses for blockchain technology in the FinTech industry is nearly endless since blockchains operate on a decentralized platform and require no central supervision and they are resistant to fraud.[7] Financial institutions are critical storehouses and transfer hubs of value. Blockchain technology can provide the same function by enhancing accuracy and information sharing into the financial service ecosystem.[8] Additionally, blockchain's heightened security measures offer security advantages such as bypassing fraud preventions which requires third-party involvement to enhance the verification process.[9] All of these aspects of blockchain are benefiting the FinTech industry by making transaction costs lower, more trustful, transparent and instantaneous.[10] With blockchain's application in the FinTech industry, real time tracking becomes easier, ledgers are immutable, tracking is seamless and it is easily accessible for detailed audits.[11]

Global Innovation

Countries around the world are in a race for the future. There is a delicate balance of competition between countries, as well as collaboration across borders. Per KPMG, the United States is still the #1 country listed for showing the most promise of developing disruptive technologies.[12] With that comes the challenge of finding, training and maintaining talent, and appropriate infrastructure and funding, all which differ within the various verticals of "technology". Varying regulations continue to challenge the technology industry, many times competing with innovation. Selecting an astute insurance broker with significant global risk management capabilities will become even more imperative within the next 10 years. We have a global network of insurance brokers that have specialized in the Technology space for 20+ years and can help companies as they grow and scale across the world.

Countries and jurisdictions that show the most promise for developing disruptive technologies

United States	27%	Japan	6%
China	15%	Germany	4%
India	12%	Singapore	4%
United Kingdom	9%	Taiwan	3%
Israel	8%	Australia	3%

Source: KPMG Technology Industry Survey 2021, n=504
Partial list shown.

Actionable Items and the Role of Chief Information & Security Officers ("CISO")

Ernst & Young recently published in their "Technology Leaders' Agenda" which transformative actions technology leaders can adopt today to embrace the growth in the industry.[13] From an insurance and risk management perspective, we found the most vital from this report to be the following: 1.) focus on the entire value chain, 2.) embrace analytics and Artificial Intelligence and 3.) stakeholder involvement at the executive level of each firm. Many of these are also tenants of creating a measurably successful risk management program. Given how crucial management information systems have become and the heightened risk for cyberattacks, the role of a firm's Chief Information or Chief Information Security Officer has changed drastically over the past few years. Today, this role has the traditional responsibility of maintaining key infrastructure coupled with the added role of being a trusted advisor providing oversight and consultation to the board for all things cybersecurity. National CIO Review reported that Jill Beadle for Gardner states, "The goal is to shift the view of security and risk from a technical problem to a strategic priority. CISOs must apply rigor and perspective to the business orientation, cost, and value of risk management and cyber security."[14]

> "78% of senior IT leaders lack confidence in their company's cybersecurity posture"

Cybersecurity at a Crossroads: The Insight 2021 Report, IDG, 2021

> "96% of CIOs say that their role is expanding beyond traditional IT responsibilities"

2021 State of the CIO, IDG, January 2021

Market Outlook 2022

Property

The risk of property loss varies drastically based on a technology firm's scope of work. A software company, for example, may not have a significant property schedule but a value-added reseller of tangible goods may have a substantial warehouse or property-in-transit values. A data center will have significant property values that may include specialty insurance coverage such as Warehouse Legal Liability Coverage (which responds to claims involving failure to exercise reasonable care and storage of a third-party's goods), depending on contractual transfer of risk for their on-site clients. The Council of Insurance Agents & Brokers (CIAB) Report for Q4 2021 has found that property rates continue to be elevated from historic norms and the average renewal increase is 10.5%.[15] This of course does not consider flood, earthquake or wind risks (often times referred to as CAT or catastrophic exposure) on coastal properties, which are seeing higher rate increases after multiple years of difficult CAT losses. Additionally, property with significant wildfire exposure is also experiencing more difficult market conditions after a string of record-breaking acreage loss to wildfires.[16]

Liability & Excess Liability

All technology firms are likely required to carry General Liability and Umbrella coverage per contractual requirements. General Liability provides coverage for Bodily Injury and Property Damage to a third-party, largely surrounding Products & Completed Operations. Umbrella, or Excess Liability allow a firm to "buy up" limit above the standard $1,000,000 per Occurrence limit; for example, to obtain a required $10M limit. Again, the risk varies by scope of work. A software company will be required to carry coverage but depending on the final product, the risk could be low. A technology firm that produces a tangible product for the aircraft industry will have a significantly higher rate due to the risk of the product potentially resulting in a Product Liability claim, causing bodily injury or property damage to a third-party. Per the CIAB Q4 2021 report, General Liability rates remain relatively flat at 6.4% and Umbrella continues to be elevated at 15% due to the phenomenon known as "social inflation."

Social Inflation refers to the trend of rising insurance costs due to increased litigation, plaintiff-friendly judgments and higher jury awards.

Technology Errors & Omissions/Cyber

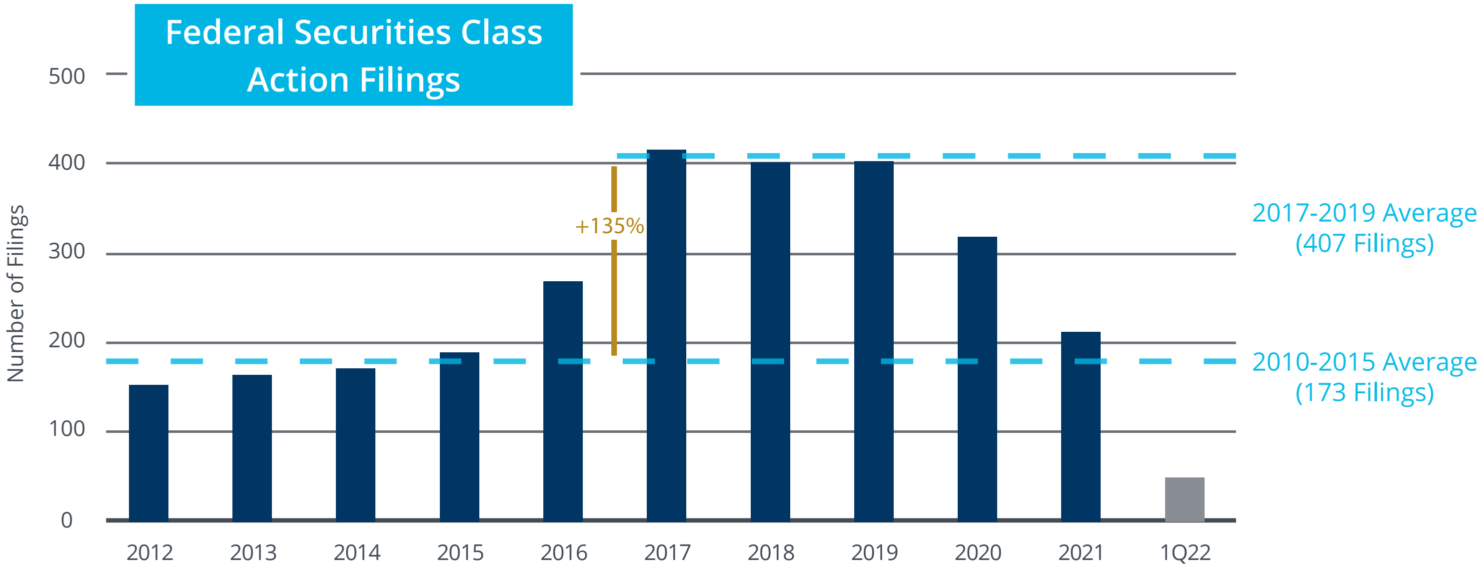
Cyber might be the insurance hot topic of conversation these days, but "cyber" has historically been embedded in a Technology Errors & Omissions policy for risks of Network Security & Privacy Injury, and are almost always held by technology companies. Technology E&O policies provide financial damage coverage for third-party suits alleging an error or omission through negligence to a third-party. Cyber coverage can either be "third-party" or "first-party" and likely includes both. Third-party Cyber coverage provides coverage for third-party suits alleging financial damages due to a data breach or security failure that results in disseminated protected data. First Party Cyber coverages are non-liability coverages that vastly differ from policy to policy and can include breach response & notification expenses, forensics, extortion and business interruption. Q4 2021 CIAB reports that cyber rates are up an average of 34% due to the significant increase in severity and frequency for this line of coverage.[17] However, this includes all size firms and includes non-technology companies such as construction, hospitality, restaurants and energy, all of which saw multiple attacks. Our technology clients in the middle market space are seeing rate increases anywhere from 35%-150%. A firm's cyber hygiene and risk management controls play largely in rate determination. Ken A. Crerar, President and CEO of The Council of Insurance Agents & Brokers stated, "The increase in premiums for [cyber] continued unabated in Q4 2021, and the frequency and severity of Cyber claims continued to climb. The industry must take steps to confront this unique, constantly evolving risk."[18]

International Placements & Master Control Policies

Many technology firms are either already global or plan to be in the near future. Insurance regulations vary drastically around the world, with some countries (such as Germany, India and Japan) requiring insurance coverage to be placed with a local insurance carrier within the domiciled country. Global presence, technical skill and strong relationships with a network of international brokers becomes key for placing complex multi-country insurance portfolios. We leverage our Global Network to closely track country rules, regulations, rates and gather local market intel. The relationships built through decades of trust allow the possibility of a nimble, creative and technology-driven team to not only grow with our clients but provide the expertise and consulting upon which our clients depend.

Directors & Officers Liability

For the last two years, D&O claim filings have trended downward compared to their elevated levels in 2017, 2018 and 2019. In 1Q22, 47 total D&O cases were filed, which would imply an annualized estimate of 188 total filings in 2022. This would represent the third year in a row of year-over-year decreases in total cases filed (210 cases were filed in 2021 and 328 were filed in 2020). Given this downward trend, elevated lawsuit dismissal rates, frequency of SPAC-related litigation still evolving and new capacity entering the marketplace, D&O pricing for recent renewals have consistently been more favorable than the rate highs of 2020. Companies considering an IPO, or a de-SPAC transaction, should continue to expect elevated pricing and retentions, but both are generally more favorable than a year ago. Given market conditions and the need to ensure proper coverage for IPOs and de-SPACs, it will be crucial to engage your D&O team as early as reasonably possible.



Crime

Cyber criminals are using new tactics and techniques to better their chances of success with their phishing stratagems against companies and organizations.[19] Baiting attacks are used by cyber criminals to test out email addresses to see who is willing to respond.[20] According to Forbes, "Attacks on corporations, such as infrastructure, travel, financial services, and other businesses, made up 57% of all ransomware attacks between August 2020 and July 2021, up from just 18% in their 2020 study."[21] Employee education and training is a key factor in keeping these risks low in the first place.[22] Businesses and corporations should make it a priority to create a system security plan, keep software updated, enforce password policies and outsource their cybersecurity.[23]

Fiduciary Liability

Also known as "management liability insurance", Fiduciary insurance is intended to protect businesses and employers against a claim arising out of a breach in fiduciary duties, essentially protecting against liability from management or administration of employee benefits.[24] As The Hartford explains: "Any outside advisers, consultants, or administrators of your benefits plans are responsible for securing their own coverage. Also, keep in mind that even if you hire outside advisors to take on your plans' fiduciary functions, this doesn't automatically exclude you from any associated liabilities - you are still responsible for monitoring these fiduciaries' activities."[25] Additionally, a fiduciary liability policy can help pay for legal defense or losses that arise when fiduciaries:

1. Make poor investment decisions
2. Mishandle plan records
3. Negligently hire plan service providers[26]

When plan administrators make these mistakes, they can be held responsible for any losses suffered by plan participants.[27] Fiduciary coverage provides a financial buffer when employees file lawsuits to recover losses from a problem with their company's retirement, health or welfare plans.

Keys to Success in 2022

- **Begin the Renewal Process Early** – The **General Liability, Excess/Umbrella**, **Cyber**, and **Property** have become constrained and more difficult to navigate in the hard market. Additionally, many carriers in the technology space are leery to place certain coverages or are offering less capacity and thus more carriers are being required to achieve desired limits. Due to general price increases across all lines of coverage and all industry sectors in the disciplined market, underwriters are being overrun with submissions as brokers and insureds look to minimize the additional costs. As the industry continues to grow, so does turnaround time for quotes. To help assure success, insureds should start their renewal processes earlier than usual, allowing brokers the time necessary to successfully canvass markets and effectively communicate with carriers. Negotiation is a key component for acquiring the best coverage and pricing. This can be especially important when it comes to technology insurance, where underwriters need information from companies about their trends and capacity needs before deciding whether or not they're going to offer coverage at all. This is something that might lead some businesses into entering a captive reinsurance program.

- **Partner with Industry Experts** – The technology industry presents a unique set of challenges and risks, and it is important to work with a broker who truly understands the business and the market for placing that risk. With the complex challenges insureds are facing in the more disciplined insurance market, it is essential to have a team that best represent your risks, offers risk control services to improve processes and possess proven, reliable carrier relationships. We take pride in our strong relationships with key trading partners, but even more so in challenging times. It's a rapidly growing market and there is a lot of carrier education for this risk, so partnering with a broker at the forefront of educating underwriters in these unique risks is a top priority. We have taken the initiative to plead client's cases and bridge that gap of conformability with unique exposures like technology risks. This interaction not only builds affinity and allows clients to put a face (or voice) to a submission by telling their company's story, it also allows for insureds to control the narrative of their risk versus letting underwriters decide. This narrative comes to life if there have been losses and insureds are then able to explain what happened and use the opportunity to discuss lessons learned and what new practices have been subsequently implemented, as opposed to underwriters simply reading a loss run.

+ **Client Advantage –** Communication is key to any successful business venture, and it's especially true for the insurance industry. Partnering with a great broker will help clients evaluate their risk by communicating with underwriters to ensure the best coverage and pricing. Our experts can help consult during the process of building new facilities, acquisition and implementation of new technologies. To avoid costly events, it is important to be fully transparent with a broker who has knowledge in these spaces.

+ **Highlight Cybersecurity –** With exposures in the technology industry becoming more expensive and difficult to place, it is critical for insureds to highlight the specificity of their cybersecurity programs. Of great importance is the need to be transparent with your broker about any additions in cybersecurity staffing or upgrades, as well as lessons learned from previous attacks and remote learning. Insureds in the technology industry should consider multifactor authentication (MFA), a multitude of security measures and continuing education for their employees to implement the most secure approach before the underwriting process begins. To ensure the best results, business leaders should deploy AI technology to identify and block phishing attacks, train all users to avoid these attacks with continuous education and quickly removing these bait attacks from email inboxes.[28]

+ **Familiarity of State and Federal Laws –** Businesses should strive to be familiar with the laws applicable to their insurance programs, risk management strategy and operations to ensure the best outcomes. It is important to be aware that there can be significant differences in litigation outcomes state-by-state and even county-wide depending upon the jurisdiction of operations. When businesses or individuals are looking to start operations at a new location, it is vital that they work closely with their account team and consult on the best ways of doing so.

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More Than Just Insurance

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