MARKETS IN FOCUS

TECHNOLOGY

Insurance Pricing &
Market Update

Q4 2022

IMA

# Technology continues to be a **primary factor for change** in the world today.

Technological advances give businesses, governments and social-sector institutions more possibilities to elevate their productivity, invent and reinvent offerings and contribute to humanity's well-being.[1]

The post-pandemic workplace continues to evolve and digital transformation has accelerated across every organization, which is forcing CIOs to keep up with pace.[2] Additionally, IT departments must improve their maturity in key capabilities to maintain relevance in the organization[3]; and executive boards must give IT executives a seat at the proverbial table. According to Info-Tech Tech Trends 2022 survey, 79% of organizations will have a mix of workers in the office and at home.[2] Hybrid work models have become a post-pandemic norm; CIOs have been at the forefront of hybrid work by facilitating collaboration between employees mixed between meeting at the office and virtually.[2] To foster this collaboration, companies will continue to invest in tools adapted during the pandemic.[2]

Security strategies are essential for companies to control access to their digital assets and confidential data, providing access to only the right people and at the right time.[2]

Security strategies must adapt to a new caliber of threats in ransomware to avoid operational disruption and reputational harm.[2] Therefore, organizations are being pushed to take a multi-faceted, Enterprise Risk Management approach to prepare for catastrophic losses.[2]

TOP NEW TECHNOLOGY TRENDS, 2023
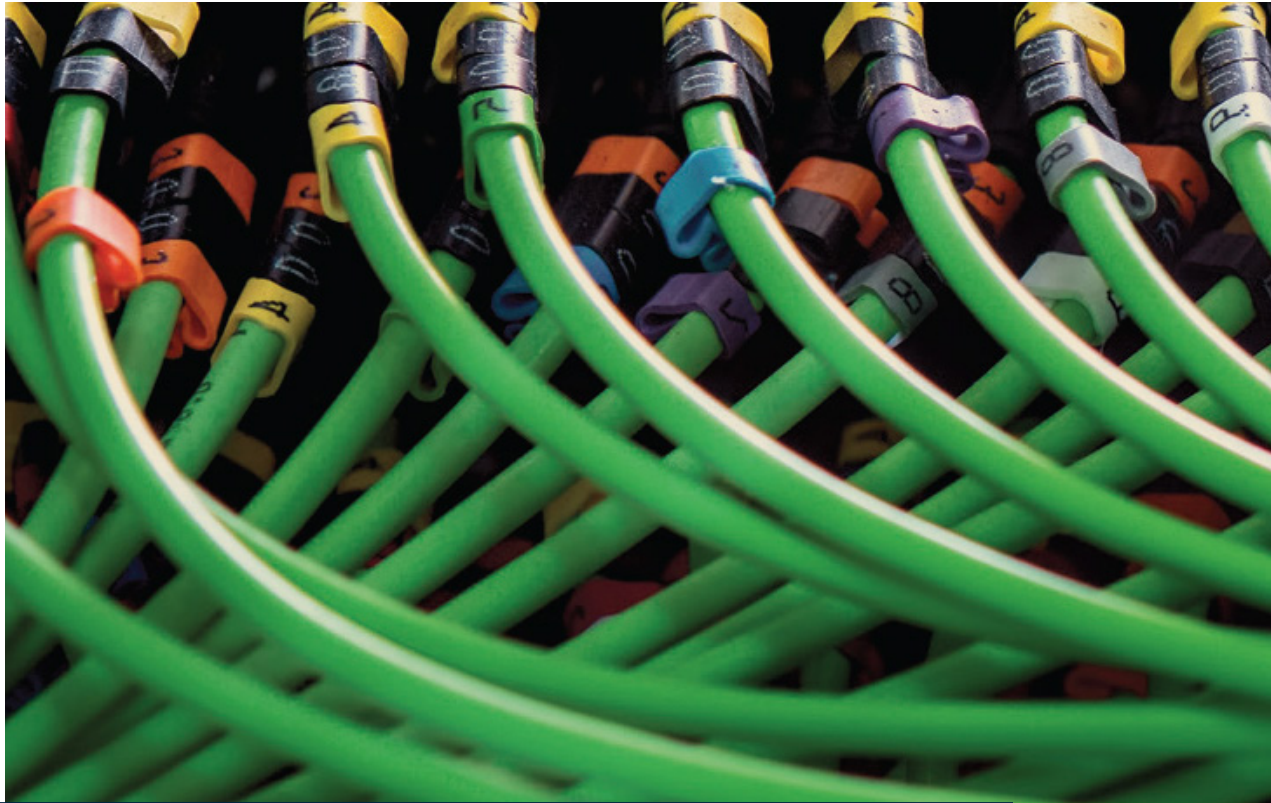
Computing Power in most parts of the world, manufacturers and software providers have invested and upgraded with significantly stronger computing powers in the last 2-3 years.[4] 5G has been viewed as being successfully established, and now the focus is on the 6G era with even more power and reach.[4] The strength of this computing power has generated jobs within the tech industry, but will also require more specialized qualifications for candidates.
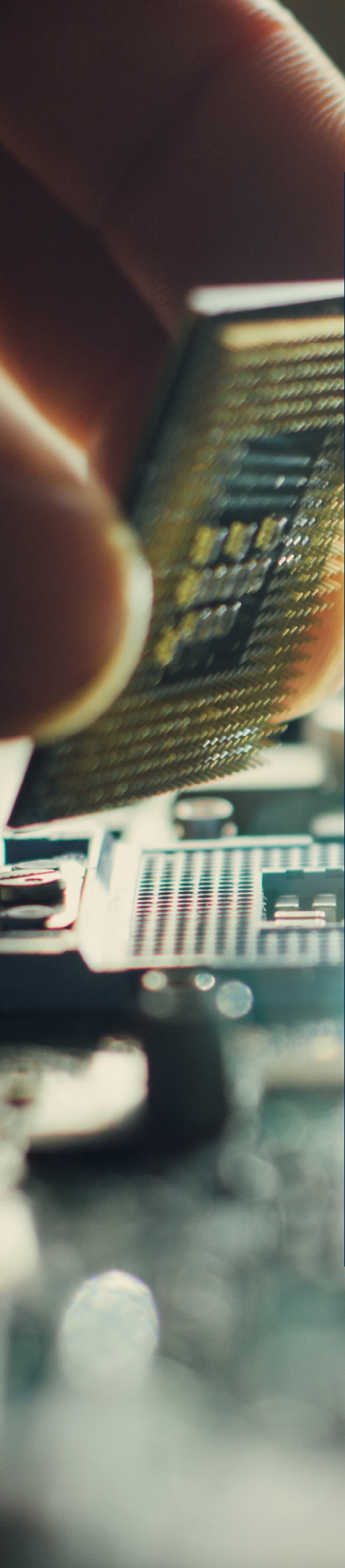
2 **Smarter Devices** have expanded their capabilities by making human life more simple and hassle-free, some have even reached levels of human simulation.[4] Innovation in Artificial Intelligence has enhanced many areas of day-to-day life: data scientists have developed AI home robots, appliances, work devices, wearables and various other technologies.[4] The majority of jobs in todays world require smart software applications to make work life more manageable.[4] These innovations are a requirement and demand for companies to continue to transform into the digital era.[4] A company that deploys IT proficiency and automation will thrive in the current and future environments.[4]

3   **Artificial Intelligence** has been a hot topic in the past decade and continues to be one of the new technology trends due to its impacts on our daily lives, work and play and is only in the nascent stage.[4] One of the most notable applications for AI has been its superiority in image and speech recognition, navigation apps, smartphone personal assistants, ride-sharing apps and many other applications.[4] The AI market is projected to grow to a $190 billion industry by 2025 with global spending on cognitive and AI systems to reach over $57 billion in 2023.[4] As AI expands and reaches across sectors, new jobs will be created in development, programing, testing, support and maintenance.[4] **Machine Learning** is a subset of AI, it is also being deployed in most industries, creating a massive demand for skilled professionals.[4]

4   **Extended Reality** consists of all the technologies that simulate reality, from Virtual Reality, Augmented Reality to Mixed Reality and everything else in-between.[4] This technology is massively popular amongst gamers, medical specialists and retail and modeling.[4]

5   **3D Printing** is a trend in innovation which is used to formulate 3D prototypes.[4] This technology has been a breakthrough in biomedical and industrial sectors.[4] This innovation is here to stay, companies in the data and healthcare sectors require a lot of 3D printing for their products and breakthroughs.[4] Specialized printers can now model various shapes and sizes for prototypes that replicate the actual product on a smaller scale.

6   **New Energy Solutions** are becoming more common while the world aims at a greener landscape for our energy use. As the world is focused on carbon footprints and waste, the turn to renewable energy is accelerating those goals, as well as creative technologies that support the effort.[4] Advanced batteries in cars, innovations in nuclear power and green hydrogen as well as other technologies will allow us to revolutionize transportation and stimulate energy for public use.[4]

7   **Edge Computing** has become a mainstream technology that is similar to cloud computing, major companies like AWS (Amazon Web Services), Microsoft Azure and Google Cloud Platform dominate this market.[4] Whereas cloud Computing has been adopted by many businesses and is no longer an emerging technology trend, Edge Computing is.[4] Edge Computing is a way to bypass latency caused by getting data to a data center for processing and can be used to process time-sensitive data in remote locations with limited or no connectivity to a centralized location.[4] Edge Computing can act like mini datacenters.[4] The global Edge Computing market is expected to reach $6.72B by 2023.[4]
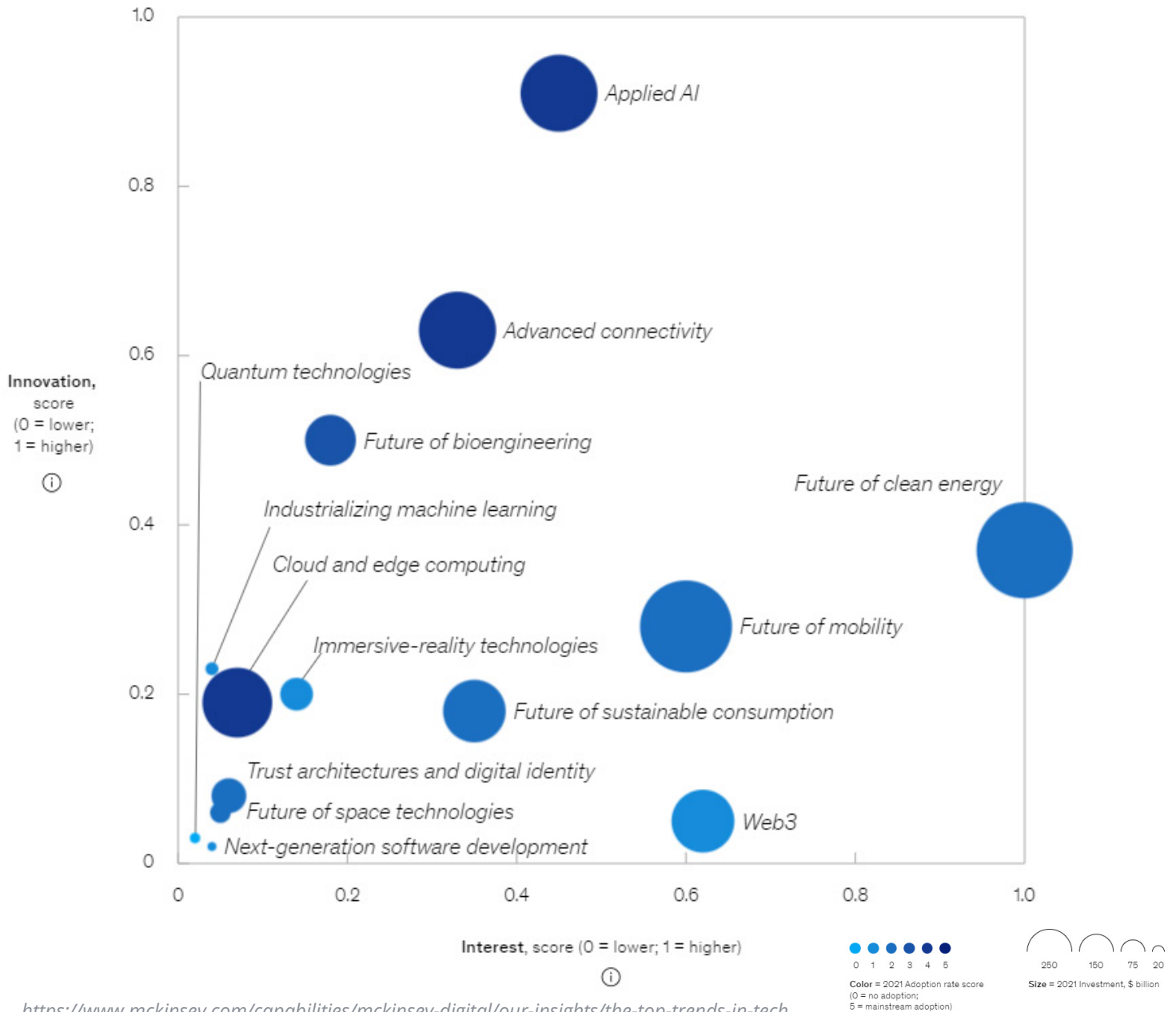
8   **Quantum Computing** is a breakthrough technology trend, which is a form of computing that takes advantage of quantum phenomena like superposition and quantum entanglement.[4] A recent example of this application is preventing the spread of coronavirus, and to develop potential vaccines, due to its ability to easily query, monitor, analyze and act on data, regardless of the source.[4] Additional applications include banking and finance: to manage credit risk, for high-frequency trading and fraud detection.[4] Companies such as Splunk, Honeywell, Microsoft, AWS and Google are innovators in the field of Quantum Computing, allowing computation at speeds 158 million times faster than existing supercomputers.[4]

9 **Virtual Reality (VR) and Augmented Reality (AR)** have seen massive breakthroughs and recent innovation. This technology has been featured most with gaming, but it has also been used for training with simulation software used to train U.S. troops.[4] In years to come, we can expect these technologies to be further integrated into our lives. **Extended Reality (ER)** paves the way for enhanced experiences in the metaverse; a continuous, shared virtual world accessible to users through different devices and platforms.[5]

10 **Genomics,** the branch of molecular biology concerned with the structure, function, evolution and mapping of human genes, is changing the landscape of modern medicine. This field of study is enabling earlier detection of diseases and more accurate tracking of disease progression through the ability to identify and measure specific molecular biomarkers within the body. Genomics is the gateway to personalized medicine. It allows physicians to use data present in a specific individual's gene sequence to select the most optimal and effective treatment solutions. Genomics has also impacted agricultural biology; using similar methods of analysis, researchers are using the DNA sequencing of plants to produce crops that are cheaper to grow, improve plant breeding and enhance quality.

11 **Nanotechnology** is another breakthrough which will allow us to give materials new attributes by manipulating them on a subatomic level.[4] Examples of this technology includes bendable screens, better batteries, water-repellent, self-cleaning fabrics and even self-repairing paint.[4]

TECHNOLOGY TRENDS OUTLOOK

Innovation, score (0 = lower; 1 = higher)

Technology trends plotted by Interest, score (0 = lower; 1 = higher):
- Applied AI
- Advanced connectivity
- Quantum technologies
- Future of bioengineering
- Future of clean energy
- Industrializing machine learning
- Cloud and edge computing
- Future of mobility
- Immersive-reality technologies
- Future of sustainable consumption
- Trust architectures and digital identity
- Future of space technologies
- Next-generation software development
- Web3

Color = 2021 Adoption rate score (0 = no adoption; 5 = mainstream adoption): 0 1 2 3 4 5

Size = 2021 Investment, $ billion: 250 150 75 20

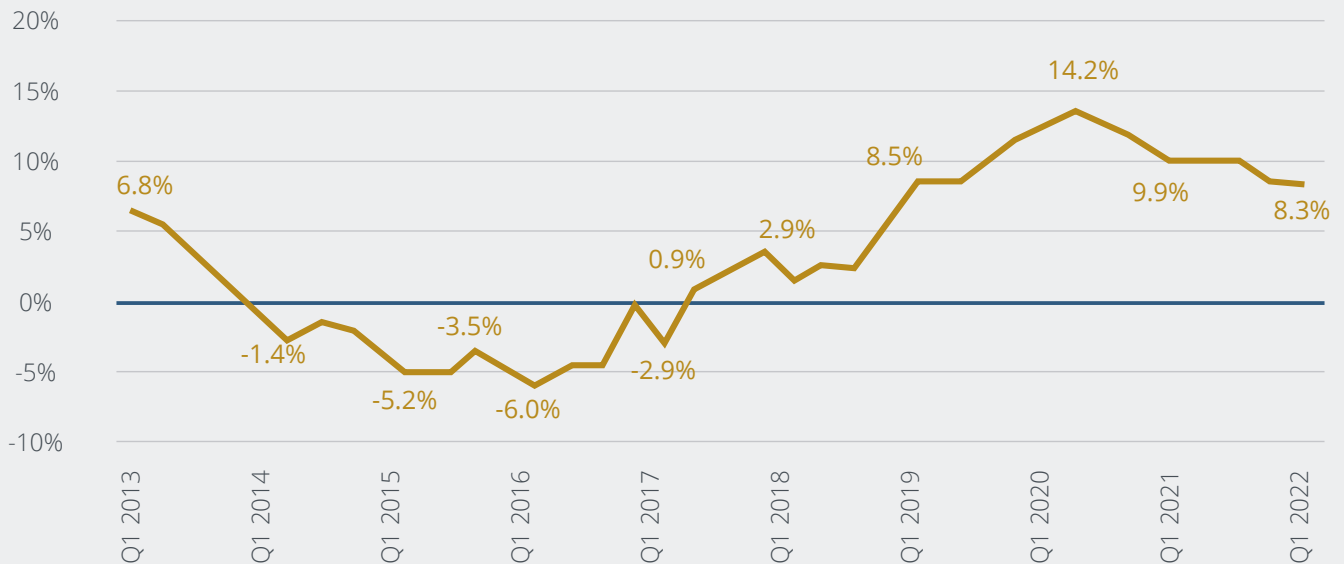*https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-top-trends-in-tech*

Technology is continuing to evolve at a brisk rate. The 2010s have been deemed the "Decade of Disruption."[4] Within the past 10 years, Mobile networks have improved from 3G to 5G; the volume of data has increased from 2 ZB (zettabytes) to > 41 ZB; the pursuit of Genomics and Precision Medicines have driven the need for increased computing power, and Electronic Vehicles have changed the playing field in technology and advanced manufacturing.[4]

+ As the Broker of the Future, IMA aggressively tracks the technology trends and proactively employs education, risk management and bespoke insurance portfolios for our clients.

GENERAL PRICING ESTIMATES

Non-CAT exposed property with favorable loss history	10% to 15% increases
CAT exposed property with favorable loss history	25% to 40% increases
Property with unfavorable loss history and/or a lack of demonstrated commitment to risk improvement (unresolved recs, pattern of same issues, etc.)	10%+ increases for non-CAT 30% to 50%+ increases for CAT exposed accounts and higher depending on frequency/severity of losses and when there are limited markets for a risk due to occupancy/class of business or concerns related to loss control
General Liability	Up 5% to 15%
Workers' Compensation	Flat to Up 5%
Auto	Up 10% to 25% Up 30% if large fleet and/or poor loss history
Umbrella & Excess Liability – Middle Market	Up 10% to 25%+
Umbrella & Excess Liability – Risk Management and other Complex/Hazardous Exposures	Up 25% to 150%
Professional Liability	Up 5% to 15%+
Cyber	Up 20% to 30%

Premium Change for Commercial Property, Q1 2013 - Q2 2022

Source: https://www.ciab.com/wp-content/uploads/dlm_uploads/2022/05/Q1-2022-PC_FINAL.pdf

MAJOR CLAIMS IN THE SECTOR

Two companies that develop similar software's which helps companies design and design their own applications went to trial over a trade secrets case. One company alleged that the other paid a government contractor to learn about their software, then handed the information over to a competitor.[5] Around $2 billion of damages came about after the alleged stolen trade secrets helped the competitor lure away customers, some of which were top 5 tech companies in the world.[5]

On **October 5, 2022**, a jury found the Chief Security Officer at Uber guilty of criminal obstruction and concealment of a felony.[6] Prosecutors alleged that this individual had failed to alert the FTC about a 2016 data breach at Uber which involved a hacker's unauthorized access to customer records.[6] The law firm commented that this "was believed to be the first time a U.S. company executive who had been criminally prosecuted over a cyber breach."[6]

Users of TikTok who created videos on the app before **Sept. 30, 2021**, began receiving payments that followed a $92 million class-action data privacy settlement with the social media platform.[8] TikTok was sued for violating Illinois' strict biometric data laws by collecting and implementing facial recognition data into algorithms without user consent. Similarly, in **May of 2022**, 1.4 million current and former Illinois residents received checks and virtual payments from a similar $650 million lawsuit against Facebook, which allegedly used facial recognition data without consent to prompt users to tag their friends in photos.[8]

GUIDANCE

Begin the renewal process early – In regard to the **General Liability, Cyber, Excess/Umbrella** and **Property** markets, they are all constrained and more challenging to navigate in the disciplined market. Since prices are increasing across all lines of business for Technology companies, brokers are being overwhelmed with submissions from their insureds who want to minimize these additional costs.

Partner with Industry Experts – It is of high importance to work with your broker's Technology experts who truly understand the business and the market for placing these complex risks. Working side-by-side with a team who can represent your risks at the highest level, and partner with your operations, is more important than ever during this disciplined market we are currently experiencing.

Engaging loss control teams – Consistent communication with your brokers' loss control team is a top priority, especially when a claim arises. Engaging your loss control team in the event of a claim can help minimize the impacts to your business financially and operationally. IMA and partners will work with you to understand your financial goals and operational challenges so we can identify, develop and deliver Risk Control Solutions that strategically align with your objectives.

Highlight Cyber Security & Proactive Risk Management – Recently, the market has seen frequency and severity of cyber claims continually rising, resulting in more underwriter scrutiny of companies' cybersecurity hygiene. **The significance of highlighting any additions in cybersecurity staffing or updated system protocols cannot be overstated.**

CYBERSECURITY BEST PRACTICES FOR PROACTIVE RISK MANAGEMENT

Pre-Claim: Take proactive steps to prevent a cyber breach or minimize its impact.

Disaster & Recovery Continuity: Maintain a detailed written plan that can be implemented with urgency on short notice.

Tabletop Exercises: Test the plan at least annually. Update and improve it based on the exercise.

Third-Party Vendor Selection: Identify third-party specialists to engage in the event of a breach. This includes an attorney, IT consultant, forensic accountant, public relations firm and ransomware negotiator. Vet these specialists and confirm a fee agreement if possible. Consider using the pre-vetted service suppliers suggested by your cyber insurance carrier.

Employee Training: Ensure staff members understand the technology systems they're using. Reinforce bring-your-own-device policies. Require frequent training regarding phishing and "link bait" threats and consider using random simulations to test these vulnerabilities.

Multi-Factor Authentication: Require users to provide two or more verification factors to access IT resources.

Remote Desk Protocols: Create secure channels of access from staff home computers to the school's IT desktop using VPNs and other safeguards.

Endpoint Security Protection: Integrate next-generation antivirus and behavior-based protocols within the technology environment.

Offline Backups: Save data to a storage system unconnected to the school's server frequently and regularly.

Invest in Quality Leaders: Ensure the school and school system are utilizing the highest level of internal or consultant IT expertise.

Post-Claim Best Practices: Adhere to the plan and avoid making the situation worse.

Communication Protocols: Notify your insurance carrier in accordance with your cyber policy terms and conditions. Notify other parties you're obligated to inform per contractual agreements. Advise staff on a need-to-know basis, providing an appropriate level of detail in order to control external information releases.

Reporting to Authorities: Contact the appropriate authorities and regulators, not only in the event of a breach but in circumstances that could give rise to a breach.

Attorney-Client Privilege: Follow your attorney's guidance regarding the release of any information to any party.

Assume Current Environment Remains Compromised: Adjust all electronic communication and IT activity as if the IT environment is still compromised. Maintain these practices until you receive assurance from reputable, third-party sources that the IT systems are safe.

Ransom Negotiation: Immediately engage with a third-party professional who specializes in IT ransom situations. Don't negotiate without them.

Public Information: Control the information that goes public by ensuring all communication is released through your public affairs team or a third-party consultant. Confirm that is has been cleared by legal counsel.

Lessons Learned: Review what went well, what didn't go well and what was missed. Revisit and improve your IT environment and your Disaster Recovery & Continuity plan based on this experience.

Sources

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More Than Just Insurance

Based in North America, IMA Financial Group, Inc. is an integrated financial services company focused on protecting the assets of its widely varied client base through insurance, risk management and wealth management solutions. As an employee-owned company, IMA's 1,800-plus associates are empowered to provide customized solutions for their clients' unique needs.

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