Advanced technologies will arguably be vital to every aspect of the commercial real estate (CRE) industry. Yet CRE companies have been traditionally slow to adopt emerging technologies relative to some other industries. Why such reticence, particularly when considering all of the potential benefits of technology advancements? The hesitation could be for several reasons, including their complexity, implementation costs and a fear of legal risks.

Goulston & Storrs’ survey, Pursuing Digital Transformation: Legal Considerations and Implications for the Commercial Real Estate Industry, conducted by ALM Media, examined how industry insiders perceive advanced technologies and whether adopting certain technologies could alleviate – or create – legal challenges. The survey results reveal that many CRE businesses are interested in adopting emerging technologies and plan on doing so, but are wary of creating or exacerbating certain risks.

In this whitepaper, we will explore:

- Technology implementation in the CRE industry, including associated risks and benefits
- AI, blockchain/cryptocurrencies, the internet of things (IoT), virtual reality and big data/predictive analytics, and their relevance in the industry
- The importance of strategically embracing new tools while anticipating and mitigating potential legal risks

**OPTIMISM REGARDING EMERGING TECHNOLOGIES, BUT FEAR OF RISKS**

CRE businesses are well aware of emerging technologies and their potential benefits. Nearly 55 percent of survey respondents believe innovative technologies have the potential to alleviate or eliminate legal challenges that currently exist in the CRE industry. Artificial intelligence, blockchain, predictive analytics, automation technologies, cloud computing, encrypted emails and integrated operations solutions are all reported as potentially helpful.

However, there is a flip side. While more than half of the survey respondents believe in the potential advantages of innovative technology, 84 percent believe that CRE owners who seek digital transformation should be concerned with possible legal risks. These findings support the idea that the CRE industry
Advanced Technologies in COMMERCIAL REAL ESTATE

is relatively slow to adopt advanced technologies. They also suggest that if a greater percentage of CRE businesses were more confident in the benefits of advanced technologies – and could successfully mitigate risk – then adoption within the industry might move forward at a faster pace.

THE MOST PROMINENT RISKS ASSOCIATED WITH EMERGING TECHNOLOGIES

Legal risks and challenges associated with emerging technologies are certainly valid concerns. Of the survey respondents, 26 percent report their organizations have encountered legal concerns related to the adoption of emerging technology.

Yet, close to 49 percent of respondents report their organizations have not encountered legal concerns related to the adoption of emerging technology. This could be a good sign. It may signal that worries over legal risks and challenges are exaggerated; however, it could also signal that respondents’ organizations have avoided encountering legal concerns entirely by not implementing new technologies within their companies, or by implementing new technologies in a limited fashion.

In regard to specific potential areas of concern, 63 percent of respondents believe cybersecurity is an area in which CRE owners should be most concerned with potential legal risks. Clearly, cyber risk is no small issue as a successful cyberattack could have a number of possible effects on a CRE business.

Other surveys confirm this concern. In the Deloitte Center for Financial Services’ 2019 Commercial Real Estate Outlook, the company surveyed 500 global investors to gain insight into innovation and risk in the CRE industry.1 41% of Deloitte respondents considered reputational damage to be the greatest harm resulting from cyber security breaches at CRE investee companies. The next impacts were financial theft and/or fraud at 37 percent, and theft of personally identifiable information (PII) at 35 percent.

Poor cybersecurity can also result in business disruption, theft of intellectual property (IP), decline in property value and/or the company’s valuation, destruction of critical infrastructure, damage to tenant relationships and threats to safety and life, according to Deloitte.

Cybersecurity is a significant issue as companies consistently face cyber threats and struggle to remain secure. According to Deloitte’s survey, the top challenges CRE investee companies face in managing cybersecurity are rapid IT changes and rising complexities (53 percent); lack of detailed response by CRE companies’ management (38 percent); and ineffective security solutions because of functionality and interoperability issues (37 percent).

Only a quarter of Deloitte’s survey respondents were very satisfied with CRE businesses’ current cyber risk management efforts, and about two-thirds of respondents were somewhat satisfied.

A CLOSER LOOK AT FIVE EMERGING TECHNOLOGIES IN THE CRE INDUSTRY

Artificial Intelligence (AI)

Nearly 63 percent of Goulston & Storrs’ survey respondents believe AI is likely to present the most significant legal issues for the CRE industry. But what is AI in relation to CRE? AI – or advanced machine learning – can take on many forms, including virtual assistants, virtual customer service, analysis of tenant and landlords’ use of space, analysis of operational efficiency, analysis of properties’ development potential, higher quality property models, return-on-investment (ROI) analysis for potential transactions, contract review and creation, biometric-based property security and property maintenance predictions.

In the future, AI can be used in the CRE industry to improve data collection and analysis. It also enables CRE businesses to identify future risks and costs. However, to fully implement, use and benefit from AI, CRE businesses must be ready to
invest in cybersecurity measures to protect their data.

**Blockchain and Cryptocurrencies**

Blockchain has intrigued almost every industry. It is a way to store and distribute information through a decentralized system. Additionally, many types of transactions can be performed without an intermediary. This can include digital contracts for CRE acquisitions, sales and leases. Blockchain has the potential to enable secure, direct and fast transactions between parties, which is why 25 percent of investors in Deloitte's survey want CRE businesses to prioritize blockchain technology.

Another possible benefit of blockchain technology is broadening the investor pool. Through utilizing a blockchain and cryptocurrency system, it becomes easier to invest in real estate. Foreign investors and small-to-midsize businesses face fewer hurdles and lower costs to invest in the CRE industry.

Blockchain is not without its challenges and risks, which is why nearly 63 percent of Goulston & Storrs' survey respondents believe blockchain is likely to present the most significant legal issues in the CRE industry. Companies that wish to use blockchain for transactions need to be conversant in government regulations – and it can be challenging to remain compliant in one or more jurisdictions in which a company does business.

**The Internet of Things (IoT)**

The IoT has been around for years, but many industries, like CRE, are still coming to terms with what it can mean for them. In the IoT, a wide range of devices gather data and are linked together. By gathering and analyzing data, CRE owners can learn about their buildings and how their tenants use the space. More data on commercial buildings also has significant implications for increasing automation, improving energy efficiency, planning maintenance, reducing unexpected capital expenditures and improving security.

It seems CRE owners and investors should be eager to implement IoT technology – and some are. In Deloitte’s survey, 55 percent of investor respondents want CRE businesses to prioritize IoT. However, there are significant cultural differences when it comes to this technology. In China and Singapore, 48 and 43 percent of investor respondents, respectively, emphasized the use of IoT technology compared to only 15 percent of respondents from the U.S.

Two possible reasons for the lower emphasis on the IoT in the U.S. may be concern over the potential risks and the complexity of implementation. Nearly 44 percent of respondents to the Goulston & Storrs’ survey believe the IoT is likely to present the most significant legal issues in the CRE industry. A greater reliance on sensors and devices requires excellent cybersecurity and privacy measures. Implementation also requires an upfront investment and careful planning.

**Virtual Reality (VR)**

Virtual reality (VR) and augmented reality (AR) are no longer just for gaming and entertainment. Many industries, including CRE, are beginning to understand the benefits of VR and AR. In fact, 45 percent of investor respondents want companies to prioritize AR and VR, according to Deloitte’s survey.

There are several ways CRE businesses can adopt VR, including for virtual open houses, architecture design, property development planning and interior design. Potential CRE owners and tenants can see a space without the time, cost and inconvenience of travel. They can visualize what a space would look like with renovations and customization. VR and AR give CRE owners and tenants the ability to evaluate different options faster and with fewer costs.

Yet, as with other emerging technologies, there are concerns. Nearly 24 percent of Goulston & Storrs’ survey respondents believe VR is likely to present the most significant legal issues in the CRE industry. VR and AR may raise questions regarding IP rights, confidentiality agreements, data privacy, product liability and safety.

Additionally, Perkins Coie’s Second Augmented and Virtual Reality Survey found tech companies are often requiring exclusivity, which increases concern regarding patent trolls coming after new AR and VR products.² CRE owners would
need to be mindful when developing or purchasing a VR/AR program to avoid potential costly IP litigation.

**Big Data and Predictive Analytics**

A significant portion of emerging technologies focuses on capturing as much data as possible to support evidence-based decision making. However, the intent of gathering vast amounts of data is not for manual analysis, which is time-consuming, inefficient and at the mercy of human error. Instead, the purpose of big data is to take advantage of predictive analytics.

Data-informed conclusions can improve site selection, site development, the construction process, transaction negotiations, contract drafting, facilities management, building maintenance and much more. Given the potential benefits, it is not surprising that in Deloitte’s survey, 84 percent of investor respondents believe CRE companies should prioritize the use of predictive analytics, and 83 percent want owners to prioritize business intelligence.

For CRE businesses to implement and benefit from predictive analytics, they have to address potential legal concerns, including data privacy and cyber security. Data protection is crucial.

**CRE BUSINESSES CAN MITIGATE RISK AND BENEFIT FROM TECHNOLOGY**

Advanced technologies clearly have the potential to drastically change the CRE industry in the coming years, and investors expect they will.

Emerging technologies can improve industry efficiency and enhance owner and tenant experiences. The possibilities are vast. Prospective commercial buyers and tenants could take virtual 3D tours through spaces, then utilize AI and predictive analytics to approximate future ROI. Blockchain technology could cut out the middle man, and transactions could happen in half the time. AR could be used to design and develop the newly acquired space. The risk of miscommunications between architects, developers and contractors could be minimized. Commercial buildings could become exceptionally energy efficient due to automation and AI.

Advanced technologies also have the potential to mitigate various legal risks. Predictive analytics, AI and automation can all improve physical security on commercial properties, which may reduce liability for injuries and crime. They also can make for happier and longer-term tenants, reducing the risk of breach of contract and other disputes.

Nonetheless, among the advantages, legal risks stemming from emerging technologies abound. In conclusion, CRE owners can benefit from emerging technologies by developing a comprehensive plan – one that fully embraces all of technology’s advantages while giving CRE owners foresight to anticipate and mitigate any associated legal challenges.

For more information on adopting emerging technologies while mitigating legal risk, please contact Amy Moody McGrath or Michael Wallace by visiting goulstonstорrs.com.

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**Disruptive technologies believed to present the most significant legal considerations in the commercial real estate industry**

**Goulston & Storrs’ survey respondents noted these disruptive technologies pose the most significant legal issues:**

- Artificial Intelligence: 63%
- Blockchain: 63%
- Internet of Things (IOT): 44%
- Virtual Reality: 24%
- Other: 21%