

LONDON
MARKET
GROUP



BEYOND
INSURANCE

THE CLIENT VIEW



BCG



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FOREWORD



Welcome to the London Market Group's latest report. We have worked with Boston Consulting Group and over 40 clients from four major industries - IT, Financial Services, Consumer & Retail and Energy, to understand the trends disrupting the patterns of risk today. The transformation of businesses, accelerated by the COVID-19 pandemic, is testing and challenging the role of insurance and its value chain. The objective of this study is to listen to the customers who place business in London. To hear their views around these disruptions and to consider the relevance of traditional insurance products to those changing needs.

What is clear from this work is that businesses are increasingly dependent on others for their success. This brings with it risks which are not entirely within businesses' control. It is no longer just about physical assets and services that a company can see, manage and protect. Companies need third party providers to deliver an increasing proportion of their products and services. They rely on AI and new tech to improve them, and engage with influencers and social media to market them. These new business models involve a wide range of new risks for which they need products and services to help mitigate and manage them.

Businesses are also increasingly at risk from a range of reputational issues - whether it is measurable progress on ESG, systems or product failures from cyber-attacks, or new tech that goes rogue. In an inter-connected world, organisations know their reputation and business may never recover. While the insurance industry might not yet have all the answers, it is clearly still very relevant for buyers. Some of the risks discussed already have insurance solutions available and are attracting increasing levels of capital to support them. This is true of cyber risk and some political risks. For other risks it is about expanding beyond simple indemnity and offering more service and support, particularly during a crisis. Other businesses need access to intelligence for new projects, in order to help meet their ESG requirements or to assess their carbon footprint. All of this is, or should be, a fundamental part of what the London Market does every day.

Only a few years ago the insurance industry was increasingly being asked to justify its relevance. This report clearly shows that we are now positioned to provide essential solutions to serve our customers for the risks they face.

The changes we are seeing in the world represent opportunities for businesses to thrive and grow. They also represent a renewed opportunity for the London Market to expand its role in protecting its clients and enabling their growth. If there are solutions to be found to these challenges relating to risk, they are most likely to be found in London. This is the only place that brings together the breadth of expertise, flexibility of thinking and weight of capital to address the universe of risks that decision makers are facing. London has always been about innovation and bringing this research to the market is part of that dynamic.

This report offers compelling insights for everyone in the market to start conversations with buyers and business partners on how the London Market can continue to serve its clients whatever the circumstances they face. We hope you will participate in those debates.



Matthew Moore
Chairman, London Market Group



TECHNOLOGICAL CHANGE

90% of clients stated that new technology is altering their business models



The more powerful the AI, the higher the potential liability"

CFO of a high growth tech company, Europe



We've had over 100 years to learn how to build the perfect store, including all the corresponding infrastructure. Shifting to e-commerce is changing our entire operating model"

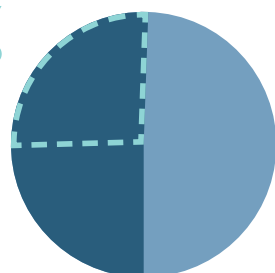
Director of Risk Management at a global consumer goods company in the USA

Total task-hours completed by machines

WEF

29%
IN 2018

52%
BY 2022



Over three quarters of clients highlighted increasing digital customer interactions as a key driver of change in their organisations



ECONOMIC CHANGE



Most clients acknowledged that new ways of interacting with customers present them with new opportunities and risks



For firms in the tech sector, insurance needs to offer more than just downside protection. It needs to be a tool to unlock growth bottlenecks and aid in the development of new frontiers"

Chief strategy officer at a high growth tech company based in Europe



The pandemic has accelerated new ways of working and looking at all the simultaneous developments, we see the future economy is going to look very different from the past"

Group Chief Operating Officer of a global banking group

Worldwide the number of trademark applications has almost doubled in the past decade

WIPO



D2C clients, with leaner & highly networked business models, felt more exposed to third-party failure risks





SOCIETAL CHANGE

Across all sectors & geographies, clients pointed to reputational risk as an emerging key risk on their CRO or CEO agendas



"We recently got sued for a shooting that happened on one of our supermarkets' parking lots. We had nothing to do with it, nothing we could have done. But they sue regardless"

Director of Risk Management of a national retailer in the USA



"The reputational aspect of social responsibility is skyrocketing"

Head of Business Risk at a top 10 global energy producer in Europe



"ESG is a huge topic for us and we have to be very careful how to manage our exposure along our supply chain, especially when sourcing products in countries outside Europe & North America"

Head of Global Risk Services for a global consumer goods company based in Europe

Share price drop after penalties for breaches by suppliers

Financial Times



DROP IN MARKET VALUE FROM PENALTIES OVER THIRD-PARTY BREACHES CAN BE 10 TIMES AS MUCH AS THE FINE ITSELF

Clients are concerned about the unpredictability of the origin of litigation, making it difficult to protect against.



\$10B LIKELY
TO GROW TO
\$24B
BY 2028

CLIMATE CHANGE



Large multinational clients highlighted concerns about the impact of natural catastrophes & extreme weather on their operations



The market wants a clean exit from decommissioning. In the North Sea alone there are roughly \$45-50B of asset liabilities that require decommissioning"

MD of an oil exploration company based in Europe



I can foresee a future where you will be able to get sued for your specific carbon footprint and its direct impact on climate change"

CFO of an Energy company headquartered in Europe



The volatility of weather patterns is a key risk for us. If you're trying to plan for a long-term investment project, this level of uncertainty is almost prohibitive"

CFO of a trading company in Asia

Annual cut in carbon emissions required to hit 1.5C Paris target



7.6%

Tech companies interviewed highlighted the pressure to review their own energy consumption levels



=



BITCOIN ALONE
USES AS MUCH
ENERGY TO RUN

AS THE WHOLE
OF SWITZERLAND
(Cambridge University)

03

CLIENTS' EVOLVING AND EMERGING RISK MANAGEMENT NEEDS



Interviews with London Market clients within the IT, Financial Services, Consumer & Retail and Energy sectors uncovered a range of trends that are either directly or indirectly affecting the risks clients are exposed to. Four overarching mega-trends were identified: technological, economic, societal, and climate change.





TECHNOLOGICAL CHANGE

Change underpinned by new technologies was the most consistent theme identified within the client interviews. Clients universally highlighted how new technology is altering their sector, the way their business operates, the way in which their customers engage and, ultimately, the risks that they are exposed to. Cloud data storage, mobile apps, robotics and process automation, blockchain, machine learning (ML) and artificial intelligence (AI) are supporting a wide variety of new applications, new business models, and potentially entirely new industries.

Aggregating all the information from the client feedback received, technological trends can be categorised into three sub-trends that are shaping clients' risk management needs across industries:

1. Digitisation of operations
2. The move from physical to digital customer interactions
3. Adoption of next gen Tech, such as AI, Virtual Reality (VR), Augmented Reality (AR), robotics, and digital currencies

DIGITISATION OF OPERATIONS

The implications of technological change are top of mind for London Market clients. For technology companies this transformation increasingly embeds them in the fabric of their clients' businesses, exposing them to new risks including liability for performance issues, outages, and pressure to guarantee performance promises.

For established consumer and retail companies and financial institutions, however, there are concerns about whether they can keep up with the speed of innovation and change, and the intense competition that comes with it (e.g., digital payments, demand for omnichannel customer services, shift to fully digital customer journeys, and digital attacker models eroding profit margins for incumbents).

“Connecting our IT and OT (Operational Technology) has many benefits but also leads to big unknowns in terms of vulnerabilities. The provision of energy is a key target of national security and no power or utility company would be immune against a targeted attack.”

Group Head of Insurance at an international utility company

The digitisation of operations poses a logistical shift, but also a risk in terms of operational integrity and cyber security. Power and utility companies interviewed flagged critical vulnerabilities (e.g. national grid security).

Outside of the energy sector, many clients interviewed highlighted that the increasing interconnectedness of companies' operations, both within and beyond the company itself, increases the potential for far-reaching business interruption.

IMPACT ON NEEDS

“We've had over 100 years to learn how to build the perfect store, including all the corresponding infrastructure. Shifting to e-commerce is rapidly changing our entire operating model.”

Director of Risk Management at a global consumer goods company in the USA

As a result of the transformation of operations, clients interviewed have flagged that their exposure to cyber risks, both through human errors and criminal activity, is rapidly increasing. Those concerns were raised in particular by the financial services and retail sectors who are digitising both their operations and their customer journeys.

Companies with intrinsically high mechanical expertise in manufacturing or upstream energy stressed that while they may have many high-skilled and experienced engineers, they often lack expertise in new software technologies. Oil companies especially feared that the digitisation of their platforms and pipelines could expose them to Cat-level cyber events, where digital triggers would cause physical loss, supply disruption or environmental damage.

Given the push underway to reconfigure the global mobility network, utility companies worldwide are making significant infrastructure investments to build out their grids in preparation for mass adoption of electric vehicles. The linked roll-out of Internet of Energy (IoE), to distribute and connect multiple energy sources and storage devices, is opening them up to targeted cyber attacks, potentially even by state actors.

- ⚙️ An estimated \$1.25T was spent on digital transformations globally in 2019, versus a projected \$2.3T by 2023 (IDC)
- 📁 Approximately 25% of U.S. employment will face high exposure to automation until 2030, with greater than 70% of current task content at risk of substitution (Brookings)
- 🤖 Increased automation will allow machines to go from completing 29% of total task-hours in businesses in 2018 to completing 52% of total task-hours by 2025 (WEF)
- 🔗 60% of business executives in the 20 leading economies have reported that COVID-19 has accelerated their digital transformation plans (IBM Institute for Business Value and Oxford Economics)
- 📶 5G has up to 100x faster data rates and significantly improved bandwidth compared to 4G, enabling broader applications of Internet of Things (IoT), machine learning, artificial intelligence, virtual reality and augmented reality (Thales Group)

DIGITAL CUSTOMER INTERACTIONS

Over three-quarters of clients highlighted increasing digital customer interactions as a key driver of change in their organisation - particularly for the financial institutions, retail and consumer goods companies and technology firms that were interviewed.

Many firms that operate a network of branches reported plans to downsize the number of sites they run, as they focus on the challenge of competing online with leaner and fast growing operations.



When you close a lot of local branches, you need the technology to give your customers that same, or an even better experience than what they were previously used to."

Chief Risk Officer of a regional banking group in Europe

When operations are moved online, value propositions need to be re-assessed and investments made in branding. For example, retail banks are working to replicate the experience of a local branch online.



While we know exactly how to attract local customers to our supermarkets, e-commerce is changing the game completely and we have to learn everything from scratch. We don't have time for that, so we either buy or partner with external service providers who are more experienced in delivering a digital service model."

Director of Risk Management at a global consumer goods company in the USA

Established companies, with longer legacies, referenced the challenge of developing new ways of interacting with their customers digitally. Several large corporates stressed that their new supply chains involve multiple external partners. These partners bring expertise such as in the operation of delivery services, automated warehouses, digital platforms and the management of a broader ecosystem. Such complex supply chains involve new and uncertain risks.



As a Direct-to-Consumer (D2C) business, there is an incredible opportunity to gain market share quickly, with a much smaller operation. Established businesses often really struggle to connect to consumers online while we benefit from being a start-up with no legacy baggage weighing down our brand."

CEO of a high-growth D2C brand based in the USA

Clients in the financial services and retail sectors pointed out that the role of physical premises will, in many instances, change in the future, shifting from being purely retail outlets to being focused on brand experience. It was suggested that they are increasingly likely to be strategically located, feature a hybrid virtual and physical customer experience, focus on delivering differentiated experiences and connect with a target customer audience seamlessly both online and offline.

IMPACT ON NEEDS




As a result of the move to increasingly digital customer journeys, cyberattacks resulting in downtime or outages could have a significantly greater impact on companies' ability to service their clients.

The move away from physical stores will reduce the need for traditional property risk transfer. Meanwhile the rise of strategically-located, digitally-enhanced outlets repurposed into 'experience centres' would increase the value of those remaining physical locations. This is not only because companies will invest more in their construction costs, but because of their importance for brand representation.

The need to protect the physical and digital could become intertwined, and the sum insured of these premises will need to reflect both their tangible and intangible value.

In addition, new forms of customer engagement are emerging, such as social commerce, which enables companies to sell through social media channels but also incorporates social interactions, peer support, reviews, and recommendations, multimedia content, personalisation, and gamification. Already a significant trend in China, this trend appears to be spreading globally. Starting from being a \$475B market right now, it is predicted to grow to over \$3,370B over the next seven years.

This digital fragmentation and multi-channel engagement are a further change to the way companies, especially in retail, interact with their customers. As a result of this fragmentation, the nature of their risk exposure changes too. Clients interviewed were concerned about problems with ecosystem partners, reputational impact from third-party affiliations in social media and increased complexity in managing incidents affecting delivery of goods and services.

-  Total U.S. e-commerce sales for 2020 were estimated at \$791.7B, an increase of 32.4% from 2019. E-commerce sales in 2020 accounted for 14% of total sales, compared to 11% in 2019 (U.S. Census Bureau)
-  70% of Chinese consumers use mobile wallets regularly, with e-commerce forecast to account for 12% of the country's GDP by 2022 (Merkator Advisory Group)
-  Bank cost savings via chatbots to reach \$7.3B by 2023, up from an estimated \$209M in 2019 (Jupiter Research)



NEXT GENERATION TECHNOLOGY

The accelerating growth of next generation technologies was highlighted by all clients interviewed in the tech sector. Comments were focused on AI, cloud computing, VR, AR and robotics, while digital twins (virtual replicas of physical devices used to run virtual simulations and testing) and generative design (iterative design testing process using cloud computing and machine learning producing outputs that better meet real-life constraints) were also referenced. The list of 'new' technologies is likely to continue to expand.



We have a growth mindset. If you are telling me something has never been done before, or that it can't be done - that's when it gets interesting to me"

Chief Strategy Officer of a high-growth tech start-up in Europe

This pace of evolution has created wide awareness of the uncertain vulnerabilities entailed, and a growing concern regarding cyber security and system integrity was commonly shared.

Most clients highlighted next generation technologies as a driver of material changes within their businesses (e.g., operating models, R&D, product delivery). This was particularly stressed by technology firms and retail and consumer companies.

Building machine learning models with open source AI frameworks raises the question of the unclear liability for system failures (e.g., from coding errors, from AI biases).



We build a lot of our AI on open source software. If there is a system glitch or vulnerability in the code, who is to blame for that?"

Head of Strategy and Risk of a large Tech firm based in India

One tech firm stressed that new technologies are also giving rise to new forms of fraud. Interviews with financial services firms confirmed that fraudsters have started to use 'deep fake' imagery for virtual ID fraud, claims fraud and more.

Financial services firms also highlighted the disruption potential from crypto-currencies, which could drive users away from traditional cash and disintermediate the existing payments infrastructure.

Clients in the energy sector highlighted how the development of large-scale batteries and long-distance transfer of renewable energy would have the potential to dramatically change the energy market globally.

IMPACT ON NEEDS

Next generation technologies are leading to new risks. For instance, AI algorithms designed to solve a specific problem, or deal with a specific task, expose companies to new risks of large-scale errors, especially when these systems are challenged beyond their original framework design or scope.

Moreover, using open source code for AI and ML systems will increase the risk that such errors cannot be clearly attributed, leaving a range of companies potentially exposed to liability claims.

It is likely that deep-fake imagery, video or voice technology will become so advanced that they are very hard to distinguish from the real thing. Until NFT (Non-fungible token) technologies are able to help reduce these risks, deep-fakes will create new legal and reputational issues.

The rollout of 5G is likely to enable many new forms of technology to enter the mainstream. Clients predicted teething problems with the roll-out of Digital Twins, VR and AR technologies at scale, which could lead to new product recall and liability risks.

The future impact of these applications going mainstream will fundamentally change how companies control risk; for the better in most cases (e.g., reducing human errors) but opening up new, yet to be identified, adoption risks (e.g., accidents caused by more powerful systems have the potential to be more destructive).

The evolution of wearables, augmented reality and IoT will also significantly increase the volume of personal data collected. These new devices will be able to collect and interpret information (e.g., eye movement, behaviour, emotions, location, activities) that goes significantly beyond the personal data currently collected through e-commerce and other activities. The protection and liability associated with such data is going to be an increasing challenge.



By 2025, 50% of enterprises are forecast to use AI systems in their operations, up from fewer than 10% in 2020 (Gartner)



By 2023, 40% of all enterprise workloads (IT applications running the core functions of a business) are forecast to be deployed in cloud platforms, signifying a doubling since 2020 (Gartner)



Adoption of AR and VR technologies has grown 79% year-on-year since 2016, up from \$6.1B in 2016 to \$18.8B in 2020 (BCG/Mordor Intelligence)

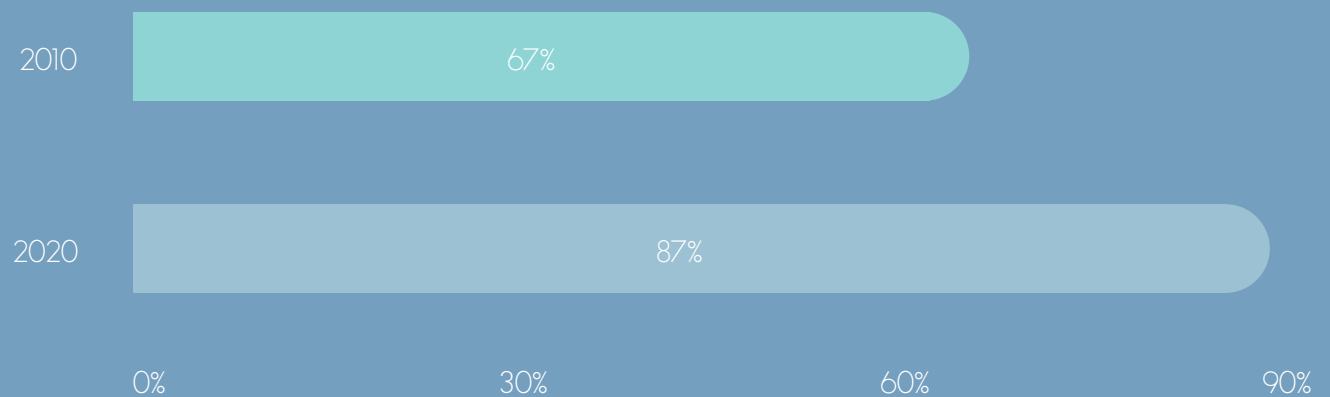


The IoT market stood at \$251B in 2019 and is projected to reach \$1.5T in 2027, with a 25% CAGR in the forecast period (Fortune Business Insights)



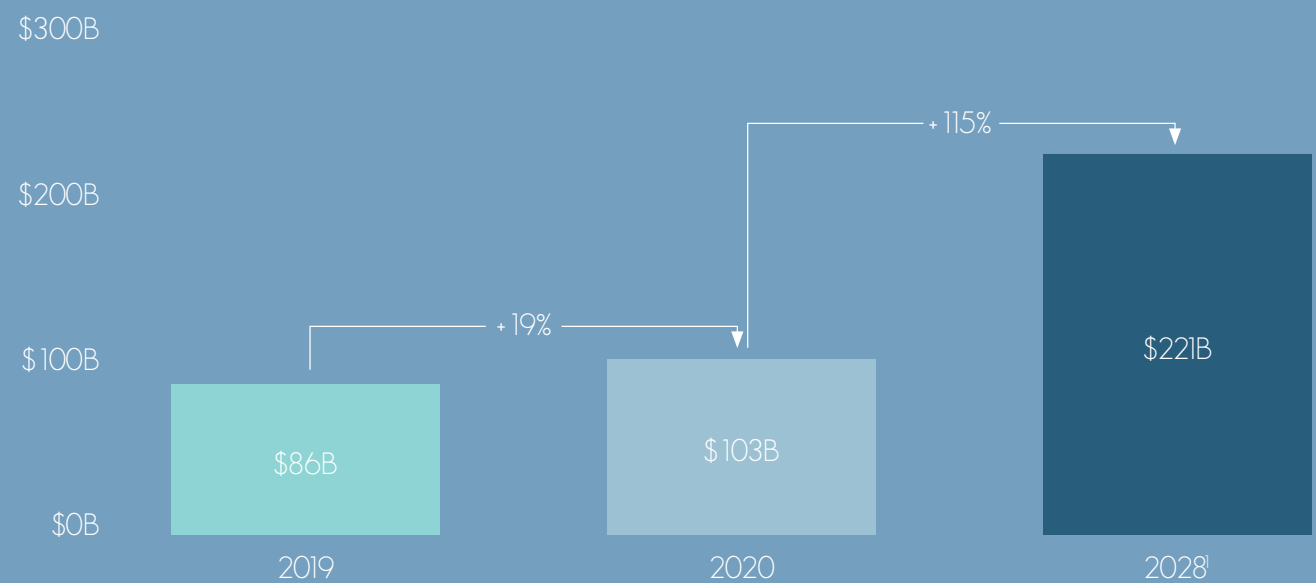
New business models

U.S. consumers using online review tools



Source: BrightLocal Consumer Review Survey 2020

Global social media advertisement market



1. Forecast

Source: The Business Research Company, Social Media Advertisement Global Market Report 2020-2030, July 2020

The increasing integration of commerce with social media allows businesses to efficiently target specific customer demographics. Brands are increasingly sensitive to the way in which social media platforms seek to target adverts against consumers with the highest propensity to respond, and the impact on this targeting to the online record of a company's reputation:

- Companies reputation - as consumer views and expectations evolve (e.g., ethical and societal impact considerations), companies are increasingly scrutinised on real - or fabricated - stories about their activities and associations. This can impact their customer reviews, resulting in the loss of companies' advertising position and overall brand strength
- Partner reputation - companies appear to be facing an expanding definition of their ESG responsibilities, with examples of consumers reacting against ethical concerns around partners deep in companies' supply chains
- Omnichannel ecosystems - operating and selling on large online marketplaces and digital platforms such as WeChat, Amazon or PayPay Mall gives significant control of the end-customer experience and relationship to the ecosystem orchestrator. This entails an exposure to business interruption or loss of customers and revenue due to issues beyond the control of the seller, and the risk of brand damage due to the actions of other businesses on the platform



Marketing risk is a material concern for any business purchasing advertising space on Google, Facebook etc."

CEO of a high growth consumer goods company, USA



ECONOMIC CHANGE

Technological change inevitably leads to economic change. This effect is clear in the increasing dominance of 'tech' companies in the list of most valuable listed firms, but also in the rapid growth of related sectors of the economy and shifts in the location of economic activity and employment.

Interviews with London Market clients made clear the breadth and depth of economic changes. Three sub-trends were highlighted as the most impactful on clients' risk exposures:



The pandemic has accelerated new ways of working and, looking at all the simultaneous developments, we see the future economy is going to look very different from the past."

Group Chief Operating Officer
of a global banking group

1. New business models are disrupting and reshaping industry structures, therefore the location and type of economic activity and employment.
2. The shift from tangible to intangible assets is redefining the nature of the assets that clients seek to develop and protect.
3. Increased global interconnectedness is increasing the likelihood of systemic incidents.

NEW BUSINESS MODELS

Most clients interviewed highlighted that new ways of doing business (e.g., home working, gig-economy) presented them with new opportunities (e.g., leaner and smarter operations, optimised use of idle assets or capacity, new ways of attracting customers) and new risks (e.g., commercial use of private assets, misuse of customer data).

Direct to Consumers (D2C) companies that were interviewed highlighted that their decentralised and networked business models expose them to greater vulnerabilities of business interruption caused by a third-party failure or default.

“As a D2C company we rely on a network of third parties to run the business.”

CEO of a high-growth D2C brand
based in the USA

Consumer and retail companies interviewed also highlighted some of the novel vulnerabilities of online focused business models. For example, online downtime and outages not only cause a loss of revenue, but also negatively impact companies' algorithmically defined rankings on Google, Facebook, and Instagram.

↔ It is estimated that by the year 2040, 95% of purchases in the UK will be through e-commerce channels (Nasdaq)

⊗ More than a third of UK bank's physical branches have closed in the last five years (Consumer Association which.co.uk)

📱 Digital-only banks have an average cost-to-income ratio of 47%, as compared to 73% in more traditional banks (European Central Bank)

👤 Gig-economy and freelance workers represent around 35% of the U.S. workforce in 2020, from 14% in 2014 (Statista)

🏠 The global sharing economy is forecast to reach \$335B by 2025, up from \$15B in 2014 (PRNewswire)

IMPACT ON NEEDS

“We buy lots of advertising at Facebook and Google auctions. If we were to be the target of a cyber-attack, this would put us in a very difficult position to remain relevant to our target customers.”

CFO of a large online marketplace
based in Europe

As a result of technology enabled macro-economic shifts, new business models are pushing traditional business models to evolve; certain industries like telecoms, industrial manufacturing, healthcare / life sciences, aerospace, defence, and financial services could experience the greatest disruption. Meanwhile, as more and more regulators are classifying gig-economy workers as employees this is shifting the framework for many tech companies.

As a result, several interviewees deploying gig-economy workers talked about the need for customised, easy-to-manage and simple insurance offerings for their workers that can be switched on and off.

“For firms in the tech sector, insurance needs to offer more than just downside protection. It needs to be a tool to unlock growth bottlenecks and aid in the development of new frontiers.”

Chief strategy officer at a high growth tech
company based in Europe

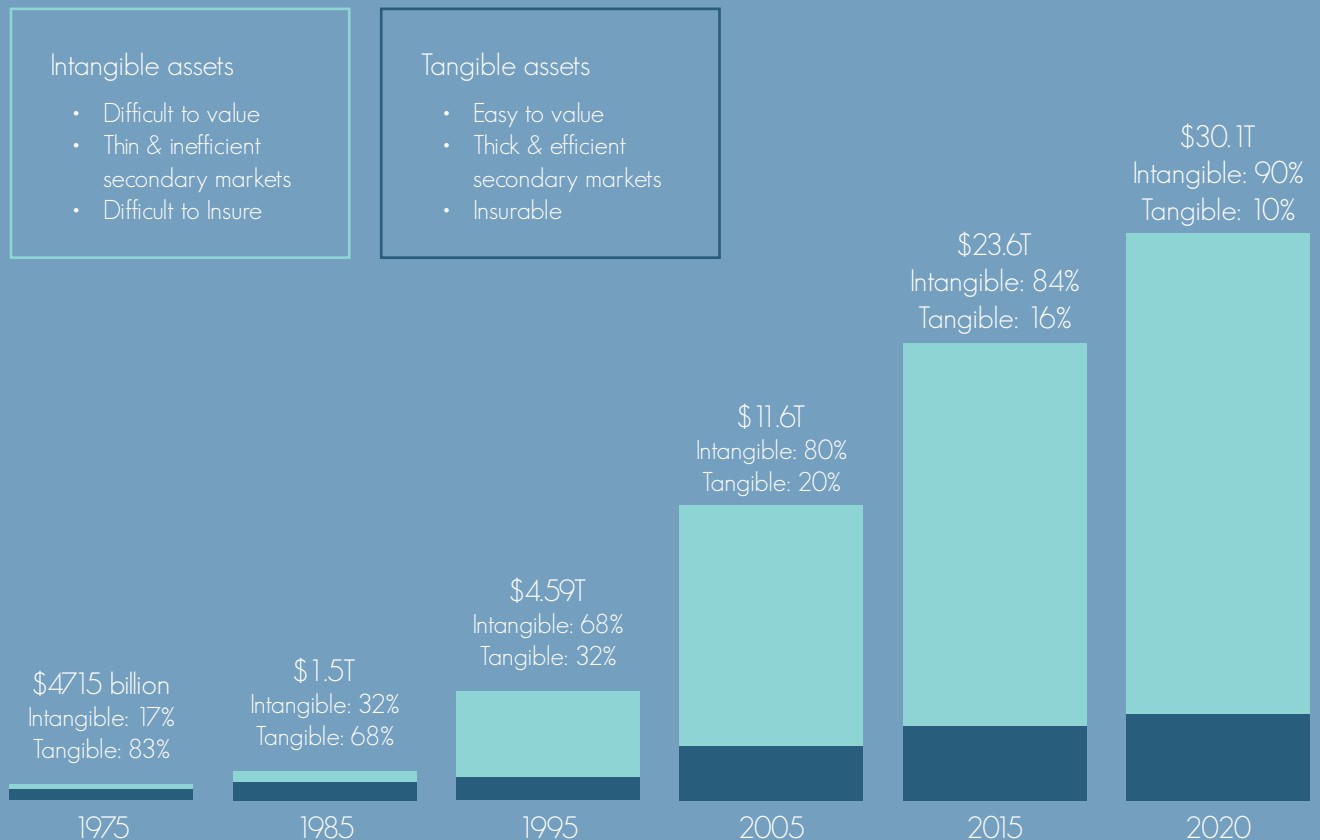
On the reverse, tech companies employing gig-contractors will need to find new protection frameworks to manage liabilities and benefits for these new types of employees. The same would hold true for firms operating in the sharing-economy, where consumers rent a product or a service for a specified period only.

For many businesses trading online, their distributors' business models could expose them to profit erosion from supply chain disruptions due to factors that are not in their control (e.g., trade wars, political instability).

Intellectual Property (IP) collateralisation

Tangible assets vs. intangible Assets for S&P 500 Companies, 1975 - 2020

(Market Cap)



- IBM
- Exxon Mobil
- Procter & Gamble
- GE
- 3M

- IBM
- Exxon Mobil
- GE
- Schlumberger
- Chevron

- GE
- Exxon Mobil
- Coca-Cola
- Atria
- Walmart

- GE
- Exxon Mobil
- Microsoft
- Citigroup
- Walmart

- Apple
- Alphabet
- Microsoft
- Exxon Mobil
- Berkshire Hathaway

- Apple
- Alphabet
- Microsoft
- Amazon
- Facebook

Source: Aon, Ocean Tomo

Many tech firms stressed that their needs are more multifaceted than just accessing downside protection. As a sector that is chiefly focused on growth, they are also looking for solutions that can help unlock growth bottlenecks for their businesses.

As the importance and value of intangible assets continues to rise, IP-rich firms find it difficult to use such assets as collateral for loans. Biotechnology firms for example are capital intensive and fast growing, yet many of their assets are patents and IP. In total the number of U.S. patents recorded as having ties to a “security interest” or “security agreement” almost doubled to 400,000 in recent years.

However, regulations require lenders to assign no or low value to IP assets in their regulatory capital calculations, meaning such assets cannot be used as collateral by borrowers. There is likely to be significant demand for a product that covers the downside risk around the sale value of intangible assets in the event of a default.

5 Largest global
companies by market cap



If we can solve this, intangibles will be the next big new asset class for structured financing deals”

Head of Strategy and Product Development
at a global financial institution, USA



SHIFT FROM TANGIBLE TO INTANGIBLE ASSET CLASSES

Increasingly the value created by businesses comes from intangible assets (e.g. talent, branding, and proprietary technology), making it harder to define and to protect. Clients interviewed mentioned difficulties in ascribing independent valuations to their intangible assets. This constrains their ability to fully optimise their balance sheet benefits.

Very few clients in the tech sector are able to use IP, their most valuable asset, as collateral for a loan. With banks unwilling or unable to accept IP as collateral, the predominant method to raise capital currently is via equity.



Over the past decade, companies with large intangible assets have overtaken the traditional multinationals, representing now approximately 90% of the S&P 500 total asset value (Aon / Ocean Tomo)



Patent and trademark applications have increased from 20.4M in 2009 to 36.4M in 2019. The number of trademarks worldwide almost doubled between 2016 and 2019 to around 11.5M (WIPO)



The intellectual property rights and royalty management market has grown from \$4.3B in 2016 to \$12.7B in 2021, with a CAGR of 24% (Markets&Markets)

IMPACT ON NEEDS

So far, protections specifically designed for intangible assets are still uncommon and typically reserved for very large clients. However, many clients interviewed, particularly in the technology sector, are seeking improved solutions.



We have not yet come across IP collateralisation; however, the concept sounds very interesting to us."

SVP of a European banking group

Clients manifested concerns on the intrinsic volatility of intangible assets. Financial institutions are particularly hesitant to lend against these assets without special protections and guarantees.

Intangibles used to play a much smaller role than they do today; in an increasingly competitive and digital economy, companies race to out-innovate one another faster than ever before. As the securitisation of intangible assets is not fully accepted yet, this is limiting the growth and speed of development potential for tech and other companies (e.g. MedTech, life sciences etc.) globally.



If you want to raise capital you can do this by either raising debt or equity. If you don't want to dilute your shareholdings, debt is a more attractive instrument. However, if your asset is non-tangible, such as your intellectual property, it becomes very difficult to do that."

Head of Strategy and Product Development at a financial institution based in the USA

INCREASED GLOBAL INTERCONNECTEDNESS

Across the interviews, cyberattacks were flagged as the main incidents with potential systemic implications. While larger clients seemed better prepared for (and concerned by) potential impacts, medium sized and smaller companies were generally uncertain of the implications.

Clients interviewed, particularly in the consumer and retail segment, were concerned with the interruption of global trade (e.g., protectionism, custom controls, import duties), while tech companies raised concerns about potential restrictions on immigration.

The impact of increasing interdependence between international financial markets was identified, generally, in positive terms, however, clients mentioned the 2008 financial crisis as a continuing reminder of the importance of having prudential and solvency controls in place.

Despite the current pandemic environment, clients interviewed acknowledged a general lack of understanding of systemic risks and their potential impact.



As a result of trade tensions between U.S. & China in 2019, U.S. companies experienced \$1.7T in damages while China's industrial output growth reached a 17-year low (Reuters)



Due to the pandemic, government funding needs and debt increased by \$18T in developed countries over the past year, almost 29% of their GDP, causing an increase in sovereign risk (OECD)



Global attacks on operational technology (OT) of shipping vessels, carrying out 90% of global trade, have increased by 900% in the last three years (OECD/ International Comparative Legal Guide)

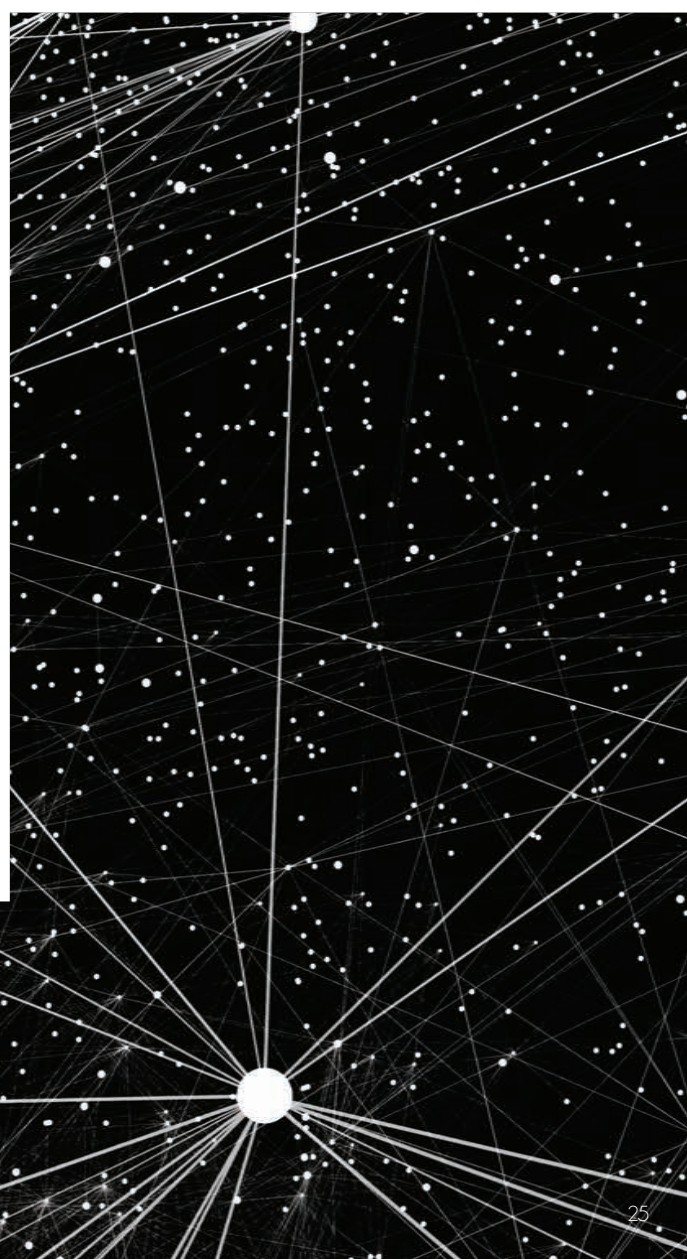
IMPACT ON NEEDS



If you think of systemic risks, that's not normally something we would use the insurance market to help manage."

Head of Portfolio Risk of a European renewable energy company

During the interviews it became apparent that systemic risks represent a significant and increasing risk to many clients. However, the broad and intricate nature of interconnections makes systemic risks hard to understand and prepare for individual companies. Responding to global challenges requires a new framework for bridging the current fragmentation. A lack of industry collaboration across sectors, geographies, and company sizes only deepens susceptibility to systemic risks.





SOCIETAL CHANGE

Societal change is being accelerated by technological and economic changes. New communication technologies (e.g., smartphones, social media, instant messaging) have 'democratised' many of the functions of the media. Globalisation and changes in traditional labour models (e.g., decline in traditional manual employment, growth in freelance work) have occurred at the same time as an apparent acceleration of political unrest and change in many mature economies. Interviews with London Market clients highlighted three societal sub-trends which are shifting the risk landscape for businesses across sectors:

1. Increasing importance of reputation
2. Increased litigation activity driven by rising social volatility, global activism, advocacy, and the pandemic environment.
3. Rising concerns over third-party misconduct

INCREASING IMPORTANCE OF BRAND & REPUTATION

Most clients interviewed, across all sectors and geographies, pointed to reputational risk as an emerging key risk on their CRO or CEO agenda.

Clients reported that increased adoption of social media and review culture has heightened the risks reputational incidents pose (with over 90% of customers now referring to reviews before buying products online).

“What would have been deemed a normal operational side effect ten years ago is a news headline today.”

Manager Business Risk of a global energy company, based in Europe

Moreover, companies interviewed are responding to consumers' concern about ethical conduct by emphasising their ESG credentials, putting them at greater risk of reputational damage if they underperform against those targets.

“Reputation is huge for us. Because we are a digital challenger bank, if there was a targeted fake news attack for instance, this could cause a run on the bank within minutes.”

Group Insurance Manager of a challenger bank in Europe

Fossil fuel companies interviewed reported a change in the public response to incidents resulting from their operations. They pointed out that despite diminishing profit margins reputational risks now require ever more investment to deal with operational incidents in an economic environment that is already challenging.

“The reputational aspect of social responsibility is skyrocketing.”

Head of Business Risk at a top 10 global energy producer in Europe

IMPACT ON NEEDS

In line with the increasing pressure to protect against reputational damage, clients are struggling to quantify their reputational value and monitor the performance of their reputation and brand.

Most clients were not yet aware of existing independent indices to benchmark brand / reputational performance.

The convergence of mobile and social media is intensifying the impact of reputational risk for organisations and is driving them to fundamentally rethink their approaches to risk management. The impact can be three-fold: consumer backlash, shareholder, or investor pressure and/or loss of key employees or business partners.

Several SMEs interviewed reported a need for access to external crisis management experts as they do not have those resources in-house. Meanwhile, larger corporates, especially those involved in high-volume low-margin business, highlighted a potential need for cashflow support if a reputational crisis were to trigger a sudden revenue / sales crunch.

Larger, publicly traded companies are becoming more acutely aware of the need for appropriate reputational crisis response when an incident occurs, with new financial contingency planning and crisis management protocols being developed either by in-house teams or selected external partners.

- 📊 Social media adoption is forecast to double from 2017 to 2025 reaching 55% of the global population (Statista)
- 🏠 Corporate reputation and brand value accounts for 35% of the market cap of the world's 15 leading equity market indices. This equates to \$16.8T in shareholder value (AMO)
- 👤 40% of consumers surveyed in 28 countries specifically seek products and services aligned with their values (IBM Institute for Business/ National Retail Federation)

INCREASED LITIGATION ACTIVITY

The majority of companies interviewed, across all sectors, size, and geographies, reported concerns about mounting regulatory, activist, and public pressure. Multiple clients highlighted class action cases they were fighting.

“Social inflation is a big problem for us, having to permanently defend new liability claims. Costs are going through the roof.”

Director of Risk Management at a global consumer goods company based in the USA

For instance, a global tech company headquartered in Asia, reported an increase in litigation from employees worldwide due to working hours, cultural sensitivities, or mental frustrations coming from remote working.

The unpredictability of the origin of litigation was highlighted as a key concern, making it increasingly difficult to protect against it.

“We recently got sued for a shooting that happened on one of our supermarkets’ parking lots. We had nothing to do with it, nothing we could have done. But they sue regardless.”

Director of Risk Management of a national retailer in the USA

Emerging litigation themes mentioned include whether sugar needs to be treated as the “new tobacco”; concerns about plastic usage in products and packaging; being held responsible for high carbon emissions as a contributor to climate change. Other clients highlighted increasing litigation risk from unintended social biases created and enforced by their AI.

IMPACT ON NEEDS

The increasing costs to defend litigation from in-house employees, employees of suppliers, customers, shareholders, regulators, or opportunist litigation funds is becoming increasingly difficult for clients to manage.

Most of this increased litigation activity is currently driven out of the U.S. As a result, a material and developing challenge for non-U.S. based companies is their exposure to U.S. jurisdiction. Increasing technological and social interconnectedness means products and services of non-U.S. companies are increasingly available to U.S. consumers via online shops, digital advertising, or other means of distribution.

Once a product is deemed to be commercially sold in the U.S., claimants have a right to bring a case before a U.S. court. This significantly widens the opportunity for claimants to sue non-U.S. companies in a U.S. court, to maximise damages and settlement amounts.

💰 The U.S. litigation finance industry now has reached \$10B, with federal litigation filings doubling from 2015 to 2019 and is likely to grow to \$24B by 2028, at a CAGR of 9% 2020-2028 (The Law Reviews)

⚖️ In the U.S., the median value of awards for single fatality cases has more than doubled since 2010, to over \$5m on average per case (Advisen)

🏛️ In the U.S., companies spent nearly \$2.7B defending class actions in 2020, with the majority of large businesses in the U.S. facing a class action suit (Carlton Fields)





The potential of Artificial Intelligence (AI) to deliver significant benefits comes with new and complex risks:

- Quality of data – AI is only as good as the data it analyses, and false insights may be generated if the data is incomplete or wrong, or it is drawn from a biased sample
- Lack of transparency – AI systems are complex and fast-evolving and can lack human judgment around the implications of their results. High-profile cases of AI-driven facial recognition technologies misidentifying non-white or female faces illustrate the point. Executive and non-executive corporate leaders need to consider the potential unintended consequences of the AI systems. A lack of understanding of these systems is unlikely to prevent board members from being held liable for their consequences
- New threats – AI will enable new challenges to established organisations. For example, some professional litigation funds in the U.S. have started using AI to analyse large volumes of information to identify potential class action suits and predict which legal avenues to pursue to maximise damages



*The more powerful the AI,
the higher the potential liability”*

CFO of a high growth tech company, Europe

#





CLIMATE CHANGE

Climate change overshadows and is connected to each of the preceding trends discussed in this report. It was highlighted in the client interviews as a top concern across all focus industries.

The interviews highlighted three related trends that London Market clients stressed could impact their risk landscapes:

1. Changing weather patterns, with increased frequency of severe events.
2. Increasing pressure to understand and reduce the carbon footprint of businesses end-to-end.
3. Significant acceleration of the green energy transition.

CHANGING WEATHER PATTERNS



The near-term consequences of climate change add up to a 'planetary emergency'. Implications are catastrophic, wide-ranging and intersecting. Worse still, the complexity of the climate system means that some impacts are still unknown."

Global Risks Report, WEF, 2020

Most large multinational clients highlighted concerns about the impact of natural catastrophes and extreme weather on their operations, increasingly having to review their exposures and mitigation plans (e.g. broken supply chains, employees not able to work, critical damage to facilities).



Climate change is exposing a lot of our locations to weather and NatCat risks that are very difficult to manage if you want to continue operating in the region."

CRO of a consumer goods company in the USA

These clients are making efforts to take full stock of their entire operations' exposure to extreme weather events, especially the ones that pose the largest disruption risks (e.g. distribution centres). Clients with both multinational and local operations were particularly concerned about communications and technological disruption that natural catastrophes and extreme weather might cause in their strategic risk scenario planning.

For example, one client mentioned that during the Texas snowstorm in February 2021 phone lines and internet access were interrupted, complicating their crisis response.

Clients in the energy sector expressed concerns about climate change as more severe weather conditions add additional stress to aging offshore structures, many of which are already approaching their late-life stage.



The volatility of weather patterns is a key risk for us, which is becoming increasingly difficult to predict. If you're trying to plan for a long-term investment project, this level of uncertainty is almost prohibitive."

CFO of a trading company in Asia

For renewable energy projects, weather volatility is a key risk when it comes to project finance; a private equity fund focusing on renewable energy projects in Asia, highlighted that renewable projects need energy production forecast certainty to get sign off. This is becoming increasingly difficult, as weather patterns are no longer fully predictable over a 20-year investment horizon.

IMPACT ON NEEDS

Climate change is exposing certain areas that were previously deemed safe for construction to increased NatCat and severe weather risks. As a result, retail, manufacturing, and hospitality businesses, in certain coastal locations, are facing increased risk transfer and mitigation costs.

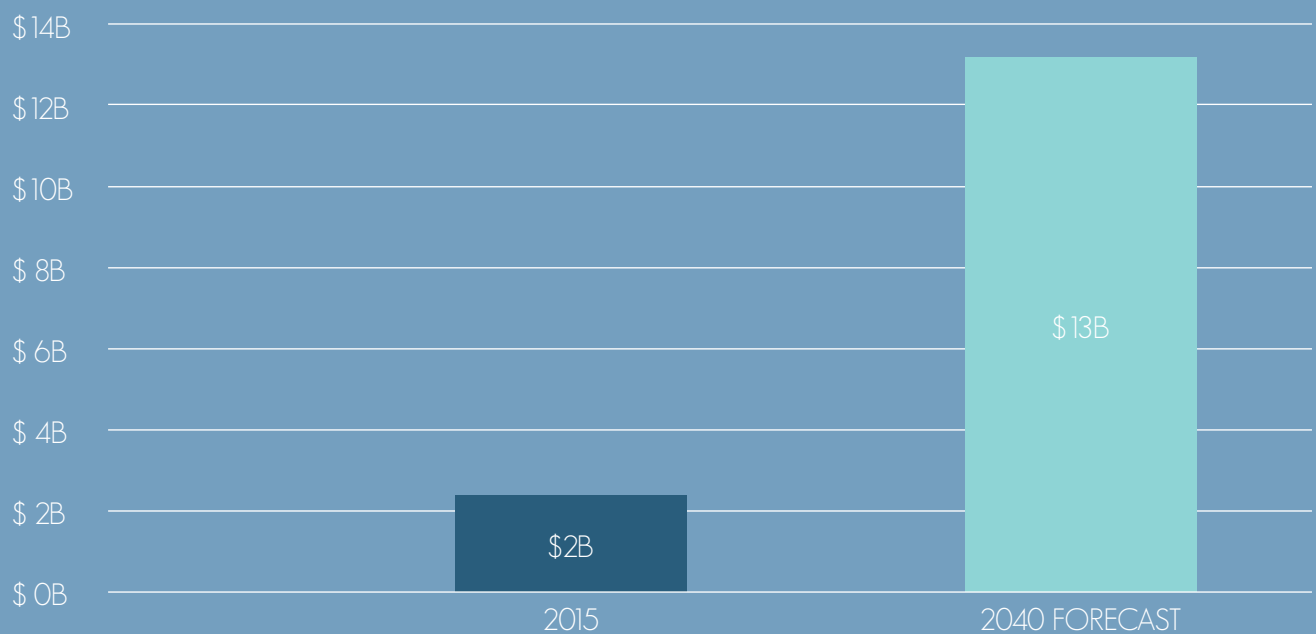
In an increasingly digitised world, the breakdown of communications and technological infrastructure caused by severe weather events is expected to further complicate crisis response management and compound the impact of business interruption for businesses. Exacerbated by increasing amounts of digital transformations, damage to facilities with increased technological features (e.g., robots, automated manufacturing facilities) is increasing overall reconstruction costs, as well as the lead time for recovery.

Renewable energy companies are looking for weather hedges or alternative financial vehicles to guarantee the performance of their assets across the project life cycle to secure funding.

- ⌘ In the U.S., high-cost weather and climate events per year have increased from an average of 7 between 1980-2020 to 16 between 2016-2020 (NOAA National Centers for Environmental Information)
- 🔄 From 2008 to 2016, over 20M people a year were displaced as a result of changing climate events such as floods, hotter temperatures and storms (UN Refugee Agency)
- 🔍 Rising temperatures are predicted to bring productivity loss equivalent to 80M jobs by 2030- much of the impact affecting the poorest countries (International Labour Organization)
- ☁ Over the past three decades, a higher percentage of precipitation in the United States has come in the form of intense single-day events. Nine of the top 10 years for extreme one-day precipitation events have occurred since 1990 (U.S. Environmental Protection Agency)

Decommissioning of end of lifespan fossil fuel assets

Average annual spend on O&G project decommissioning



Source: IHS Markit

As the world shifts to renewable sources of energy and oil and gas platforms reach the end of their natural lifespans, a large pool of legacy assets need to be decommissioned. In the North Sea alone there are \$45-50B of asset up for decommissioning, including approximately 170 oil installations, 10,000km of pipeline and 5,000 wells that must be dismantled where possible and secured to minimise the risk of future pollution. Similar challenges are faced in the Gulf of Mexico, Indonesia and Australia.

In addition, fossil fuel assets nearing the end of their lifespan are often sold to new operators, which adds complexity around the ownership of liabilities once the site is decommissioned.

Risk management falls into two broad categories:

- Downside protection - smaller or mid-sized companies specialised in late-life operations often lack the diversification and balance sheet strength to absorb significant project overruns
- Clean exit from decommissioning - regulators are increasingly aware of the long-term liabilities decommissioned oil and gas assets represent and are concerned that the liabilities are adequately backed.



The abandonment and decommissioning of fossil fuel assets is one of the most critical challenges facing the O&G industry today.”

MD of an energy company, Europe

PRESSURE TO UNDERSTAND AND REDUCE THE CARBON FOOTPRINT

Clients interviewed across sectors and geographies highlighted responses to their CO₂ emissions as an increasing risk for their businesses. A key challenge that was mentioned in this context was the precise quantification of direct and indirect CO₂ emissions and energy consumption.

Motivated to reduce carbon emissions, interviewees pointed out difficulties in quantifying climate change impacts associated with purchased goods and vehicles, product use, waste disposal, transportation, supply chain, distribution, and employee business travel.

About half of the interviewees mentioned they would welcome ESG consultants to aid their understanding of their own footprint and advise on their efforts to reduce carbon emissions as part of their standard risk prevention services.

🌐 Global annual greenhouse gas emissions have grown 41% since 1990 (World Resources Institute)

📊 To meet the 1.5C Paris target, global carbon emissions will have to be cut by 7.6% every year for the next decade (Carbon Brief)

📈 21 countries have been able to reduce carbon emissions while growing GDP, including the United Kingdom and the United States (UN Climate Change Conference)

★ The United Kingdom, Japan and the Republic of Korea, together with more than 110 other countries, have pledged carbon neutrality by 2050 (Refinitiv)

IMPACT ON NEEDS

More than half of global investors are currently implementing or evaluating ESG considerations in their investment strategy, risking a scale back of investments and reduction of shareholder value if the business is not deemed to meet the minimum criteria. As many clients pointed out, however, these criteria are fast evolving as the bar for public and regulatory scrutiny keeps rising.



As an industry, the tech sector is seen as very progressive. However, it won't be long until we are being challenged for our own energy consumption."

Chief Compliance Officer of a multinational tech firm based in the USA

The risk of being called out as no longer being an attractive investment is driving many companies to rethink their ESG strategy. Especially as the targets keep increasing, staying ahead of public and investor standards was described as an uphill battle.

Companies are increasingly concerned about public pressures to publish action plans addressing their emission targets. However, insufficient in-house expertise to deliver on these issues is slowing down this process, limiting their ability to conform to evolving regulations.

Ultimately, measuring carbon emissions from different sources and estimating energy consumption is a complex and expensive process. Small and medium sized companies are likely to require external expert help to develop and deploy models to measure the full extent of their carbon footprint across the value chain



ACCELERATION OF THE GREEN ENERGY TRANSITION

Clients interviewed highlighted that the challenges to accomplishing green energy transition goals include the scale of investment, construction speed, extent of land use, and the availability of raw materials. In addition, most clients in the energy and utilities sector stated that inherent volatilities related to renewable energy sources created pricing and budgeting challenges.



The biggest challenge is the volatility of green energy production - and how to make it cost efficient"

VP Valuation & Risk Management
at a European utility company

The development of renewable energy facilities is unevenly spread geographically, with most activity taking place in developed countries. Multiple renewable energy companies interviewed reported that a factor limiting the speed of development of new projects in Emerging Markets was the volatility of those economies, rather than the suitability for projects from an engineering perspective.

Tech companies interviewed pointed at the pressure to review their own energy consumption levels (e.g., Bitcoin alone uses as much energy to run as the whole of Switzerland; Amazon Web Services is now responsible for nearly 2% of all electricity consumption in the USA).



While I don't think it's possible yet, I can foresee a future where you will be able to get sued for your specific carbon footprint and its direct impact on climate change."

CFO of an Energy company
headquartered in Europe

On the reverse, Oil & Gas (O&G) clients described that the decommissioning of their fossil fuel platforms involves complex activities such as the removal of topside platforms. Oftentimes it is too difficult or simply impossible to remove the underwater structures. Decommissioning must be managed carefully to minimise environmental risks, many of which are still unknown. Regulators and social activists are adding to the pressure to proceed quickly and safely.

IMPACT ON NEEDS



The market wants a clean exit from decommissioning. In the North Sea alone there are roughly \$45-50bn of asset liabilities that are still up for decommissioning."

MD of an oil exploration company
based in Europe

The large number of renewable energy projects to be built over the next decade will require significant protection capacity to cover construction risks.

With inherently weather-dependent production patterns, managing the spikes and troughs of supply and demand of renewable energy at peak times is extremely difficult to plan and reserve for. New hedging mechanisms could provide a way to help manage this volatility.

Regulatory pressures, compounded by the uncertainty of environmental liability costs, require special attention by oil and gas or specialised operators to manage the decommissioning process with expert support and dedicated investment.

Significant future decommissioning activity exposes energy companies (or specialised decommissioning operators) to long-tail liabilities (e.g., environmental liabilities, contingency reserving) and mid-term operational challenges (e.g., monitoring of sites) creating a need for expert environmental risk management.



To achieve the targets of the Paris Agreement, renewable infrastructure construction and development will have to grow by 3x its current speed (World Resources Institute)



In order to successfully decarbonise the global energy market, investments of up to \$131T will be necessary by 2050 - an average of \$4.4T annually (United Nations Finance Summit)



Money managers using ESG criteria in their investment strategy, with a 30% YoY growth over the past 5 years, are on track to exceed \$43T by 2025 - representing a third of total assets under management (Bloomberg)



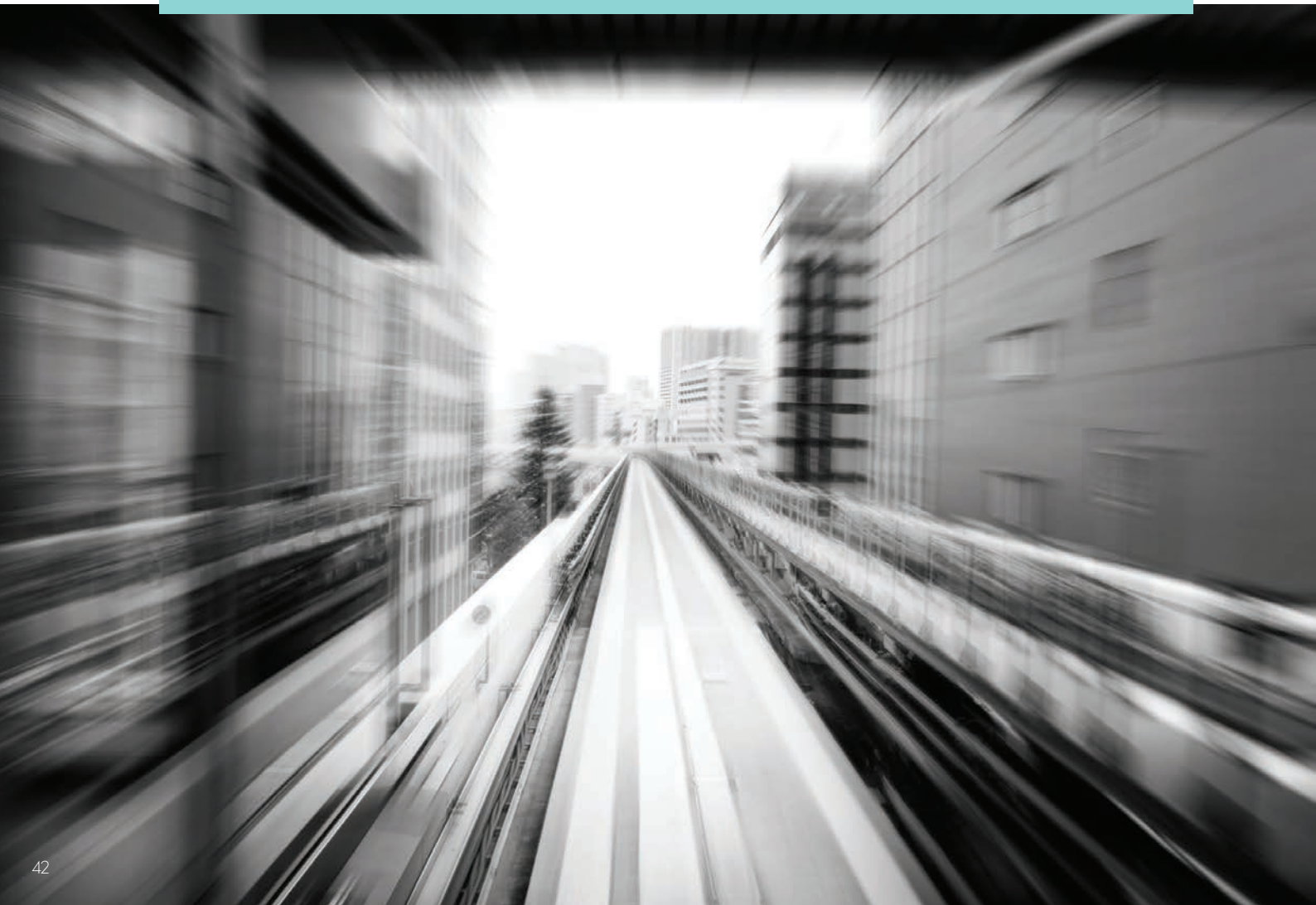
The World Bank, and other global financial organisations, have begun approving significant renewable energy transition projects in developing countries, such as a \$100M+ transition in the Maldives (The World Bank)



04

LOOKING FORWARD

For the London Market to address the evolving needs of its clients, a wide-ranging dialogue between market participants is required. The following assessment and questions, developed from the needs identified through this project, provide a guide to some of the key topics.



Action Framework	Areas of Need	Information Technology	Financials	Consumer & Retail	Energy Utilities
Risk transfer needs	Ability to combine digital and physical risk transfer for hybrid business operations	Low	High	High	Low
	Tools to convert intangibles into commoditisable asset class	High	High	Low	Medium
	Increased exposure to cyber risk	High	Medium	Medium	High
	Support to build renewable energy projects in emerging markets		Medium		High
	Support for clients who are experiencing either loss of revenue or immediate liquidity issues during a reputational crisis	Medium	Medium	High	
	Protection frameworks for unintended accidents caused by the adoption of new generation technologies	High	Low	Medium	Low
	Support with the decommissioning of end-of-life fossil fuel assets				High
Risk management needs	Cyber risk consulting to support the growth of digitisation across industries		Low	Medium	Medium
	Support for clients in meeting their ESG criteria	Low	Medium	Medium	High
	Protection tools against digital ID fraud and other risks emerging from new technologies	Medium	Medium	Low	
	Help with assessing and quantifying direct and indirect carbon footprint	Low	Medium	Medium	High

High
Medium
Low

POTENTIAL TO BETTER RESPOND TO CLIENTS' RISK TRANSFER NEEDS

01. How can the London Market better meet the needs of insureds who are building hybrid or fully digital customer interactions?
 - Clients highlighted the need for more comprehensive supply chain protection, as well as liability cover for incidents caused by their third-party business partners. Furthermore, clients in the retail and banking sectors highlighted their need for insurance products to cover the growing digital component of their physical retail premises.
02. Can the London Market further support its clients in collateralising intangible assets?
 - Large banking and tech clients expressed interest in solutions that would allow lenders to become more comfortable accepting intangible assets such as IP as collateral for a loan.
03. How can the London Market increase its capacity for large cyber exposures as demand for bigger limits rises?
 - Large corporate clients interviewed, regardless of whether they are already buying cyber insurance or not, raised the concern that, as digitisation and digital transformations increase, limits for cyber policies would not be adequate for their risk transfer needs.
04. Can the London Market offer more support for clients looking to build renewable energy projects in emerging markets?
 - Clients looking to build new renewable energy projects highlighted the need for more political risk and forex protections to get more comfortable with building projects in emerging markets.
05. How can the London Market further support clients who are experiencing either loss of revenue or immediate liquidity issues during a reputational crisis?
 - Clients expressed the need for better protection of the P&L during an incident and greater crisis management support.
06. How can the London Market provide additional help to its clients to protect against accidents caused by the adoption of new generation technologies?
 - Clients in the technology and retail sector raised concerns about accidents caused by AI, and the question of liability, especially when AI is developed on Open Source code.
07. How can the London Market provide more support for the decommissioning of energy assets?
 - Given the scale and long-tail nature of decommissioning fossil fuel production sites, clients in the energy sector expressed an interest in creating a new framework that would allow them to eventually move some of these liabilities off their balance sheets.
08. How can the London Market supplement its cyber risk consulting to support the growth of digitisation across all industries?
 - Clients consistently highlighted the need for additional cyber expertise to help them safeguard against evolving cyber risks, emphasising the scale of likely future growth in such cyber risk management services.

POTENTIAL TO BETTER RESPOND TO CLIENTS' RISK MANAGEMENT NEEDS

09. Can the London Market provide additional support for its clients to meet their ESG criteria?

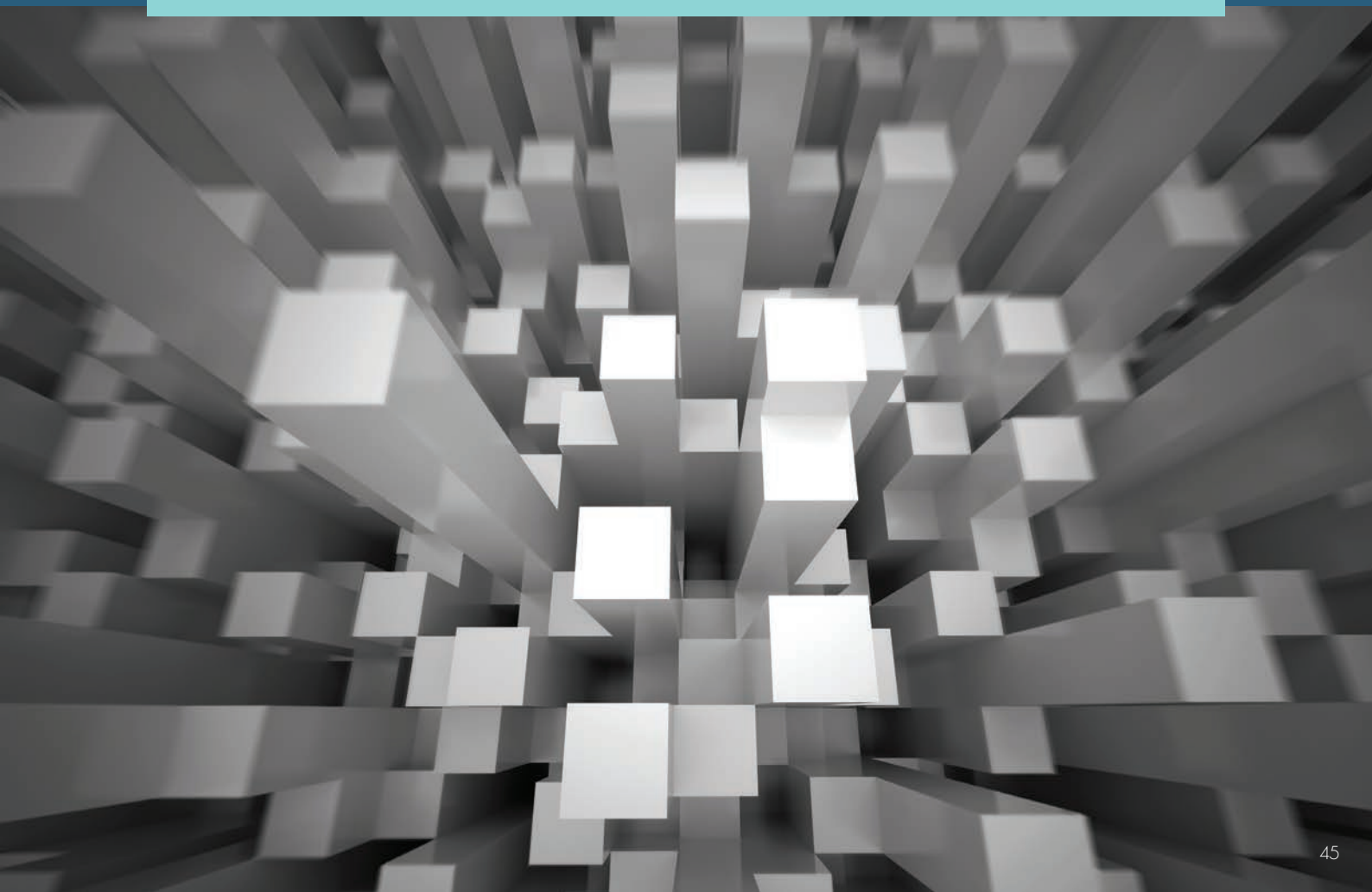
- Many clients expressed the need for further support on how to best meet their ESG requirements. This includes an assessment of their own local impact, portfolio steering and investment strategy.

10. How can the London Market help its clients to protect against digital ID fraud and other new technology related risks?

- Clients in the financial services and tech sectors highlighted the need to develop fraud recognition and prevention tools to combat digital ID fraud from reface, deep fake and other emerging technologies

11. Can the London Market play a bigger role in helping clients better assess and quantify their direct and indirect carbon footprint?

- Many clients spoke of concerns relating to the challenges of meeting new requirements, making them liable to legal actions, and an interest in new services to assist in robustly quantifying carbon footprints.



05

APPENDIX





OBJECTIVES & METHODOLOGY

RESEARCH OBJECTIVES

The London Market Group's chief objective was to provide up-to-date visibility over how the risk profiles of London Market buyers are changing and how these ongoing trends could affect the need for future risk management solutions.

To understand the most relevant archetypes and risk patterns displayed by London Market end-clients, this research focused on the following objectives:

- A. Identify key trends affecting the risks end-clients of the London Market are exposed to
- B. Assess how well understood and managed these evolving and emerging risks are
- C. Identify where the London Market might be able to play a broader role in meeting client needs

APPROACH & METHODOLOGY

A phased approach was used to identify opportunities for the London Market to better meet client needs. In Phase 1, overall sector dynamics were analysed and a prioritisation framework was created to identify key client sectors for the London Market. In Phase 2 an in-depth interview programme was conducted to identify risk landscape shifts and their impact on London Market end-clients' risk management needs.

PHASE 1

- A. Analysis of sector dynamics
 - Categorise sectors according to risk management needs
 - Analyse sector scale and growth as proxies for potential losses if risks realised
 - Assess level of risk exposures by sector according to intrinsic sector characteristics
 - Identify trends, both long-term and Covid related, affecting level of risk exposures
- B. Prioritisation of opportunity sectors
 - Assess scale of risk management needs based on scale and growth of sector, and intrinsic risk exposures and trends

- Assess degree to which risk management needs are currently met (whether by insurance industry or other means) and degree to which the London Market may be able to play a broader role

PHASE 2

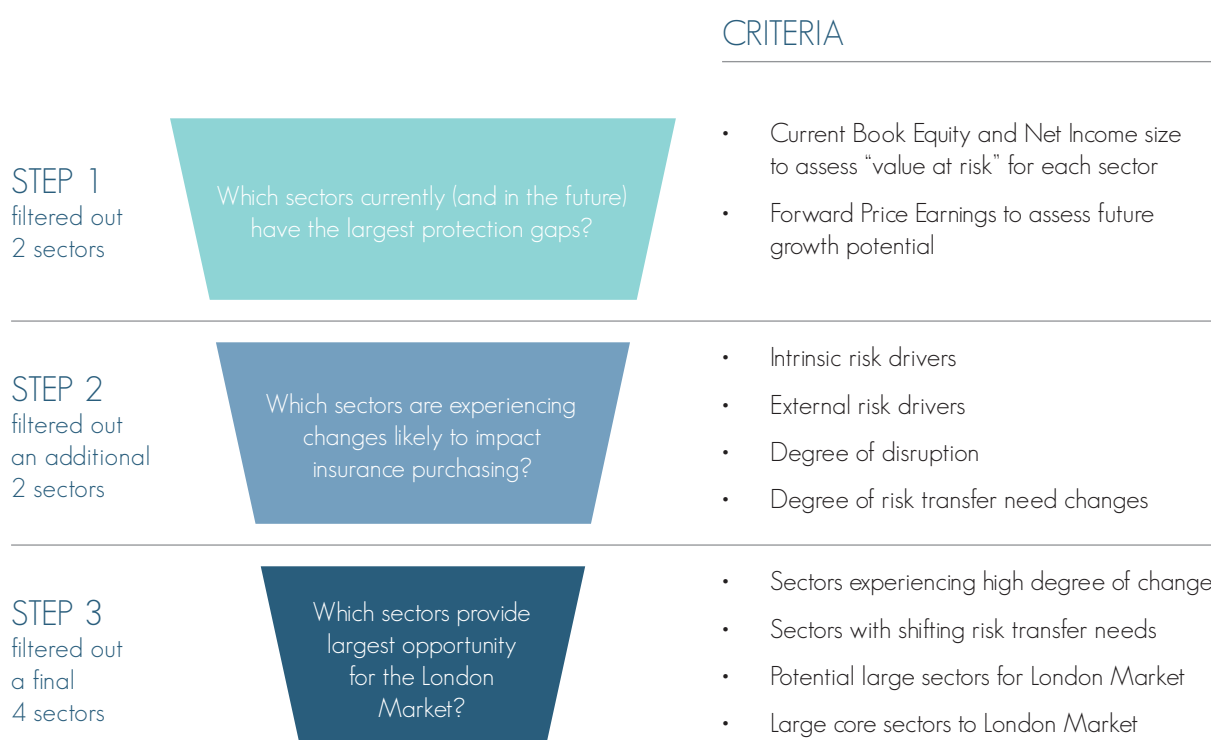
- C. Interview programme
 - Identify key risk landscape shifts and their implications based on interviews with clients, brokers and sector experts
 - Short-list most material risks and impacts for the London Market to either enhance current offers or create new offers
 - Stress-test and refine findings with London Market experts.





INDUSTRY PRIORITISATION

The industry prioritisation combined quantitative and qualitative elements: assessing potential value “at risk” combined with risk patterns for a broad spectrum of sectors and the dynamics that inform insurance purchasing.



OVERVIEW OF INTERVIEW PROGRAMME

A representative sample of core and target client segments was identified, including:

- London Market end-clients in North America, Europe and Asia
- Broad range of client sizes - from large multinationals and regional players to local SMEs
- Risk Management, operations and finance professionals were interviewed, ranging from general managers to C-level executives, and the managers of internal captives
- Selected industry experts and analysts

SECTORS

Information Technology	Energy & Utilities	Consumer & Retail	Financials
Transportation	Healthcare	Emerging Sectors	Public Entities
Communication Services	Capital Goods	Materials	Comm. & Prof. Services
Information Technology	Energy & Utilities	Consumer & Retail	Financials
Transportation	Healthcare	Emerging Sectors	Public Entities
Communication Services	Capital Goods	Materials	Comm. & Prof. Services
Information Technology	Energy & Utilities	Consumer & Retail	Financials
Transportation	Healthcare	Emerging Sectors	Public Entities
Communication Services	Capital Goods	Materials	Comm. & Prof. Services

Note: in white are sectors eliminated by each step in the filtering process; in grey are the sectors filtered on the previous step.

10
Clients in
Information
Technology

CLIENT PROFILES

- Global software platform providers
- Multinational device manufacturers
- Start-ups - VR, AI, Cloud

INTERVIEWEE PROFILES

- CRO
- Risk Managers
- Start-up founders

11
Clients in
Financial
Services

CLIENT PROFILES

- Global Banks
- Online payments processing companies
- Mobile banking / Start-ups

INTERVIEWEE PROFILES

- CRO / COO
- Risk Managers
- Start-up founders

10
Clients in
Consumer
& Retail

CLIENT PROFILES

- Multinational FMCGs
- Regional retailers
- E-commerce start-ups

INTERVIEWEE PROFILES

- CRO / CFO
- Risk Managers / Captive managers
- Start-up founders

14
Clients in
Energy
& Power

CLIENT PROFILES

- O&G multinationals
- Power distribution / Utilities companies
- Renewable producers (global and regional)

INTERVIEWEE PROFILES

- CRO / CFO
- Risk Managers / Captive managers
- Renewable VC / Start-up founders



FINDINGS BY INDUSTRY - INFORMATION TECHNOLOGY



"We build a lot of our AI on open source software. If there is a system glitch or vulnerability in the code, who is to blame for that?"

Head of Strategy and Risk of a large
Tech firm based in India

TECHNOLOGICAL CHANGE

The pace and scale of digital transformations across industries worldwide, the rapid advance of next generation technologies (such as AI, cloud computing, digital twins, augmented reality and virtual reality) and the introduction of 5G infrastructure all create significant growth opportunities for the Tech sector. However, closely related to this growth are increasing liabilities for malfunctions, outages, and pressures to guarantee performance. This is coupled with a growing concern regarding cyber security and system integrity, especially if the technology used is built on open source AI frameworks with no clear originator or author.

Furthermore, these new technologies are creating new risks. Deep fake imagery for instance can now be deployed for virtual ID fraud or be used for targeted attacks to bring a person or company into disrepute. AI systems are only as good as the input data and so small inconsistencies or biases get magnified to much greater scale. Once 5G allows for a broad roll-out of digital twins for corporate R&D, and VR and AR applications for consumers, there are likely to be teething problems leading to potential liabilities and product recalls. Lastly, these next-gen tech devices and wearables will be able to collect and process significantly more personal data than any of the devices we use today, increasing challenges related to data protection.

ECONOMIC CHANGE

Tech companies operating in the sharing economy or distributing their services with the help of gig-economy workers will need to find new protection frameworks to manage liabilities. For sharing economy businesses this relates specifically to the liabilities between borrower and lender, which can both be individual consumers, while gig-economy workers are increasingly being classed as employees and thus increasingly need access to new, flexible, benefit frameworks.

For many tech companies their Intellectual Property is often their most valuable asset. Clients interviewed in the tech sector stressed their desire to be able to use this intangible asset as collateral for a loan, rather than having to dilute their equity when raising capital for further expansion. So far, protections specifically designed for intangible assets are still uncommon and typically reserved for very large clients.

Furthermore, tech companies raised concerns about recent global protectionism measures, especially as their business models often heavily rely on sourcing talent across borders.

SOCIETAL CHANGE

Reputation was raised by all tech companies interviewed as a key concern. While large tech companies appear better equipped to monitor consumer sentiment, smaller businesses reported struggling to monitor the performance of their brand and reputation. The risk of consumer backlash, investor pressure and/or loss of key employees or business partners were deemed significant. Smaller tech companies were keen to find solutions that would protect their cash flow should a reputational incident occur.

Another risk that was highlighted was litigation. Interviewees highlighted a recent uptick in litigation from employees worldwide related to increased mental stress and working overtime in a remote setting as a result of the pandemic. In addition, companies stressed the risk of litigation from unintended consequences of AI applications (social biases or malfunctions due to unforeseen challenges that the system was not programmed to respond to).

CLIMATE CHANGE

Tech companies raised concerns about the impact of extreme weather conditions on their operations, especially the potential consequences of a breakdown in communications and technological infrastructure.

Furthermore, tech companies interviewed pointed at the pressure to review their own energy consumption levels (e.g. Bitcoin mining uses as much energy as the whole of Switzerland; Amazon Web Services is now responsible for nearly 2% of all electrical power consumption in the USA).



FINDINGS BY INDUSTRY- FINANCIAL SERVICES



When you close a lot of local branches, you need the technology to give your customers that same, or an even better experience than what they were previously used to."

Chief Risk Officer of a regional banking group in Europe

TECHNOLOGICAL CHANGE

Established financial institutions expressed concerns about their ability to keep up with the speed of innovation and change (e.g., digital payments, demand for omnichannel customer services, shift to fully digital customer journeys, and digital attacker models eroding profit margins for incumbents). As a result of increasing branch closures, regional hubs may act as regional flagships and brand ambassadors, shifting from being mere service outlets to providing a combined digital and physical customer experience to maintain a degree of closeness to customers.

A number of financial services firms also highlighted the risk of disruption potential from crypto-currencies, including Facebook's U.S.-Dollar backed stablecoin Diem, which could drive customers away from traditional cash and disintermediate the existing payment infrastructure.

ECONOMIC CHANGE

Banking clients interviewed reported difficulties in ascribing valuations to their customers' intangible assets. This is particularly challenging as the tech sector represents a fast growing and attractive market. Few of those customers were able to use their Intellectual Property as collateral for a loan. For tech clients this is constraining their ability to maximise balance sheet benefits, for lenders this is a bottleneck preventing access to a new debt market. As it stands, however, financial institutions are still hesitant to lend against these assets without special residual value protections and guarantees.

Given the scale of government borrowing in response to the global pandemic, financial institutions highlighted potential inflation risks for the global economy, citing the 2008 financial crisis as a continuing reminder of the importance of having systemic prudential and solvency controls in place.

SOCIETAL CHANGE:

From a reputational standpoint, financial services firms were acutely aware of growing risks due to consumers' concern about ethical conduct and investment strategies. Many lenders interviewed publicly emphasise their ESG credentials to consumers, which puts them at greater risk of reputational damage if

they under-perform against those targets. However, financial services firms still struggle to quantify their reputational value and monitor the performance of their reputation and brand.

Lenders further highlighted the need for cashflow support if a reputational crisis were to trigger a sudden revenue crunch. Smaller, digital lenders highlighted the risk of fake news on their operations, which, if targeted correctly could cause a run on the bank, exacerbated by the fact all their customers are directly connected to their accounts via apps.

Moreover, increasing exposure to U.S. jurisdiction is seen as a rising threat, enabling large class actions, regulatory fines, and settlements to claimants.

CLIMATE CHANGE

Financial institutions highlighted their difficulties in re-underwriting their loan portfolios to phase out high carbon emitting clients and redirect their asset management to hit ambitious ESG targets. More than half of global investors are currently implementing or evaluating ESG considerations in their investment strategy. There is a sense the goal posts keep moving, and staying ahead of regulatory and investor standards is perceived to be an ongoing challenge.

As for their own carbon footprints, interviewees raised concerns about how to exactly quantify climate change impacts associated with purchased goods and vehicles, product use, waste disposal, transportation, supply chain, distribution, and employee business travel.



FINDINGS BY INDUSTRY - CONSUMER & RETAIL



We've had over 100 years to learn how to build the perfect store, including all the corresponding infrastructure. Shifting to e-commerce is changing our entire operating model."

Director of Risk Management at a global consumer goods company in the USA

TECHNOLOGICAL CHANGE

Many interviewees, particularly from larger and more established companies, expressed concerns about the speed of innovation and change. In particular, they mentioned the rising demand for omnichannel customer services, the shift to fully digital customer journeys, and digital native businesses looking to compete in an environment where location advantage and existing logistics infrastructure are no longer key. As a result of shifting more trading activity online, cyber risk exposure has risen significantly.

On the flip side, the closure of more and more local branches is redefining the position of physical retail sites, which serve more as regional flagships for the brand (much like Apple stores), merging physical and digital customer experiences into one. As a result, the need to protect the physical and digital could become intertwined, and the sum insured of these premises will need to reflect both their tangible and intangible value.

For companies operating predominantly online, new supply chains are much more reliant on external partners who bring their own expertise in operating delivery services, centralised fully automated warehouse technology, digital platforms and management of ecosystem partners. Due to this fragmentation, the nature of retail clients' risk exposure changes too (e.g., problems with ecosystem partners, reputational impact from third-party affiliations in social media, increased complexity in managing incidents affecting delivery of goods and services).

ECONOMIC CHANGE

As a result of economic shifts, more companies are selling straight to consumers (D2C). Many of those companies, particularly a fast-growing segment of start-ups and scale-ups, rely on decentralised and networked business models to design, manufacture, and distribute their products. This exposes them to greater risk of business interruption caused by third-party failure or default. Resulting online downtime or interruption may not only cause a loss of revenue, but also negatively impact companies' algorithmically defined rankings on Google, Facebook, and Instagram which require a lot of effort to regain.

Consumer companies relying on gig-economy workers to distribute their products further stressed the need for flexible and easy-to-manage insurance offerings for their workers that can be switched on and off.

Looking at the current economic macro-climate, consumer and retail companies raised concerns about interruptions of global trade due to trade wars, protectionism, custom controls, and rising import duties.

SOCIETAL CHANGE

Consumer and retail companies alike reported difficulties with exactly quantifying their reputational value and how to monitor the performance of their reputation and brand in real time. The rising importance consumers place on ESG credentials is putting companies under increased scrutiny and pressure to perform against rising targets. The risk of a reputational incident could provoke consumer backlash, investors pulling out and/or key employees or business partners leaving the company. As a result, companies in this sector stressed the need for cashflow protections during a reputational crisis.

In addition to consumer buying behaviour, litigation is also on the rise further pressuring consumer and retail companies. Questions frequently raised were whether sugar is the "new tobacco", as well as concerns about plastic usage in products and packaging. The increasing reliance on digital distribution and marketing also means that any company is likely to directly or indirectly reach American consumers, exposing them to being subject to U.S. jurisdiction where damages for any successful claim are much higher, and the legal industry is much more invested in proactively finding openings for potential lawsuits. This extends not only to the company itself but also any third-party supplier or producer which the company will ultimately be held responsible for. Increasing litigation risk and augmented costs for due diligence of suppliers are thus of critical importance to this sector.

CLIMATE CHANGE

Several clients in the consumer and retail sector pointed to the increasing risk of extreme weather on their operations (e.g. broken supply chains, employees not able to work, critical damage to facilities). Furthermore, interviewees pointed out the importance of certifying their carbon footprint but reported difficulties in quantifying the exact climate change impacts associated with purchased goods and vehicles, product use, waste disposal, transportation, supply chain, distribution, and employee business travel.

Ultimately, the risk of being called out as no longer being an attractive investment target is driving many consumer and retail companies to rethink their ESG strategy. Especially as the goal post keeps moving up, staying ahead of public and investor standards is perceived to be an uphill battle.



FINDINGS BY INDUSTRY - ENERGY



The market wants a clean exit from decommissioning. In the North Sea alone there are roughly \$45-50B of asset liabilities that are still up for decommissioning."

MD of an oil exploration company based in Europe

TECHNOLOGICAL CHANGE

Due to the increasing connection of IT and OT (operational technology) various power and utility companies interviewed flagged critical vulnerabilities (e.g., national grid security) that digitisation exposes them to. Many clients interviewed highlighted that the increasing interconnectedness of their operations increases their risk of far-reaching business interruption, and potential physical and environmental damage.

Given the push underway to reconfigure the global mobility network, utility companies worldwide are making significant infrastructure investments to build out their grids in preparation for mass adoption of electric vehicles. The linked roll-out of Internet of Energy (IoE), to distribute and connect complementary energy sources based on optimal supply and demand matching algorithms, is opening them up to targeted cyber-attacks, potentially even by state actors

Looking forward, clients in the energy sector highlighted how the development of large-scale batteries and long-distance transfer of renewable energy would have the potential to dramatically change the energy market globally.

ECONOMIC CHANGE

IoE and distributed energy resources, that is the generation and storage of power by many decentralised producers feeding and using the energy grid rather than a single centralised plant, have the potential to systemically change the energy market. Hawaii is already successfully trialing this at scale and Tesla is heavily investing in its development, prompting a number of interviewees to highlight that it is thus only a matter of time until this technology and updated grid infrastructure will change the playing field for energy producers in developed economies worldwide.

SOCIETAL CHANGE

Fossil fuel energy companies interviewed highlighted the pressure of public scrutiny on their brand and reputation, as well as the resulting need to meet ever increasing ESG targets. They reported a change in the public response to incidents resulting from their operations which would have been deemed “normal” ten years ago but today would generate significant publicity. They pointed out that despite diminishing profit margins reputational risks now require ever more

investment to deal with operational incidents in an economic environment that is already challenging.

Moreover, they reported rising concerns about being held responsible for their carbon emissions and potential litigation in the U.S. that could lead to significant damages and litigation defence costs.

CLIMATE CHANGE

Clients in the energy sector expressed concerns about the implications of climate change for their operations as more severe weather conditions add additional stress to their infrastructure, much of which is approaching the end of its life.

For renewable energy projects, weather volatility is a key risk when it comes to project finance; a private equity fund focusing on renewable energy projects in Asia, highlighted that renewable projects need a high degree of energy production forecast certainty to gain sign-off. This is becoming increasingly difficult as weather patterns are becoming less predictable over a 20-year investment horizon. In addition, most clients in the energy and utilities sector interviewed stated that inherent volatilities related to renewable energy sources created pricing and budgeting challenges when operating these new sites. Therefore, renewable energy companies are looking for weather hedges or alternative financial vehicles to guarantee the performance of their assets across the project life-cycle to secure funding. New pricing hedge mechanisms could provide a way to help equilibrate this imbalance, to pool demand and purchasing power from renewable energy producers of fossil fuel energy during local production troughs.

Oil & Gas (O&G) clients described that the decommissioning of their fossil fuel platforms involves complex activities such as the removal of topside platforms. These activities must be handled carefully to minimise environmental risks, a lot of which are still unknown. Both government regulators and social activists are adding to the pressure to get this done quickly and safely. Significant future decommissioning activity exposes energy companies (or specialised decommissioning operators) to long-tail liabilities (e.g., environmental liabilities, contingency reserving) and mid-term operational challenges (e.g., monitoring of sites) creating a need for expert environmental risk management.

Conversely, the amount of renewable energy projects to be built over the next decade will require significant protection capacity to cover construction risks.

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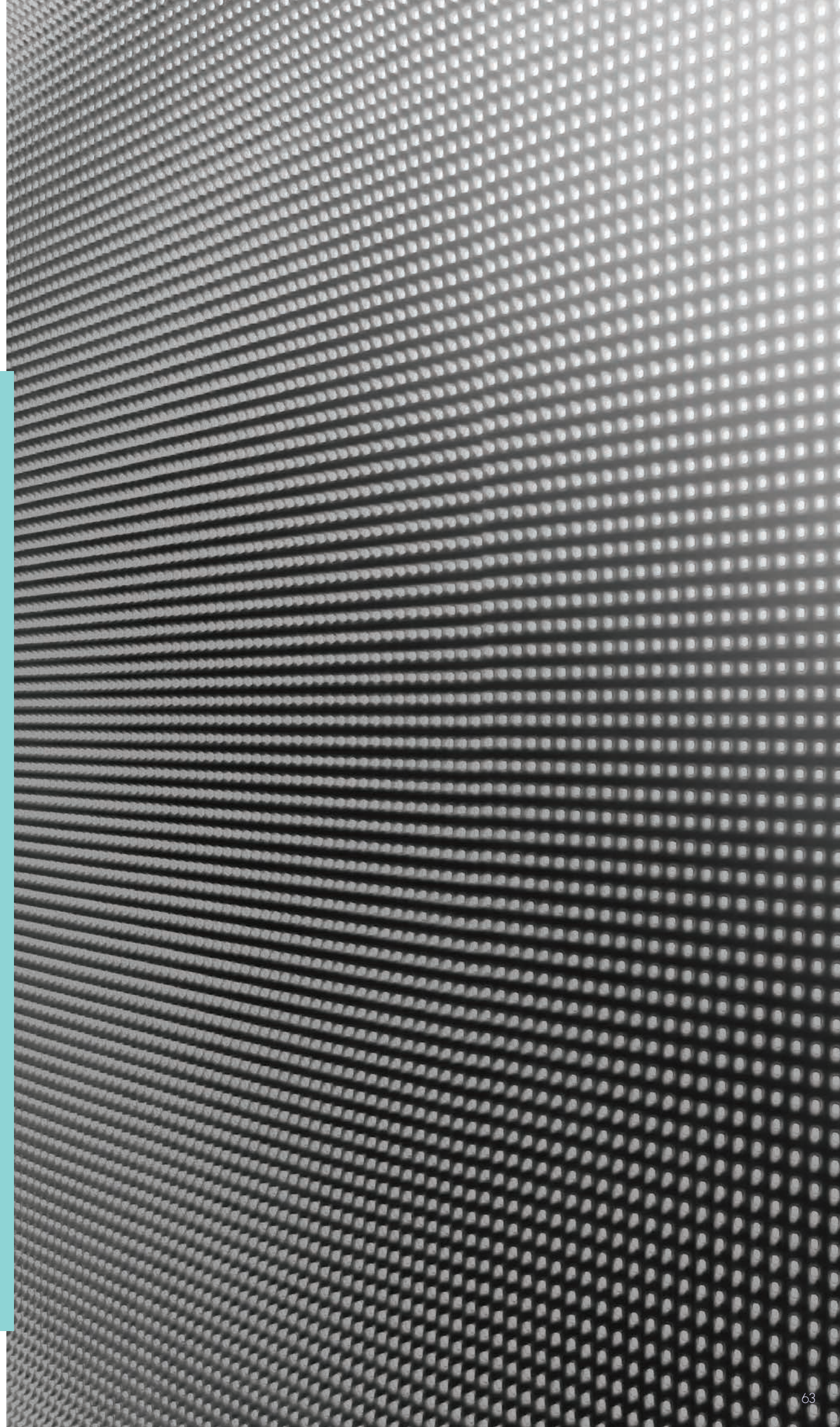
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Caroline, Sheila and Paul would welcome your comments, thoughts and feedback on the report.

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