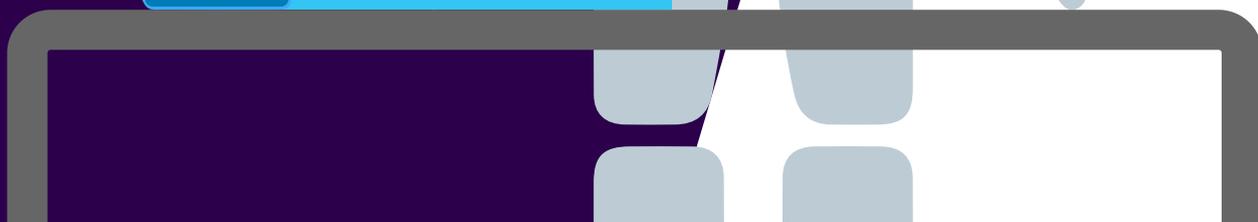
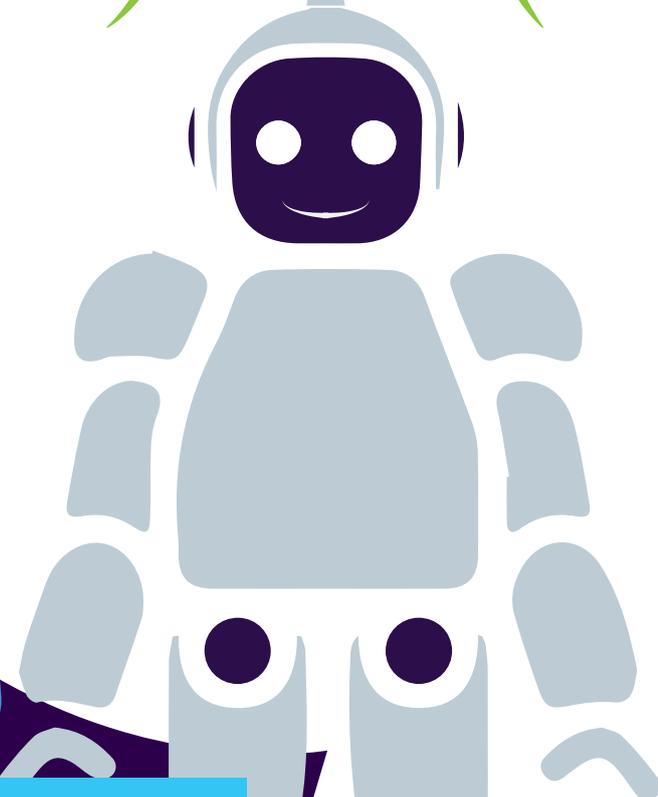


Role of Artificial Intelligence in Commercial Insurance Underwriting and Renewals



Introduction

The top 10 countries account for 73% of total premiums in commercial insurance. Does this guarantee growth for emerging economies in this segment? Most likely! These are the early years of insurance penetration and emerging economies do offer new opportunities for consistent improvement.¹

What is in store for 2018? Rate increases and stability. Important commercial P&C lines like auto, marine and property are expecting rate increases this year. The good news is, irrespective of the challenging pricing environment, commercial insurance in the US looks stable. Moving on from the negative outlook since 2011 and underwriting losses in 2017, this provides a huge sigh of relief.

Cyber insurance, being a specialty line, encounters more demand than supply. Underwriters have started offering discounted premiums to organizations, to boost cyber insurance uptake. These are specific organizations that implement high-level security and internal policy controls.

Companies have also started implementing tools that provide insight to business profitability, according to A.M. Best.² It is a boon that the pricing and underwriting infrastructure is continuously growing. This is the right time for organizations to assess their risk profiles for renewal.³

Growing opportunities amidst changing risk landscape

Commercial insurance has growing opportunities in the emerging risk landscape, where business interruption, damage to reputation, and cyber tops the most threatening business risks.⁴

A global survey of CEOs across industries reveals that from 2017 to 2018 the perceptions about enterprise risk has changed.⁵ Terrorism, cyber, and geopolitical uncertainty have moved up, while uncertain economic growth, exchange rate volatility, and changing consumer behavior have moved down the list of risks leaders are concerned about.

Pertaining to issuance, challenges in the commercial insurance sector include a large variety of covers, with non-standard policy wordings (incl. exclusions) over a wide array of industries and geographies. This implies a variation in types of processes and risks involved.⁶ A constant flux in the global business environment and regulatory landscape (for e.g. regulators across several Latin American countries are seeking insurers to stop investing in short-term debt securities and direct investment towards productive financial instruments for economic development) adds to the inherent complexity involved in commercial insurance underwriting.

In the era of diverse and constantly evolving risks, Artificial Intelligence (AI) in combination with deep learning, big data, analytics and other emerging technologies will help commercial insurers bolster their capabilities to streamline the underwriting process; identify and price risks in an efficient fashion and thus increase profitability.



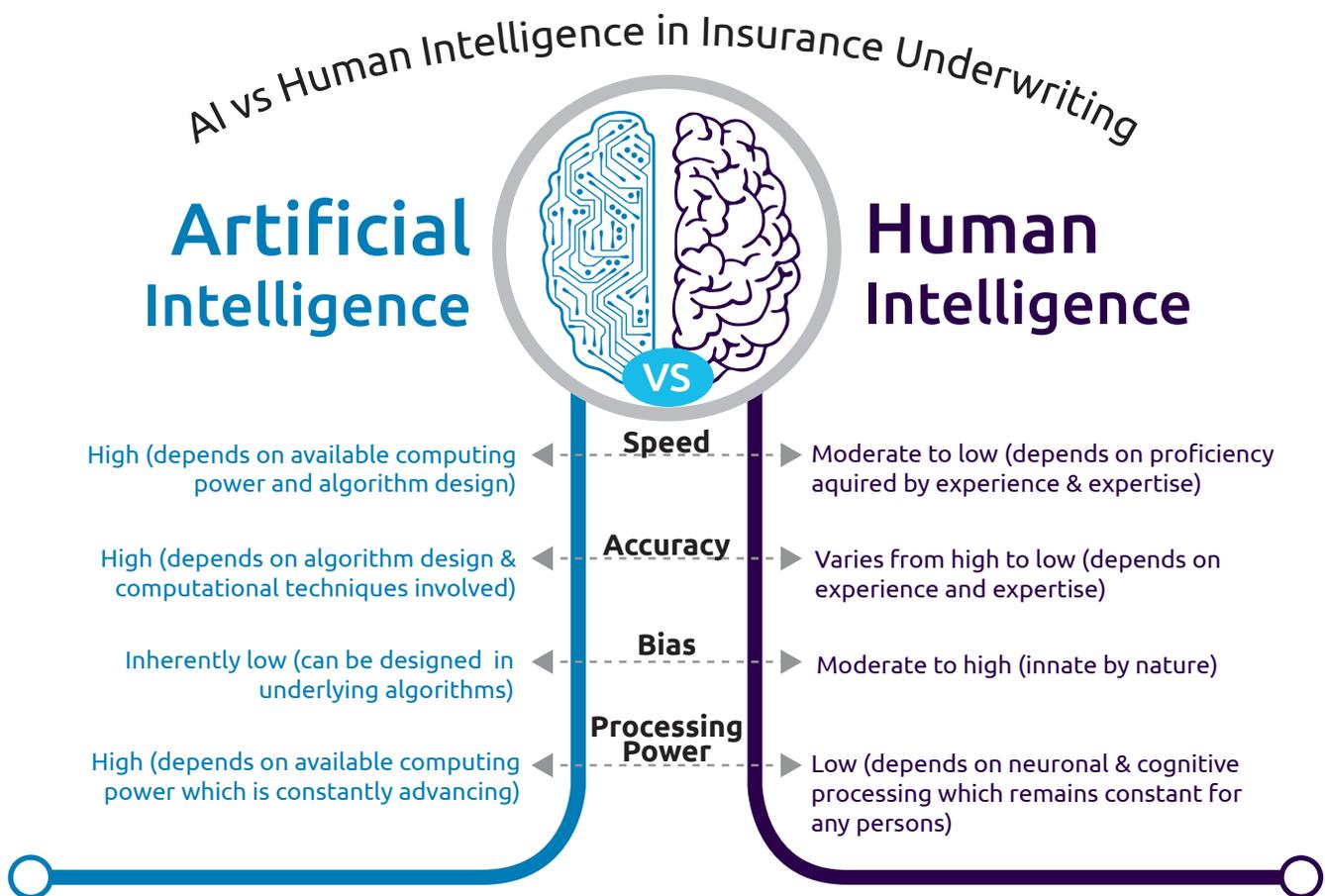
Now is the time for organizations to catalog the positive differentiators in their risk profile to set themselves apart from the pack."

Joseph C. Peiser
Head of Broking for Willis
Towers Watson North America

AI to reduce human involvement in underwriting

AI can aggregate data in various formats from different sources and do the necessary research based on pre-set identifiers and models. This reduces the human effort in analyzing large sets of data. An underwriter can then view the result AI generates and take informed decisions based on those inputs.

In the next phase, AI can become further self-reliant reducing the human involvement and perform underwriting tasks using learnings from previous tasks. Here, human involvement is limited to a gate keeper. AI can integrate overall profitability into underwriting decisions with its ability to focus on customer information individually, as a subset of a product, and as a subset of a particular group, historically. The result is that the overall customer relationship is kept in mind while performing each underwriting task.



AI and machine-learning to model risk exposures

Capabilities in underwriting and pricing are a very important differentiator for any insurer. They are also the most valued in terms of future technology investments. Although AI is currently in the pilot phase, opportunities in digital underwriting are strong. Majority of advanced technologies like predictive analytics, machine learning, big data, and Geographic Information System (GIS) have already delivered promising results for insurers. Insurers are currently focused on implementing AI in combination with these technologies to augment underwriting processes and enable consistency of profitable risk selection.

Companies like Artelligen creates powerful data-driven machine learning models to model risk exposures in real time.⁷ It is a technology and design consultancy that develops customized models to help insurers advance their machine learning capability in underwriting and pricing.

At present, predictive analytics is focused on pricing and in future, analytical models that provide business insights will gain importance. Similarly, the focus of big data deployments is poised to extend from location and geographic data to data from customer behavior, social media, public records, etc. GIS is currently used for geophysical data mapping, and with the right combination of technologies, this data can be leveraged in geospatial modeling for large-scale risk assessment in case of natural catastrophes. Insurers stand to gain from the automated reasoning ability of AI, which will significantly improve their underwriting capability. For example, Praedicat is the world's first 'liability cat' modeling company, which works on improving underwriting profitability through accurate modeling and management of casualty risk.⁸

Cognitive computing technologies like Natural Language Processing (NLP), visual recognition, and data mining can be leveraged to understand sentiment based on unstructured data in public domain, like social media, and thereby appraise risk and price premiums accurately.

AI's role in overcoming cyber threat

On an average, the cost of responding to an incident of cyber-attack is more than \$ 6 million.⁹ More and more companies are moving towards cloud-based Infrastructure-as-a-Service platforms for business-critical applications. With increasing sophistication of hackers, as witnessed by recent events, these companies might be more prone to direct

attacks in the future. Hence, it is imperative for organizations to understand the cyber risks specific to their business.

Considering the magnitude of damages caused by recent cyber events, companies can lose more than double of what they hope to get from a cyber cover. Experts opine that most big firms are yet to take suitable cyber risk management measures. Additionally, in the case of small businesses, the adoption rate of cyber insurance is only around 15 to 20%.¹⁰

Cyber threats evolve over time and the range of risk exposure is impossible for humans to fathom. A self-learning system powered by machine learning algorithms will be able to keep up with the changes, and probably outpace the evolution of attacks by predicting future threats and ensuring coverage for the same.

The traditional underwriting lens, which looks into historical data for evaluations, is inadequate when applied to cyber insurance as the available historical data is limited. Only advanced technologies like AI can postulate actionable next-steps in case of cyber insurance coverage features. AI can also work in tandem with cyber security professionals in calculating the long-term damages of a cyber-attack on an organization's intangible assets like reputation and goodwill.

Deeper understanding of risk profiles with AI and Big Data Analytics

AI and analytics tools widen the scope of data sources that underwriters can use for evaluations. These tools enable companies to find better correlation between factors affecting risks at a deeper level. This helps in improving underwriting profitability by selecting attractive risk profiles within broad segments, quoting favorable pricing, and improving loss ratio.¹¹



On an average, the cost of responding to an incident of cyber-attack is more than \$ 6 million."

Richard Brodsky
Miles & Stockbridge

For commercial carriers, big data analytics allows deeper visibility into risk profiles. Hence, companies can choose to assume or pass on the risk to competition. And, it also eliminates the need for expensive and time-consuming underwriting due-diligence processes.

AI can continuously collect new data as it becomes available and feed it into machine learning algorithms, thereby optimizing risk management and delivering accurate suggestions.

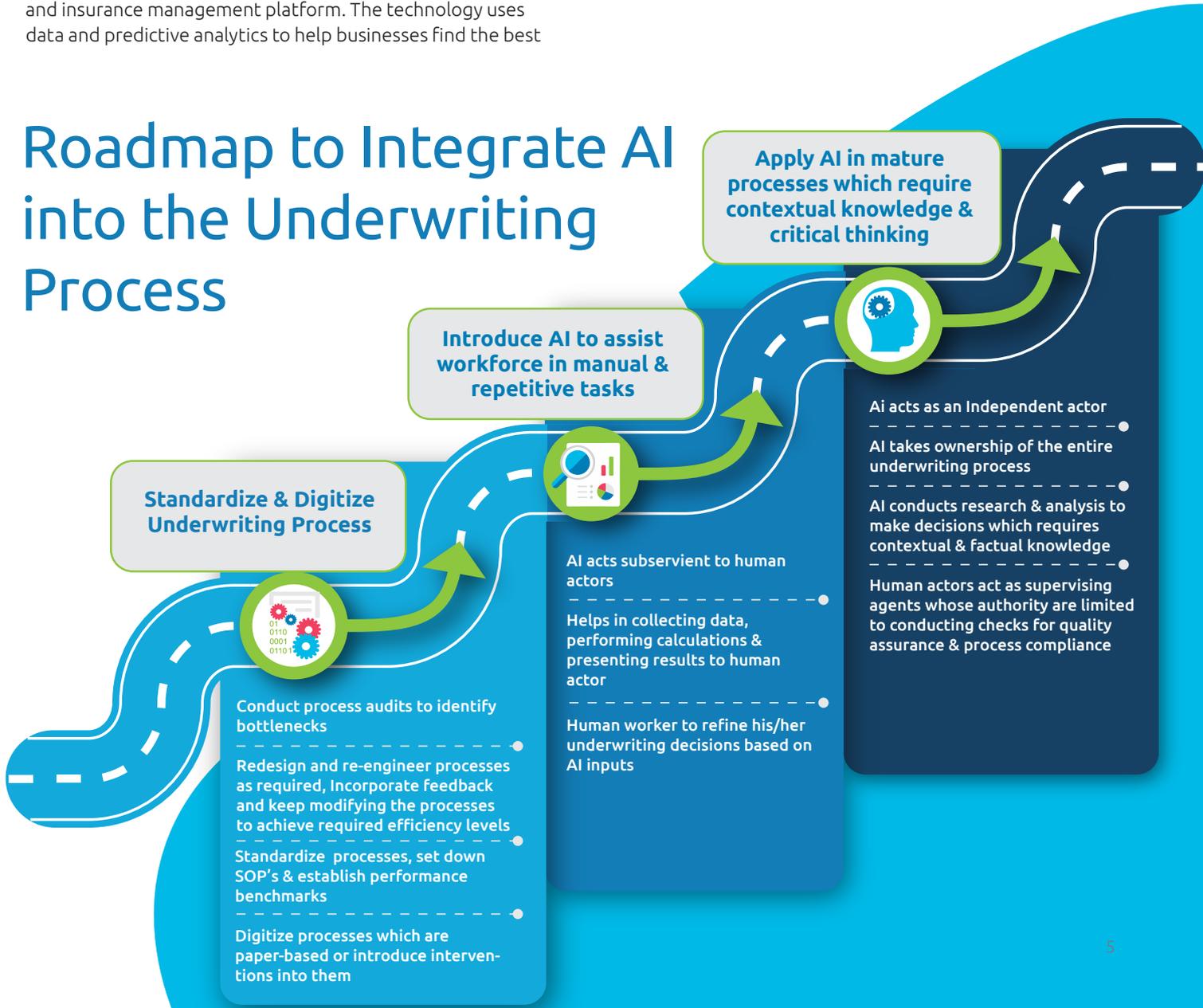
Automated underwriting, leveraging non-traditional data, to tackle unique risks

Most organizations do not adequately understand their insurance needs or do not wish to deal with the tedious process of finding the best policy. Companies like Embroker step in here by positioning themselves as automated brokers for commercial insurance.¹² Embroker is a cloud-based risk and insurance management platform. The technology uses data and predictive analytics to help businesses find the best

commercial insurance for their needs. The platform works like an automated broker.

Organizations have unique risks arising out of geopolitical uncertainty, cyber-attack, and critical equipment failure. Insurance companies can identify these risks and help businesses to have a continuity plan. However, without using tools to scale the intensities, it is difficult for underwriters to differentiate these vulnerabilities and understand the overall riskiness. Using AI, underwriters will no longer have to rely on speculations to determine appropriate premiums for such unique risks.

Roadmap to Integrate AI into the Underwriting Process

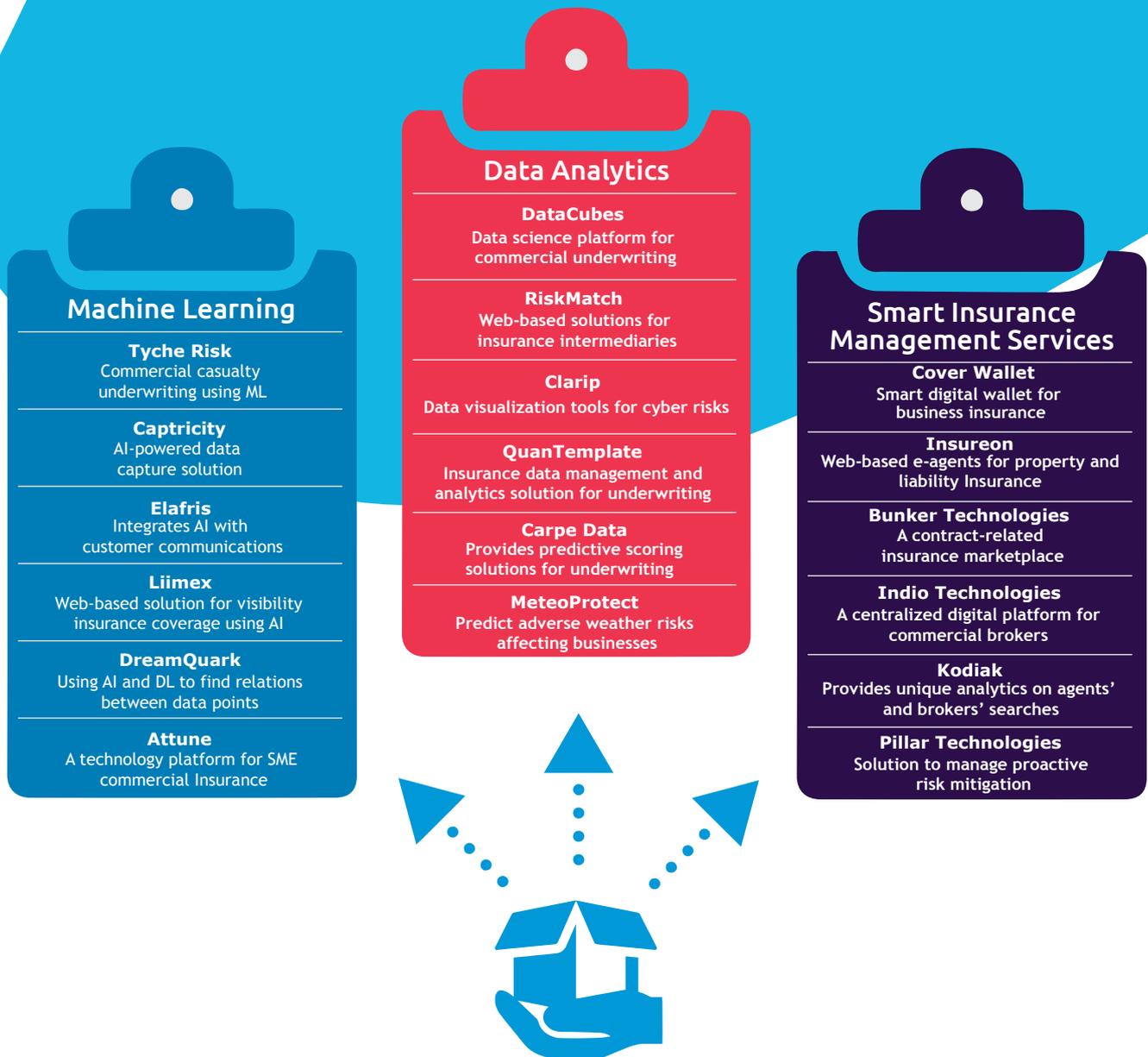


In commercial auto insurance, several non-traditional data points like miles driven and driving behavior affect insurance pricing. Commercial trucking in particular has been most impacted by rising insurance costs. For insurance companies underwriting trucking accounts, the results have not been good and many of them like Lexington and ProSight Specialty have exited this business.¹³ AI and predictive modelling can quantify a variety of factors into the rating process and create sophisticated underwriting scorecards. Using

these scorecards, commercial auto insurers can price premiums better and cut down underwriting expenses.

Globally, commercial insurance market is ripe for disruption. With underwriting and pricing being critical functions in the insurance value chain, insurers investing in the right technologies and leveraging their brand strengths inevitably gain a sustainable edge over competitors.

AI Powered Commercial Insurance Underwriting Enablers



Credits and Resources

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About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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