

# Reimagining risk:

how AI is transforming the way  
commercial insurance is written

The EY logo consists of the letters 'EY' in a bold, white, sans-serif font. A yellow diagonal bar is positioned behind the 'Y'.

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# EXECUTIVE SUMMARY



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Businesses face a broader range of risks and more severe threats than ever before, necessitating stronger risk management practices. However, many large and mid-market businesses lack the strong protections and innovative insurance solutions they need due in part to outdated risk assessment and pricing methods by commercial carriers.

Based on Ernst & Young LLP's engagement in the market, it's evident that generative artificial intelligence (GenAI) will revolutionize the future of commercial insurance, enabling more innovation; better collaboration among underwriters, product managers and actuaries; and stronger customer relationships. This technology allows for more accurate data analysis and the creation of customized solutions. Ultimately, that means carriers and producers can help bridge the large protection gap and unlock profitable growth opportunities.

Insurers must adapt quickly to reinvent critical roles within underwriting, actuarial and product management, a rapid evolution that's already underway. While the market forces that are driving profound change seem disruptive, they present unprecedented opportunity. This article will explore those opportunities; outline the impact of AI within underwriting, product management and actuarial functions; and recommend specific actions for producers and carriers.

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The unique and complex nature of risks for large and mid-market companies has made rules-based automation a poor fit for commercial underwriting. When assessing and pricing risks, underwriters typically review large volumes of documents and data sources – a time-consuming and error-prone process that often leads to carriers losing out on opportunities due to slow response times.

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## How AI will drive collaboration with producers, product managers and pricing actuaries

The ecosystem of roles that interacts most closely with underwriting will also change significantly in the age of AI. All of these roles have traditionally worked in their own silos; in the future, they will work together more often, more collaboratively and more efficiently in pursuit of common goals.

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Underwriters will act as AI experts and skilled prompt engineers, with deep knowledge of how large language models (LLMs) function and how AI works within different contexts. The ability to review and interpret data analysis and AI-generated insights will be a core competency.

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Carriers ready to embrace the AI-fueled future can act on multiple fronts.



# 01

## The future starts now:

how AI is changing day-to-day

The unique and complex nature of risks for large and mid-market companies has made rules-based automation a poor fit for commercial underwriting. When assessing and pricing risks, underwriters typically review large volumes of documents and data sources – a time-consuming and error-prone process that often leads to carriers losing out on opportunities due to slow response times.

GenAI offers commercial insurers the opportunity to transform legacy underwriting operations at a rapid pace and large scale. The application of business rules and predictive analytics enable automation of many standard tasks, starting with ingesting and summarizing submissions. Predictive, intelligent software can scan for missing data, issue requests to producers for more information and extract information from existing documents. These tools can assess whether submissions fit within a carrier's risk appetite; if so, additional predictive analytics can be applied to determine the likelihood of purchase by the prospect and producer. Submissions that score favorably on the propensity to bind are automatically assigned, prioritized and routed to underwriters with the right expertise, skill set, capacity and producer relationships to close the deal.

In pricing and portfolio management, GenAI and cognitive analysis can evaluate and price risks within the broader context of an overall book of business. By using GenAI to analyze existing business, underwriters gain insights on overall book profitability, which may prompt reviews of business that is not aligned with profitability goals or other strategic objectives.

### GenAI helps commercial insurers to:

- ▶ Eliminate manual, low-value tasks
- ▶ Raise detailed questions to refine understanding of risk
- ▶ Highlight the highest risk and concern areas
- ▶ Advise on rating/pricing based on risks with similar features, compared with the propensity to bind for similar risks
- ▶ Draft communications for producers
- ▶ Track communications and provide guidance on next actions to complete sale
- ▶ Streamline knowledge management

The combination of AI-driven workflows and human expertise is well suited to drive value, increase productivity and improve underwriting performance. The market is already witnessing exciting innovations, with carriers piloting various GenAI use cases. One insurer created an application that reduced new business submission processing time from half a day to 10 minutes for commercial lines, demonstrating that dramatic efficiency gains are well within reach.

# 02

## How AI will drive collaboration with producers, product managers and pricing actuaries

The ecosystem of roles that interacts most closely with underwriting will also change significantly in the age of AI. All of these roles have traditionally worked in their own silos; in the future, they will work together more often, more collaboratively and more efficiently in pursuit of common goals.

**Producers and underwriters** will communicate and exchange information differently as GenAI tools generate draft communications to clarify appetite, request missing information and support more rapid response times in handling submissions. Eliminating some of today's most time-consuming (and error-prone) administrative activities will create space for underwriters to focus on higher-value actions. Two-way communications and proactive engagement with carriers regarding client needs will make it easier to do business. And when producers deliver large, complex submissions, underwriters can invest the appropriate time in carefully assessing whether they can be written profitably.

**Product managers** will incorporate AI and predictive analytics against a larger set of curated internal and external data to observe product performance and market trends in near real time. Advanced data and analytical tools will arm product managers with insights for more productive collaborations with underwriters and actuaries, creating new possibilities to continually refine product offerings for both mass and niche market needs. With more companies looking for

customized coverages for their unique portfolio of risks, product managers will play a key role in developing customized offerings. Such customization will soon become an industry baseline, as evidenced by the rapid growth of bespoke solutions in the specialty market.

**Pricing actuaries** will see a renewed emphasis on data science and predictive analytics, buttressed by more powerful tools and richer data sets. Traditionally, pricing actuaries have focused on data analysis to establish the correct rates and rating factors in service of profitable growth. Though the focus on statistics and modeling won't change, the availability of larger, more diverse data sets and increased computing power to analyze that data will transform the role.

To improve underwriting profitability, carriers will deploy more refined models for specific regions and natural catastrophes, and monitor overall portfolio exposures (e.g., geographic, additional properties). This will allow actuaries to help meet the greater demand for product customization and specialization with increased speed and with greater confidence that rates are accurate.



### Specifically, actuaries will use AI to:

- ▶ Create and manage models to produce insights easily and efficiently
- ▶ Create more comprehensive notional data sets
- ▶ Enable the comparison of rating algorithms for rapid adjustments to pricing

# 03

## The view from 2030:

### redefining the role and skill sets of commercial insurance underwriters



Underwriters will act as AI experts and skilled prompt engineers, with deep knowledge of how large language models (LLMs) function and how AI works within different contexts. The ability to review and interpret data analysis and AI-generated insights will be a core competency.

Humans will need to know when to follow AI-generated directives and when to override them, when to seek more information and when to defer to the bots. AI outputs won't just be another consideration for underwriters; in some cases, directives will be quite prescriptive. For instance, they will quantify the historical performance of risk types (e.g., loss rates and amounts) within the book of business and prompt underwriters to gather more data or raise specific questions. AI and other predictive tools will help support underwriters in their role as they will also function as ethicists and governance specialists.

Commercial underwriting organizations in the future will feature new roles, including:

**AI underwriting lead/champions:** senior leaders with strong underwriting credentials who:

- ▶ Engage with the enterprise AI council or committee
- ▶ Own AI governance and oversight for underwriting use cases and ensure alignment with business strategy and objectives
- ▶ Secure and allocate resources for AI projects (including budget, personnel and technology)
- ▶ Define and report on metrics to measure the success of AI adoption in underwriting

**AI underwriting specialists:** initial adopters with strong technology knowledge who:

- ▶ Design, test and validate AI use and train LLMs
- ▶ Ensure the quality and relevance of data used for AI models
- ▶ Study and explain AI model predictions and decisions
- ▶ Track regulatory requirements related to AI in underwriting and monitor for compliance



**Underwriting AI risk lead/champions:** early AI adopters and advocates who:

- ▶ Engage with IT to identify and eliminate bias and promote ethical and fair usage
- ▶ Ensure underwriting use cases are covered by existing risk assessment frameworks
- ▶ Report into the overall governance body and AI risk team
- ▶ Oversee ongoing validation and testing of AI models

**AI underwriting tech specialists:** liaisons between underwriting, IT and other departments who:

- ▶ Support the implementation of AI solutions and ongoing upgrades to technologies and methodologies
- ▶ Ensure AI systems integrate seamlessly with existing IT infrastructure
- ▶ Confirm that sensitive data is protected and stays private in AI applications

**Staff underwriters:** front-line workers who:

- ▶ Operate in AI-enabled workflows and use AI tools in their daily jobs
- ▶ Receive training and support for full adoption of AI tools and workflows
- ▶ Ensure that underwriting processes accommodate AI-driven insights

# 04

## Getting started on the journey

Carriers ready to embrace the AI-fueled future can act on multiple fronts.



### 1 Set the right strategic course

Success starts with a clear vision that defines the business objectives for transformation. Is the priority to differentiate via product innovation or by offering richer service propositions to producers? What is the primary benefit of increased efficiency - lower cost of sales or increased focus on value-adding activities?

The answer to these questions will form the heart of the business case and help establish attainable goals, guiding principles and metrics for success. A clear vision will also shape tactical priorities, including use case development, process redesign and automation, and the modification of job descriptions based on the elimination of manual tasks.

While an inspiring vision can be a rallying point for the organization, senior leadership should

be transparent about why and how the business will adopt GenAI to build consensus and support across all parts of the organization. Internal stakeholders also play a critical role in assessing organizational readiness and defining the metrics to assess the organization's AI maturity levels.

Such coordination and leadership are also important to establishing strong and comprehensive governance models that support AI deployments across the business. Given the broad-based impact of AI, there must be alignment between business and functional leaders (including underwriting and IT) on the strategy, vision and roadmap, as well as near-term implementation priorities. Early adopters have shortened the path to successful deployments by launching proofs of concepts and pilots designed to capture key learnings, build momentum through quick wins, and establish agile, test-and-learn capabilities for further development.

Insurers

**69%**  
of insurers are prioritizing use cases to transform a specific part of the value chain, such as underwriting and distribution.

Source: EY-Parthenon research

## 2 Prepare the talent and culture

Despite the increasing prominence of advanced technology, talent acquisition and retention will be the hallmark of tomorrow's most effective product, actuarial and underwriting operations. Competitive compensation, career development opportunities and innovative yet apprentice mindsets are all variables in the formula to attract and retain the right talent.

Many carriers are experiencing significant talent shortages because of widespread retirements and retention challenges. Even without GenAI and advanced analytics, carriers would need to aggressively expand their hiring efforts and enhance their employee value proposition. Capturing institutional knowledge from retiring senior workers and transferring it to a rising generation will be a critical task.



GenAI will be a powerful training and coaching tool, building on the traditional apprenticeship model to accelerate learning and development through scenario modeling, risk assessment simulations, real-time feedback and personalized training modules. Indeed, some leading carriers are already using AI and related technology to train their employees.

Since underwriting, product and actuarial sit at the heart of insurers' operations, they can't be successfully transformed without addressing the overall organizational culture. Change management efforts should be designed to promote more collaboration across functional boundaries. Leaders must emphasize innovation, the importance of test-and-learn experimentation, and more agile and adaptable work styles. They must also find ways to maintain employee engagement and morale as more AI tools are deployed, and they must transparently address fears that jobs will be lost. Organizations that demonstrate leadership in the innovative, ethical and transparent use of GenAI may become more attractive to top talent.



## 3 Build the technology foundation

To make the most of GenAI, carriers will need to prepare or upgrade their technology infrastructure. The goal must be to create an environment that can support the vision of real-time underwriting. The days of refreshing reports every two weeks to make decisions are gone, replaced with enhanced workflows, stream processing technologies and event-driven architectures. These modernized capabilities require new infrastructure and core systems, as well as GenAI platforms and tools.

- ▶ **Data infrastructure and management:** A comprehensive data strategy, including clear data definitions to support data quality, is critical to training GenAI models effectively. All data sources used to enhance existing models must be identified. Data visualization will allow underwriters to view and conduct drill-down analysis at the account, and portfolio, and individual risk level; this will allow the underwriter to gain valuable insights for more informed and confident decision-making. Increased ease of access to data for actuaries and product managers will allow for more extensive and granular "what-if" analyses and quicker insight generation. Storage must support large volumes of structured and unstructured data. Infrastructures designed for scalability will help handle varying workloads and the addition of more GenAI applications.
- ▶ **External platforms and ecosystems:** A modular infrastructure to support smart, seamless and secure connectivity with third parties or ecosystem partners will be critical. Flexible integration models will require sophisticated use of application programming interfaces (APIs) and microservices to facilitate seamless and secure data exchange. The role of third parties in executing AI strategies will influence decisions about AI platforms (e.g., open-source vs. closed-source code, API-driven or hosted). Rapid information sharing between carriers, data vendors and partners in support of AI models will have a large impact on the producer experience by delivering faster decisions and richer insights.
- ▶ **Underwriting workbenches:** Underpinned with GenAI, underwriting workbenches can supercharge the underwriting process, providing underwriters with a single-pane view and offering breakthrough gains in efficiency.
- ▶ **IT operations:** Changes will be necessary as the use of GenAI, machine learning and continuous data and model management become standard operating practices. New processes and accelerators will be adopted in support of model management, version controls and continuous training. Evolved and mature Dev Ops processes need to be established as multiple functions - risk, compliance, legal, actuarial - will be using the same LLMs and data within AI-enabled workflows.



## 4 Solve for compliance and security

In the age of AI, the regulatory stakes continue to rise with authorities seeking stronger safeguards for customer data. Beyond tracking data flows, governance and oversight models must track and audit what has been automated and what needs to be evaluated or actioned by humans. AI will help enhance these monitoring tools and processes. Governance principles can also be embedded directly into AI algorithms and workflows to help protect against data leaks, breaches and cyber threats.

The ethical use of AI is paramount. Clear policies and governance models provide only the foundation for responsible use of AI. Executives should continually reinforce the importance of unbiased outcomes and ethical decision-making; they can encourage workers to report any concerns that models might be deviating from those objectives. In that sense, governance is as much a cultural matter as it is a technological or data management issue.



# THE BOTTOM LINE:

the future of commercial  
insurance is here

GenAI, already scaling in the consumer space, will drive considerable transformation, and the commercial insurance industry has an opportunity to be an early mover at implementing use cases that positively impact the bottom line. Leaders must define an effective strategy and invest wisely to increase efficiencies, improve both employer and customer experience, and maximize value. Starting with the underwriting, product management and actuarial functions, the heart of insurance operations, commercial carriers will enable those results. Though the effort and investment required will be significant, the potential value unlocked will more than justify the effort. With technology advancing faster than it ever has, the time for insurers to act with speed is now.



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