Deloitte.

Scaling model risk management to facilitate responsible growth leveraging advanced technology

EMEA Model Risk Management Survey

2025

Contents

Foreword

On behalf of Deloitte, we are pleased to present the latest edition of the EMEA Model Risk Management Survey. This report draws on the valuable contributions of 49 insurance companies across Europe and South Africa, providing a detailed view of current model risk management practices and challenges.

At Deloitte, our mission is to support clients in scaling their model risk management to facilitate responsible growth. Models—whether directly or indirectly—play a crucial role in informing key decisions within insurers that affect customers and society at large. As these models become more deeply embedded in business operations, ensuring their appropriate use is essential to building organisational resilience and sustaining long-term success.

Insurers with a mature model risk management framework can deliver comprehensive insights across the entire model landscape, enabling teams to raise awareness and mitigate risks throughout the model lifecycle. This enables management functions to implement effective safeguards, support better decision-making and enable sustainable outcomes for customers.

Reflecting on the survey findings, we see that the adoption of AI and other advanced technologies continues to accelerate. Insurers are increasingly leveraging these innovations to enhance their modelling capabilities, even as they navigate the new complexities and risks that come with them. This trend highlights the critical need for robust governance and risk controls, particularly in relation to emerging technologies.

Sustainability considerations are remaining to be prominent, with ESG models playing a large role in decision-making processes. This development underscores how responsible business practices are being woven more deeply into insurance companies' strategies.

While maintaining a comprehensive model inventory remains a foundational element of model risk management, fewer insurers now name model identification and discovery as a top challenge. This suggests meaningful progress in this area and a shift in focus towards optimising the model risk framework in other areas.

In line with this evolving focus, we observe a growing preference for in-house developed tools. Insurance companies are increasingly seeking customised solutions that better align with their unique risk profiles and operational needs. This shift supports greater control and agility. This is essential for institutions to scale model risk management capabilities to meet the demands of a rapidly changing environment.

We have highlighted only a few of the key trends shaping model risk management today, but they only scratch the surface of what this year's survey reveals. We invite you to explore the results in the full report, so you can uncover the findings that can best inform you in how to scale your model risk management effectively, leveraging advanced technology to drive responsible growth in an increasingly complex environment.

Koen Dessens

Partner

Model Risk Management lead

North and South Europe

Tom Clifford

Partner

Trustworthy AI lead

North and South Europe

Viki Styrbæk

Partner

Model Risk Management lead

Nordics

Executive Summary

This report presents findings from Deloitte's 2025 EMEA Model Risk Management (MRM) Survey, conducted between July and September 2025, covering 49 insurers across Europe and South Africa. The survey examines the current state and evolution of MRM across four key themes: model landscape and inventory, technology and tooling, governance, and artificial intelligence (AI) and machine learning (ML). While MRM practices continue to mature, important gaps and urgent priorities remain as insurers expand model usage and leverage advanced technology.

The 2025 EMEA MRM Survey highlights the ongoing evolution and strengthening of MRM practices across EMEA insurers. There is clear progress in model inventory management, tooling adoption, governance frameworks, and AI/ML integration. However, insurance companies must continue to address emerging risks and invest in capabilities to manage increasingly complex modelling environments effectively.

Model landscape and inventory

The model inventory remains the cornerstone of effective MRM, serving as the central repository for all model-related information. Insurers are broadening their MRM scope beyond regulatory models to include Pillar 2 models, compliance, ESG, cyber, HR, and marketing models.

A bit less than half of the surveyed insurers indicated that they have a model inventory, but three-quarters of them include at least insurance risk models and market risk models in the model inventory.

The number of models varies by insurer size, with small insurers averaging 18 models, medium insurers 108, and large insurers 188. The survey results show that for insurance companies, regardless of size, the number of models are still changing and have not stabilised since 2023, indicating further need for maturity in inventory management.

Technology and tooling

Effective MRM frameworks increasingly rely on integrated tooling platforms that combine inventory management, documentation, lifecycle workflows, analytics, and reporting. **There is a clear shift away from unmanaged spreadsheets towards more structured tooling**, with in-house solutions rising sharply to 31% in 2025, up from 18% in 2023. Despite this progress, 35% of all participating insurers do not use a tool at all. Unchanged from 2023, still around half of small insurers indicate they do not use tooling for model risk management at all.

Investment in more capable tooling is a priority to enable scalable monitoring and reduce manual effort, though cost and return considerations influence decisions.

"There is a clear shift away from unmanaged spreadsheets towards more structured tooling"

Executive Summary

Governance

Strong governance across the model lifecycle remains critical to effective MRM. Three out of four insurers have appointed model owner for at least 75% of their models, a decrease of 4%-points compared to 2023. Similarly, only 63% defining clear model owner roles, down from 74%. **The separation of model owner and developer roles is needed to support better business knowledge and more effective model use.**

For around 80% of the large insurers have a defined risk appetite for model risk, while this number is only 30% for small insurers.

Compared to 2023, insurance companies identify fewer challenges in getting model ownership adopted. This is most evident by people in the organisation feeling more and more responsibility for the entire model.

Regulatory requirements continue to expand geographically and in scope, driving insurance companies to invest in closing gaps and enhancing MRM capabilities.

Artificial intelligence and machine learning

Adoption of AI and ML modelling techniques continues to grow, especially among larger insurers. 57% percent of insurers use AI/ML models, up from 53% in 2023, with 73% of large insurers adopting these techniques compared to less than half of small insurers. Awareness of the EU AI Act has significantly increased, with only 14% of insurers not yet analysing its impact, down from 44% in 2023. Most insurers expect limited to moderate updates to their MRM frameworks, though few anticipate significant changes.

AI/ML is most commonly applied in anti-money laundering, and customer experience and marketing models, with growing use of generative AI and large language models. **Policy coverage for generative AI has improved dramatically, with only 15% of insurers lacking policies compared to 43% in 2023.**

The top challenges include transparency and explainability, robustness and reliability, and skills shortages. Although challenges have lessened since 2023, AI/ML requires adaptation across all model lifecycle phases. Around two thirds of insurers have developed additional MRM processes for AI/ML, a significant increase from 40% in 2023, yet only 15% consider their frameworks fully adequate for AI/ML governance.

Around half of the insurers include AI/ML models within their MRM frameworks; 43% maintain distinct AI/ML model definitions, and 43% flag AI/ML models in inventories. Validation challenges focus on model complexity, regulatory and compliance risks and data quality and availability.

"Adoption of AI/ML modelling techniques has continued to grow compared to 2023"

About the survey

This report presents findings from Deloitte's assessment of model risk management practices. The survey is based on information gathered from 49 insurers (a significant increase from 34 participants in 2023) in Europe, the Middle East and South Africa and was conducted from July to September 2025. In the survey small insurers are approx. half the population and for the rest, a roughly even split between large and medium insurers is observed; with the majority being in Europe.

Figure 1. Percentages of insurers in each of three size categories. Small insurers with a balance sheet total of less than EUR 30 billion, medium insurers between EUR 30 and 100 billion and large insurers with more than EUR 100 billion.

- EMEA Small insurers
- EMEA Medium insurers
- EMEA Large insurers

22%
49%
29%
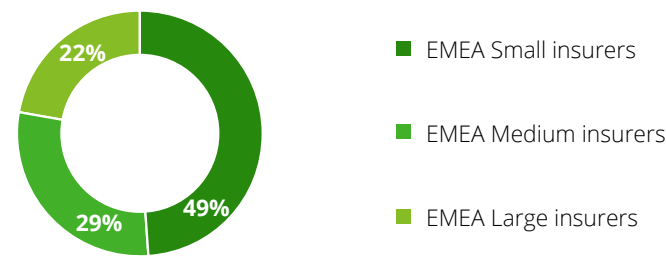
Figure 2. The survey included a mix of insurance companies from nine countries with the majority (98%) being in Europe

- Europe
- United Kingdom
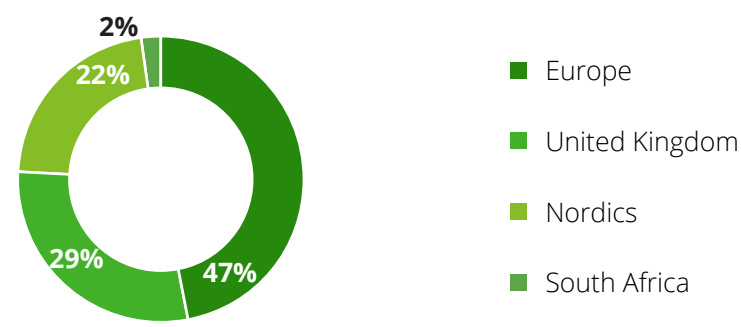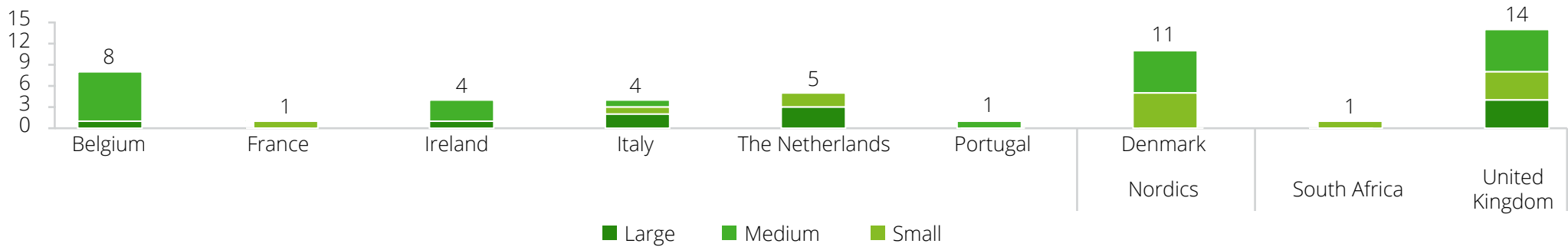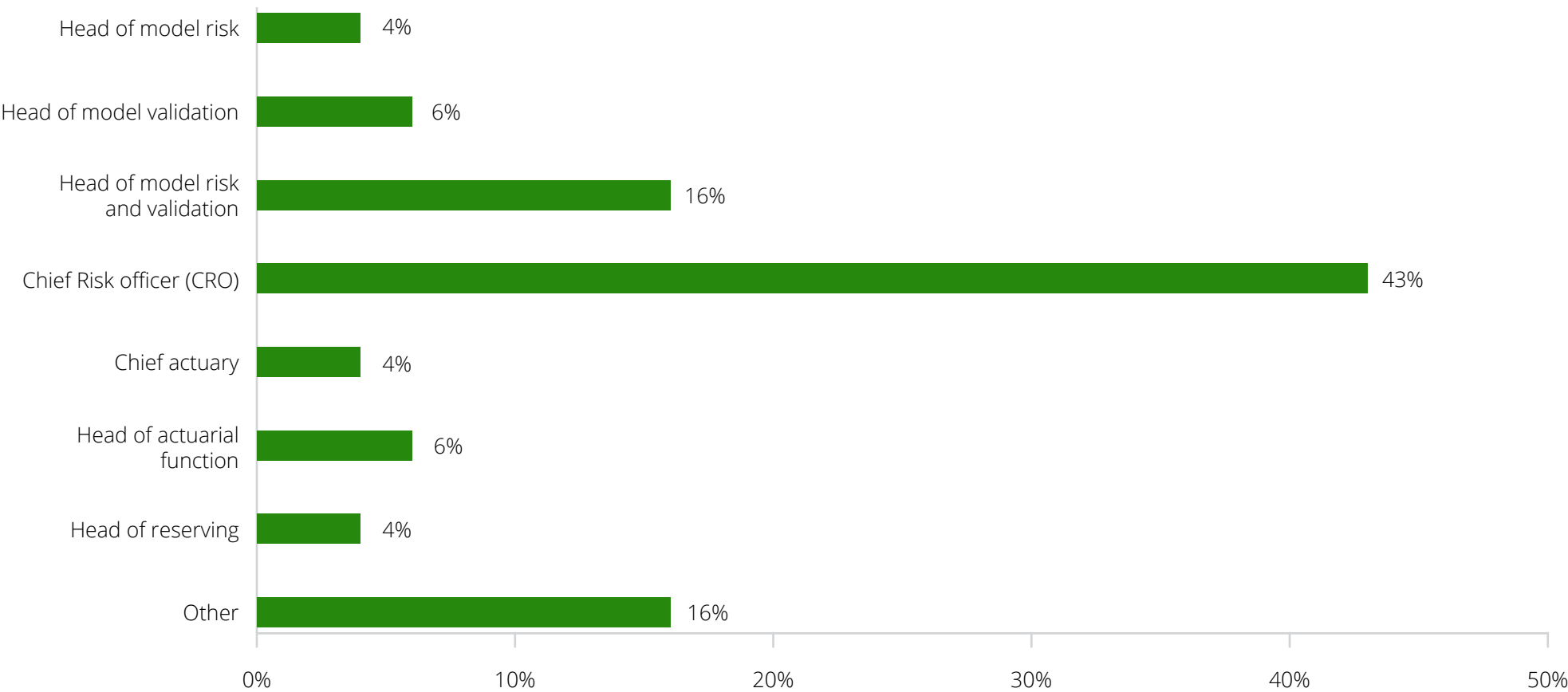- Nordics
- South Africa

2%
22%
47%
29%

Figure 3. Number of insurers in each countries

	Belgium	France	Ireland	Italy	The Netherlands	Portugal	Denmark / Nordics	South Africa	United Kingdom
Count	8	1	4	4	5	1	11	1	14

- Large
- Medium
- Small

About the survey

The survey was completed by a variety of persons in the participating insurers. In 43% of cases, it was the CRO, a further increase from 2023, where 32% of the answers came from CROs.

Figure 4. Role within the insurance company of the participant that completed the survey

Role	Percentage
Head of model risk	4%
Head of model validation	6%
Head of model risk and validation	16%
Chief Risk officer (CRO)	43%
Chief actuary	4%
Head of actuarial function	6%
Head of reserving	4%
Other	16%

Model landscape and inventory

Model landscape and inventory

The model inventory is the central repository for model-related information and the foundation for efficient model risk management. It sets the scope for model risk management, but it is also the source for the vast majority of information about model risk. In general, the larger the size of the company, the more mature the model risk management framework.

Definition of model

Of all insurers, 59% have an organisation-wide model definition. Of these, 48% of the respondents indicated that their model definition is based on a regulatory definition, while 52% of the respondents indicated they developed an in-house model definition.

The model definitions, regardless of their regulatory or in-house type, have key statements in common. In most definitions, at least part of the SR 11-7 model definition is used: "a model is a quantitative method, system, or approach that applies statistical, artificial intelligence, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates".

Model inventory

The model inventory is the central repository for all models. It is the foundation for efficient model risk management. It contains the scope for model risk management, but it is also the source for all information about model risk. This includes for instance information about the position of the model in the model lifecycle, information about the quality of the model such as validation results, and the overall model risk appetite statement of the insurance company.

Model risk policy

61% of the insurers answered "yes" to the question of whether there is an existing model risk policy in their organisation. This model risk policy specifies, amongst others, the processes, standards, governance, roles and responsibilities relating to the management of model risk in the organisation.

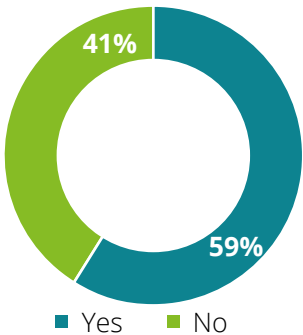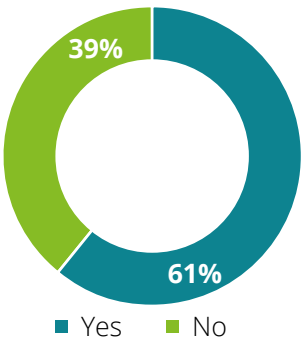**Figure 5. Insurers with organisation-wide model definition**

- 41% No
- 59% Yes

Figure 6. Existing model risk policies

- 39% No
- 61% Yes

"A model is a quantitative method, system, or approach that applies statistical, artificial intelligence, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates"
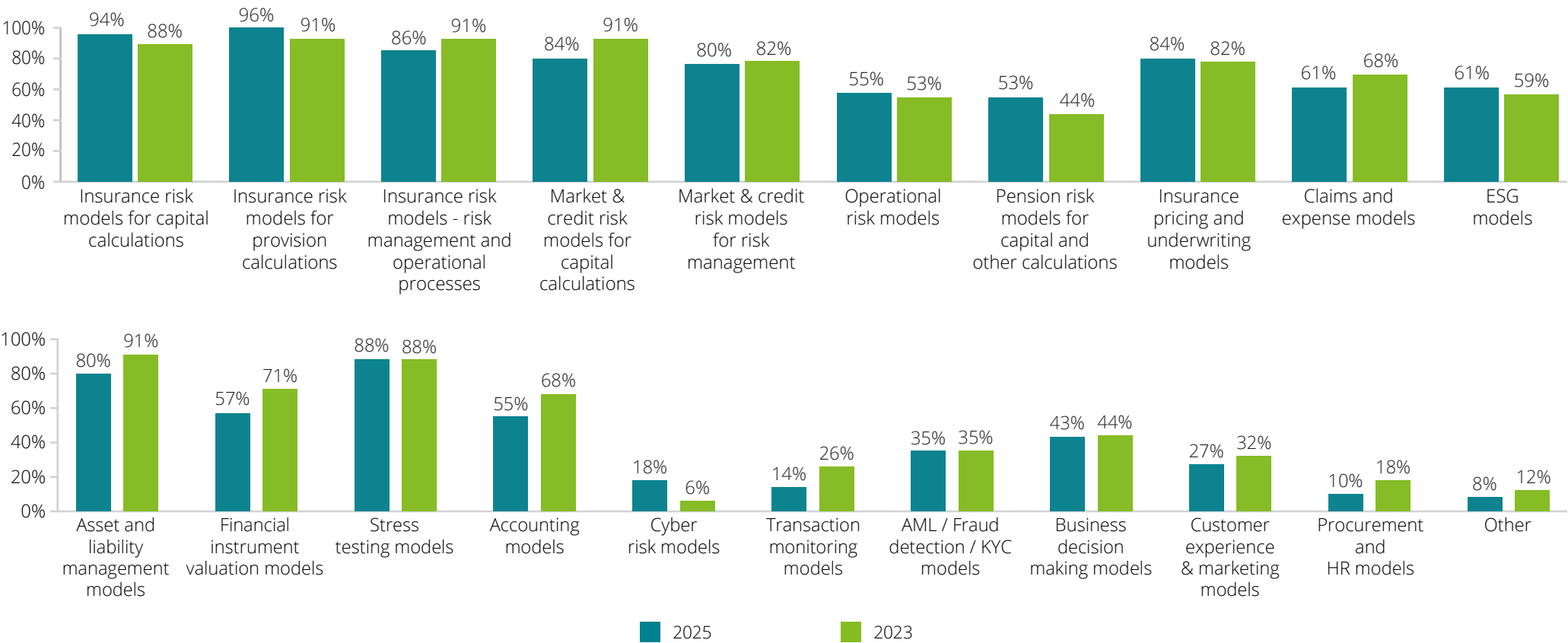
Model landscape and inventory

Use of models

At least 85% of respondents use models for insurance risks and 84% use models for market and credit risk. A little more than half use models for operational risk.

Two out of five insurers are not using financial instrument valuation models within their organisation – and only one in five insurers use cyber risk models. One in three use AML / Fraud detection / KYC models.

Generally, there is no clear trend from 2023 to 2025, as just below half the models have increased in usage, while the remainder have decreased.

Figure 7. Proportion of respondents who have the model type in question in use compared to 2023

Model landscape and inventory

Scope of the model risk management framework

For at least 77% of respondents, insurance risk models and market risk models are in scope of the model inventory. It is not surprising, given regulatory attention, that these models for insurance risk and market risk are most often in scope.

The insurers that include the insurance risk models, compliance and other models in their model risk management scope, are mostly large and medium insurers with more mature model risk management frameworks.

Figure 8. Scope of the model risk framework for each of the model types as a percentage of respondents that use the model type in question
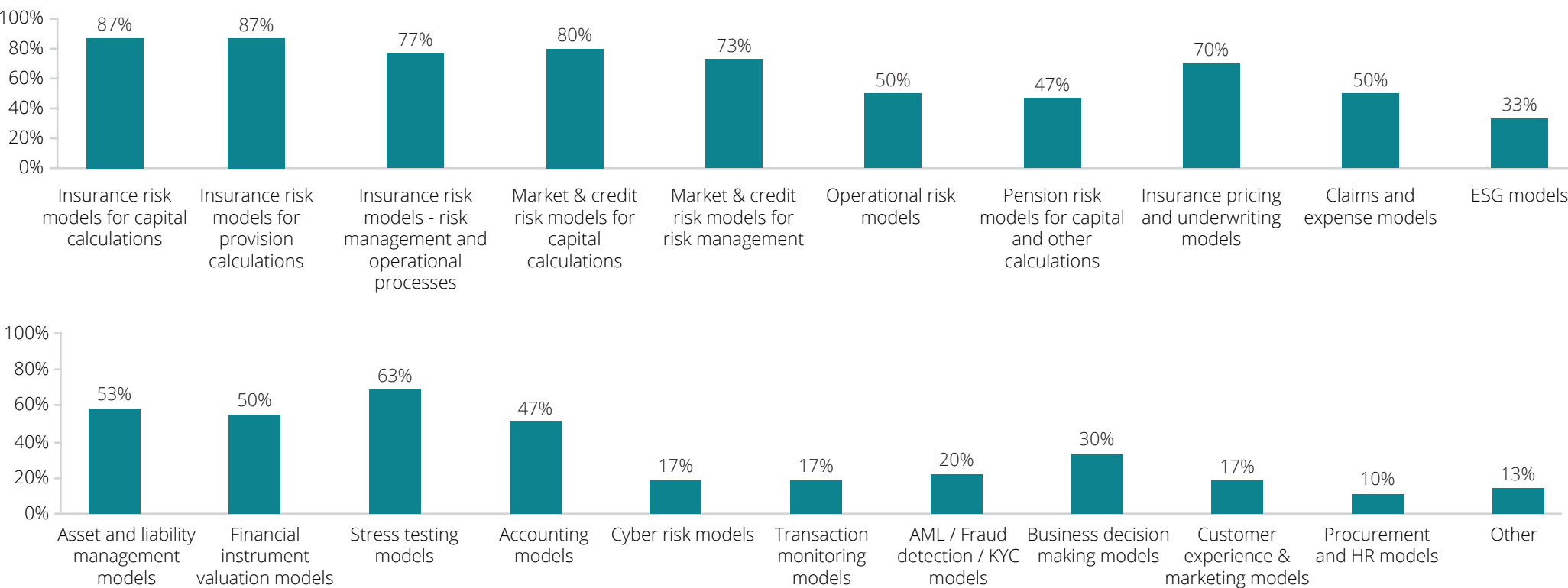
Model landscape and inventory

Financial Crime models in scope

In the survey, 13% of insurers in this survey respond "yes" to including Financial Crime (FC) models in their organisation, compared to 48% of the participating banks. The FC models most commonly subject to MRM validation processes are Fraud Detection and Sanction Screening Models. Limited historical data is cited as the most significant challenge for validating FC models for insurers. 17% of respondents indicate they have dedicated MRM staff with requisite expertise for validating FC models (compared to 40% of the banks).

It is noted that many insurance companies consider themselves largely not exposed to financial crime risks. As 13% of insurers indicated FC as included in the scope of their organisation, the sample size is small, and these figures should be used cautiously.

Figure 9. Financial Crime included in the scope of your organisation's Risk Management Framework
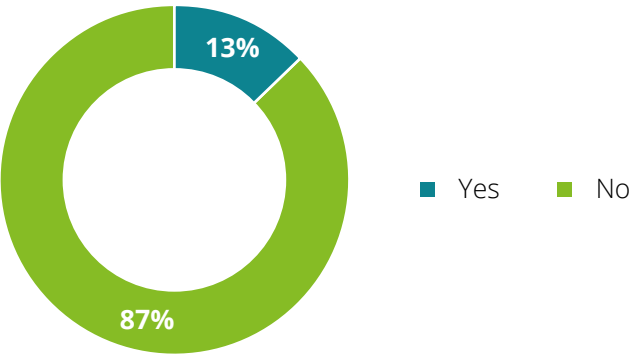

- Yes: 13%
- No: 87%

Figure 11. Average number of FC models validated per insurer per domain

Domain	Average
Sanction screening	0.5
Transaction monitoring	0.2
Know Your Customer (KYC)/Customer Due Diligence (CDD)	0.2
Fraud detection and prevention	0.5

Figure 10. Dedicated Risk Management Staff with relevant Financial Crime expertise

- Yes: 17%
- No: 83%
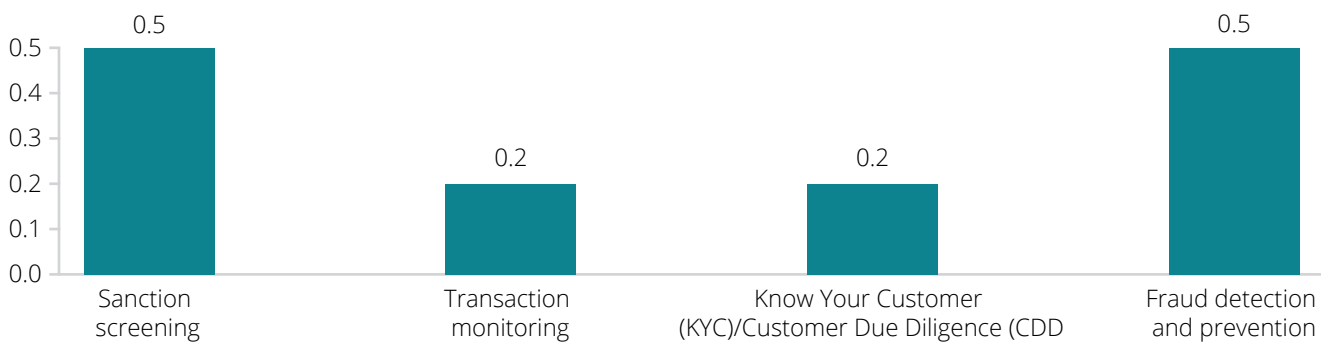
Figure 12. Most significant validation challenges in your Financial Crime models

Challenge	Percentage
Limited historical data	50%
Difficulty measuring performance/effectiveness	33%
Evolving regulatory requirements	33%
Data quality issues	33%
Limited specialized expertise	33%
Lack of industry standards/benchmarks	17%
Model complexity	0%
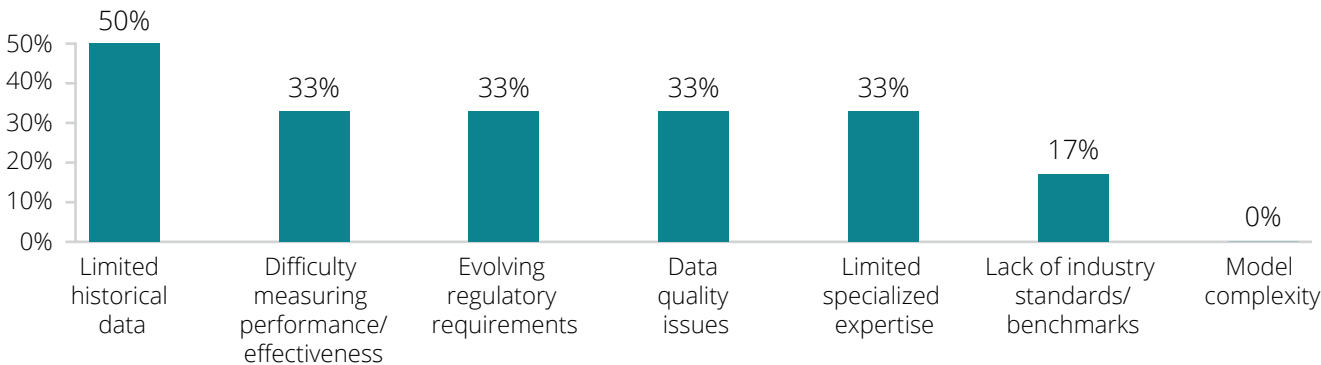
Model landscape and inventory

Model inventory size

The number of models in an insurer's model inventory is constantly subject to change. The survey results show that practices diverge widely between small, medium and large insurers. This is not unexpected, as large insurers tend to have more mature model risk management frameworks and also include more model types, as shown in the previous figures.

Small insurers indicate that they have an average of 18 models in their model inventory, medium insurers have 108 models and large insurers 188 models, with moderate outliers. These figures should be compared cautiously, as the model definition used by each insurer can vary.

Medium and large insurers have significant variance in the number of models reported in their inventories.

- For large insurers, the lowest 25% have a maximum of 89 models and the highest 25% have more than 250 models in their inventory.

- For medium sized insurers, the lowest 25% have a maximum of 24 models and the highest 25% have more than 120 models in their inventory.

- For small insurers, these numbers are 11 models for the lowest 25% and 23 models for the highest 25%.

The current maximum observed number of models in an inventory is just shy of 500. These numbers of models are from large insurers that also indicate they currently consider their model inventories to be complete to some extent.

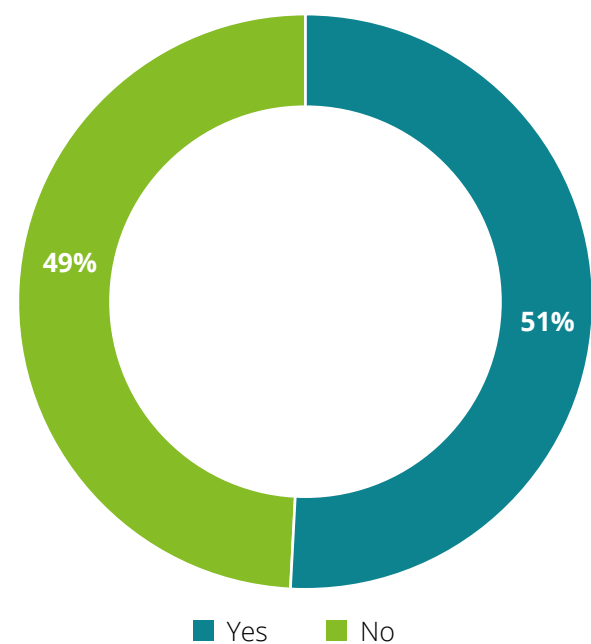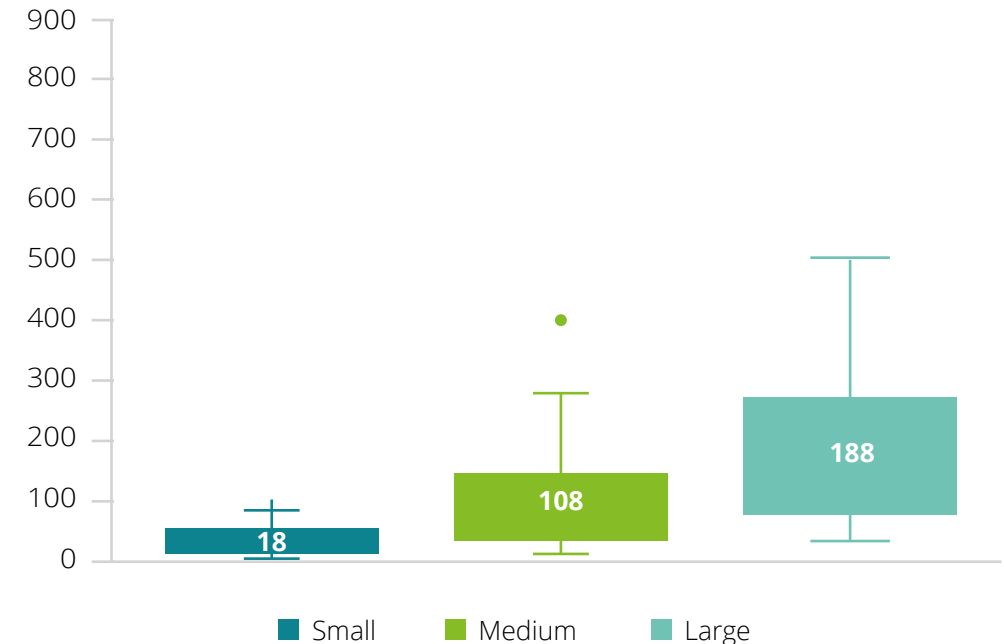**Figure 13. Insurers with model inventory**

49%

51%

■ Yes   ■ No

Figure 14. Number of models in the model inventory

18

108

188

■ Small   ■ Medium   ■ Large

Model landscape and inventory

Model inventory information

The purpose of a model inventory is to store information at the individual model level. Structured and high-quality information is the foundation of efficient model risk management. Small and medium insurers store on average approximately 15 and 30 data fields on the models, where large insurers on average have 59 data fields in their model inventory. The number of data fields stored by insurance companies are approximately 76% of the number of data fields stored by banks.

These differences are significant and result in large insurers storing, and maintaining, two to four times more data fields than small and medium insurers.

Model inventories are at least 50% complete in more than half of small insurers and in more than 85% of large insurers. For medium insurers, the picture is more nuanced, with equal proportions of respondents falling into each of the three top categories while a significant number did not provide information.

In just below half (42% of the insurers with model inventory), the model inventories are at least 75% complete.

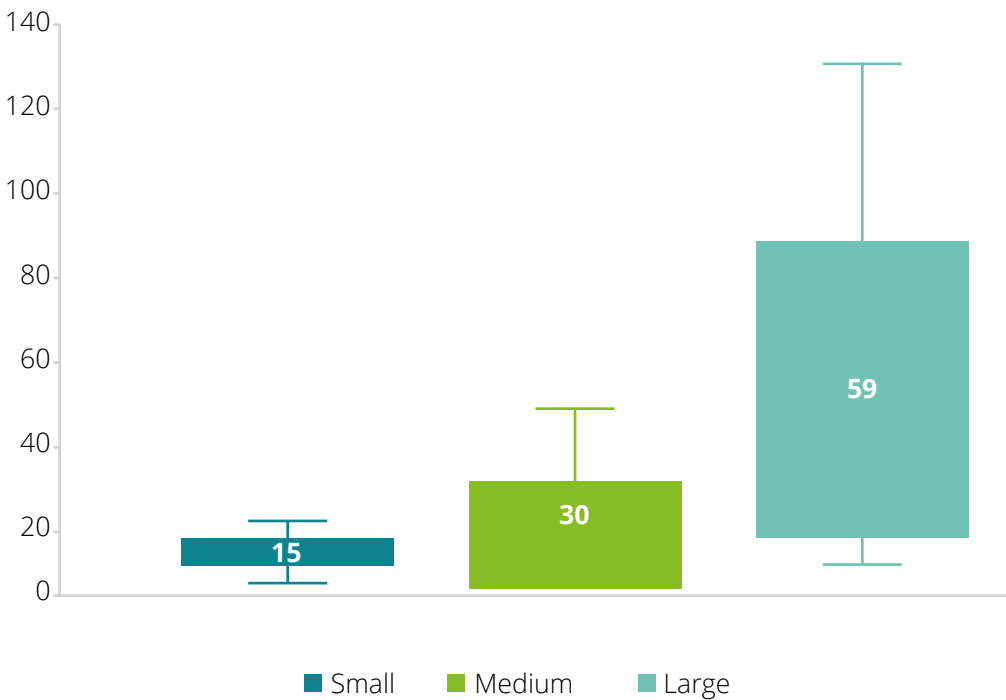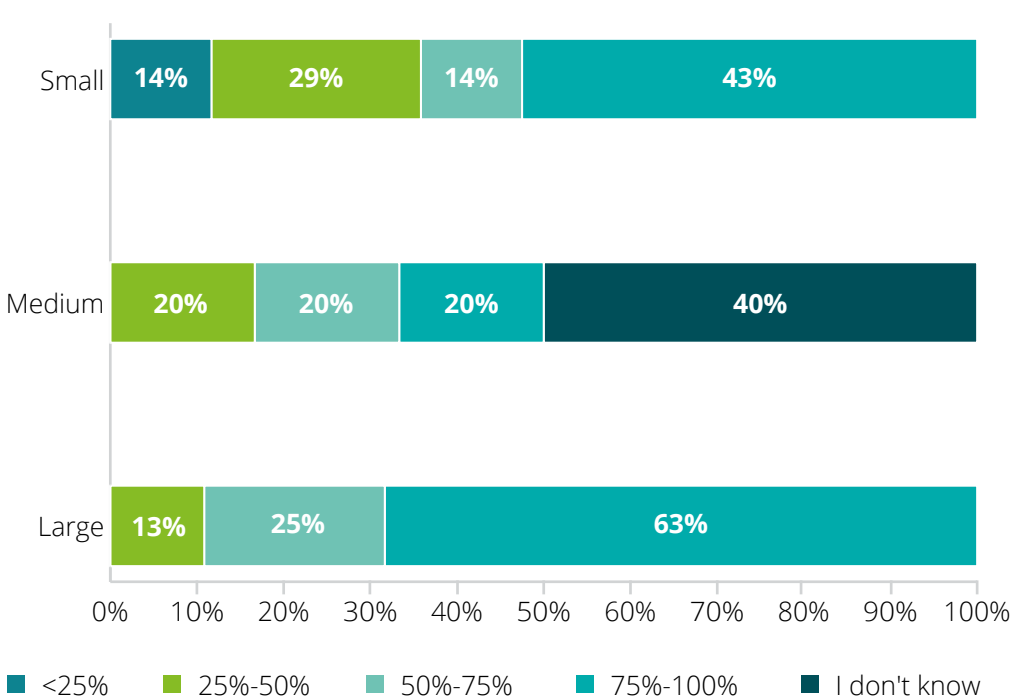**Figure 15. Number of data fields in model inventory**

Figure 16. Proportion of models included in the model inventory
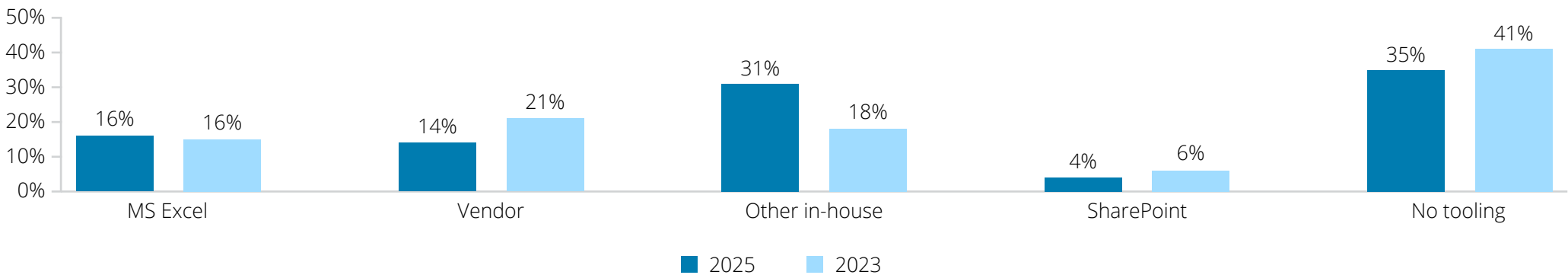
Technology and tooling

Technology and tooling

Successful model risk management framework implementations are often supported by model risk management tooling. Model risk management tools integrate the model inventory, document repository, lifecycle management and workflow, analytical and reporting capabilities into a single platform. The use of a singe tool with shared functionalities can greatly contribute to the effectiveness of the model risk management activities.

Tooling types: From MS Excel to solutions developed in-house

According to the survey results, 16% of the insurers use MS Excel as their model risk management tooling. 14% of insurers surveyed have a vendor solution in place – a drop of 7%-points since 2023. Solutions developed in-house account for almost one third of the tools used and has increased in usage by around 70% since 2023. SharePoint solutions account for just 4%. Some insurers indicate that they use a combination of tooling in order to have all the required functionalities of the tool at hand.

No large insurers indicated that they do not use tools or systems for model risk management. On the contrary, more than half of small insurers indicate they do not use tooling for model risk management at all. The decreasing percentage of no tooling used is mainly driven by large and medium insurers.

Figure 17. Tool or system used for model risk management practices compared to 2023

MS Excel: 2025 16%, 2023 16%
Vendor: 2025 14%, 2023 21%
Other in-house: 2025 31%, 2023 18%
SharePoint: 2025 4%, 2023 6%
No tooling: 2025 35%, 2023 41%

Legend: ■ 2025 ■ 2023
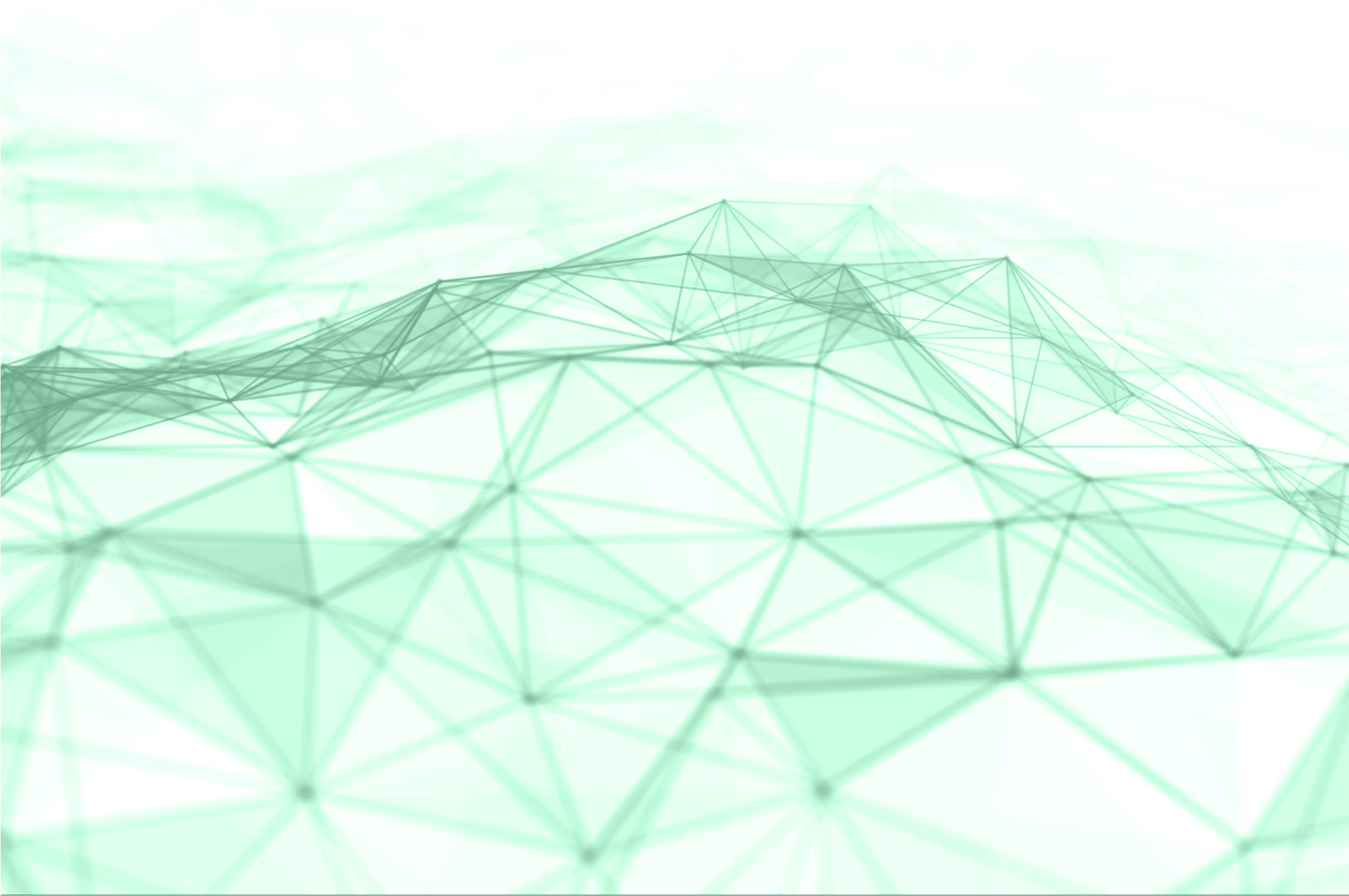
Governance

Governance

The role of model owner is to be seen as important with 63% of respondents having clearly defined and documented the role of the model owner. The model owner role is separated from the model developer role for 62% of respondents. The core challenges are how to get people feeling responsible for all parts of the model and to make people understand the responsibilities of the model owner.

Model owner

One of the key roles for effective model risk management is that of model owner. The model owner is responsible and accountable for a specific set of models, including the quality of those models. The model owner also acts as a bridge between the first line of defence and others, for instance by ensuring that findings from independent model validation are resolved with appropriate resources on a timely basis. 63% of the insurers have indicated that the role of the model owner is clearly defined and documented. This number is down from 74% in 2023. Large and medium insurers have clear definitions in almost all the cases while more than half of the small insurers said that they do not have a clear definition for the role of "model owner". **For over 60% of the insurers, the model owner comes from a different team than model development.**

74% of all insurers have appointed model owner for at least 75% of their models for all sizes of insurers, a decrease of 6%-points compared to 2023.

Figure 18. Percentages of insurers that clearly defined and documented the role of the model owner in the model risk management documentation
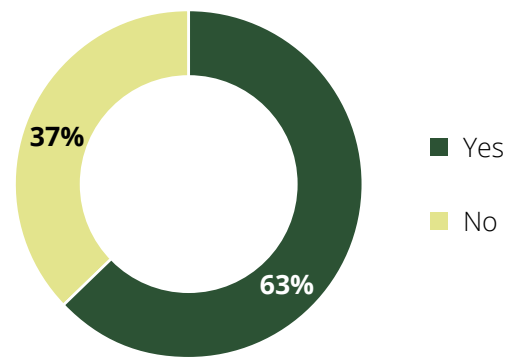

- Yes
- No

37%

63%

Figure 20. Most often appointed model owner

23%

39%

39%

- Someone from model development
- Someone from model use and/or reporting
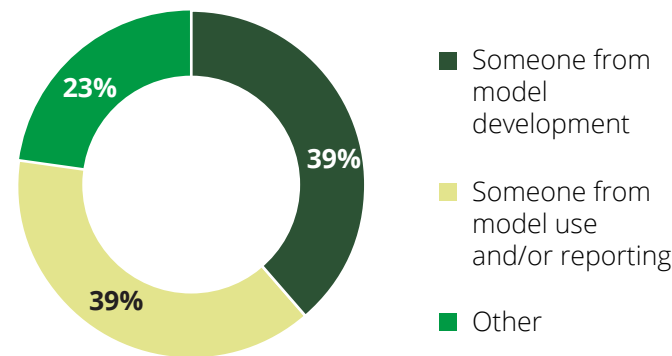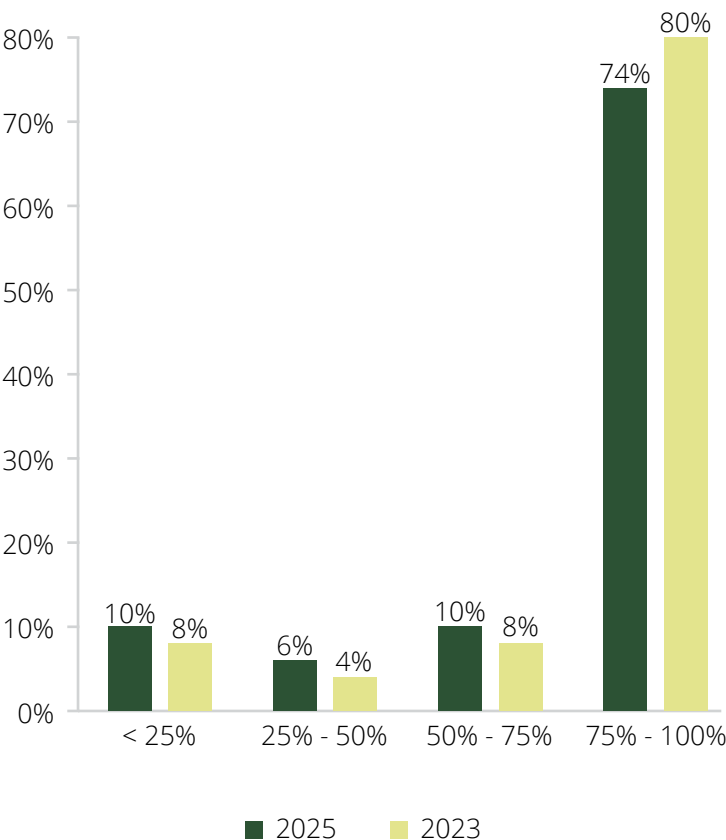- Other

Figure 19. Proportion of the model landscape with appointed model owner compared to 2023


- 2025
- 2023

Governance

Model risk management teams

A few years after more specific guidance in Europe on Solvency II, stand-alone model risk management departments or teams have emerged, especially at the larger insurers. For 44% of the participating insurers, the model risk management function is positioned in the risk function and for 28% it is positioned in the respective model use areas. However, good practices are that a mature model risk management framework requires a separation of model risk management responsibilities and model validation responsibilities. In comparison, for around 80% of the banks surveyed, the model risk management team is either a separate team or the responsibilities of it are carried out by the model validation team.

Figure 21. Where is the MRM function positioned within the organisation?
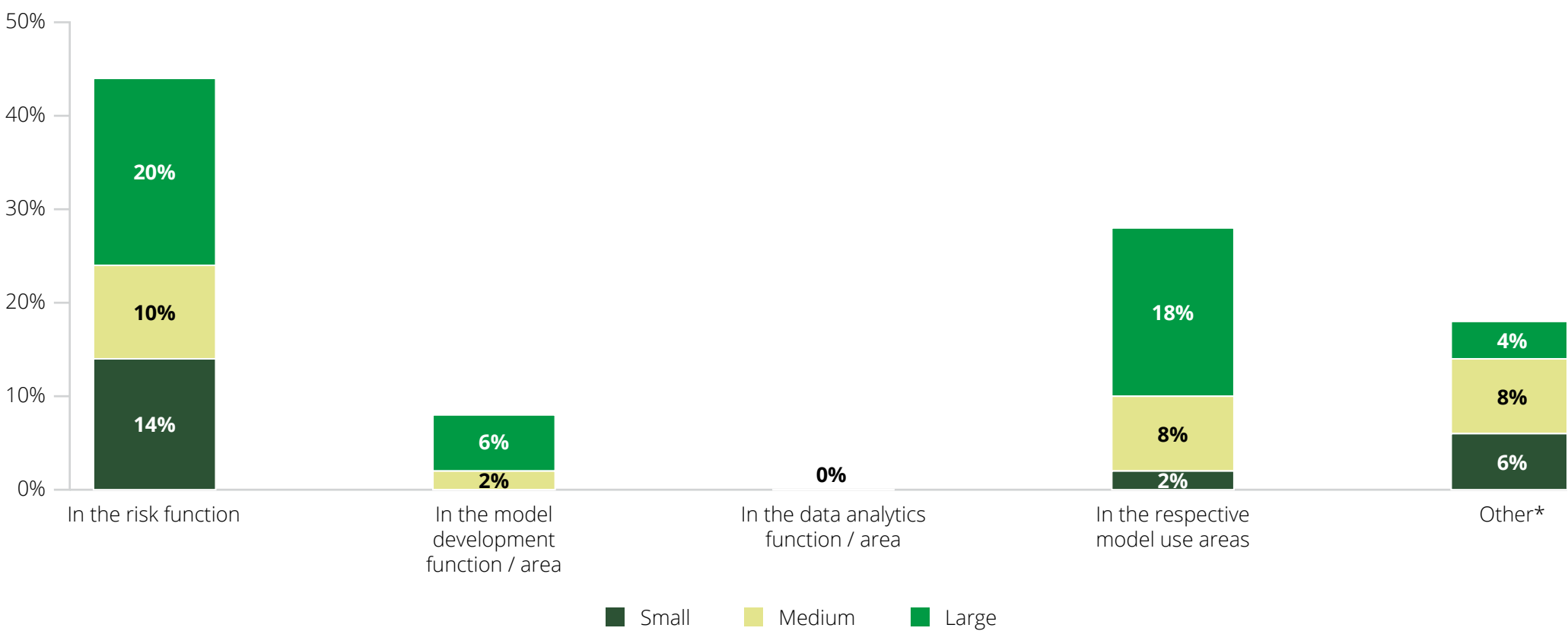
For insurers in the "Other" category MRM mostly conducted by both the first and second line of defence
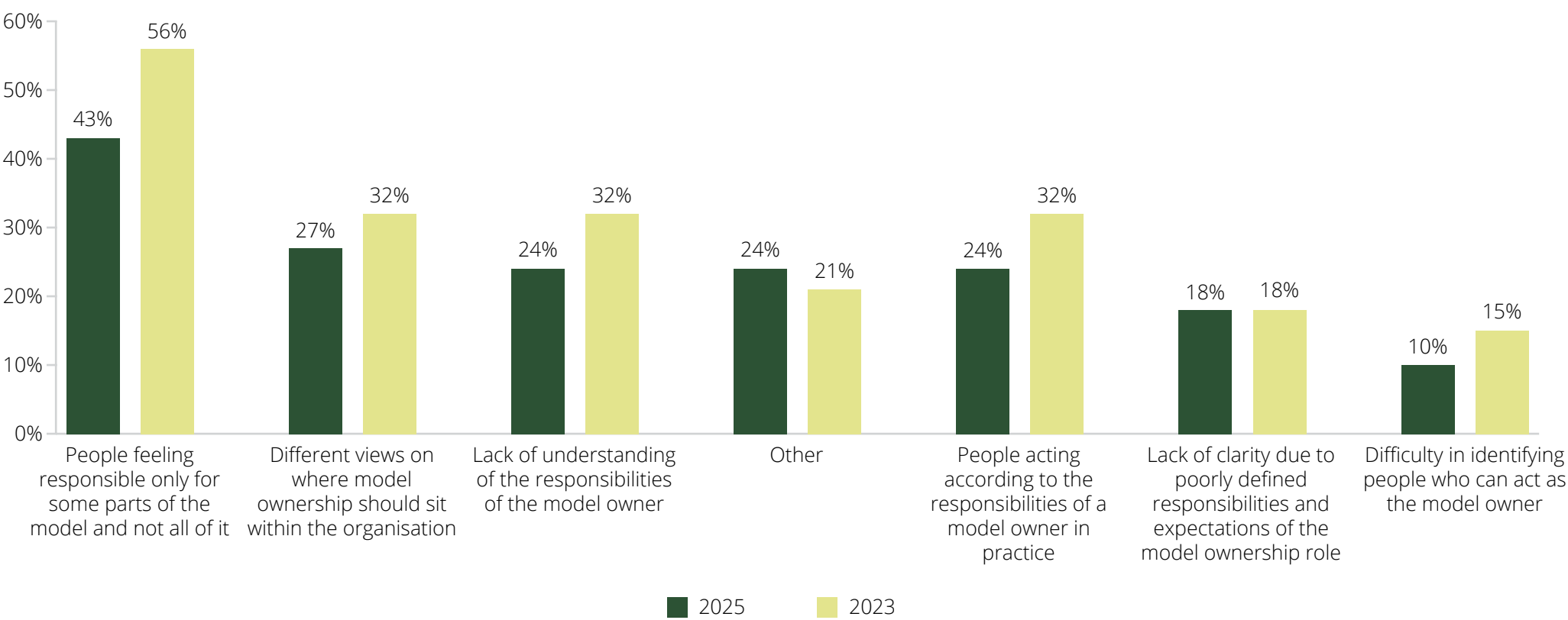
Governance

Main challenge in getting model ownership adopted

The main challenge identified by 43% of respondents in getting model ownership adopted was the lack of feeling responsibility for the entire model. This number is down from 56% in 2023.

Other common challenges relate to different views on where the model ownership should sit, lack of understanding model owner responsibility, and other challenges. Around one in four respondents recognized these as a challenge.

Generally, there is a downward trend in challenges compared to 2023, with "Other" being the only category to increase.

Figure 22. Main challenges in getting model ownership adopted

Governance

Model risk appetite and reporting to management board

45% of the respondents indicated that they have a defined risk appetite for model risk. 80% of large insurers have such a risk appetite, while only 30% of small insurance companies have such risk appetite.

38% of all respondents indicate that both exec and non-exec bodies are fully informed and receive regular updates, with large insurers indicating 64% for this category. In total, 64% of insurers inform their exec and non-exec bodies of their model use – however, with varying frequency in updates.

Around 30% of small insurers indicated that their exec and non-exec bodies are not consistently informed about model use.

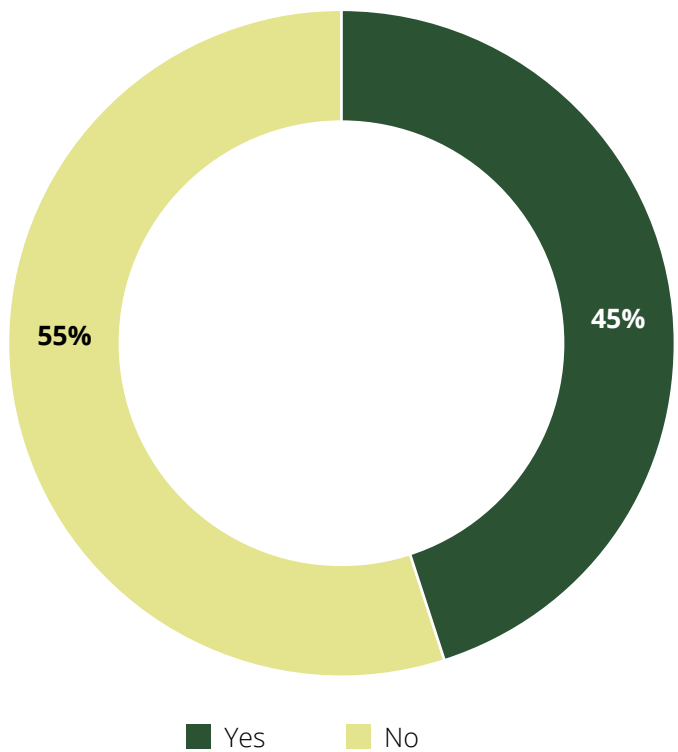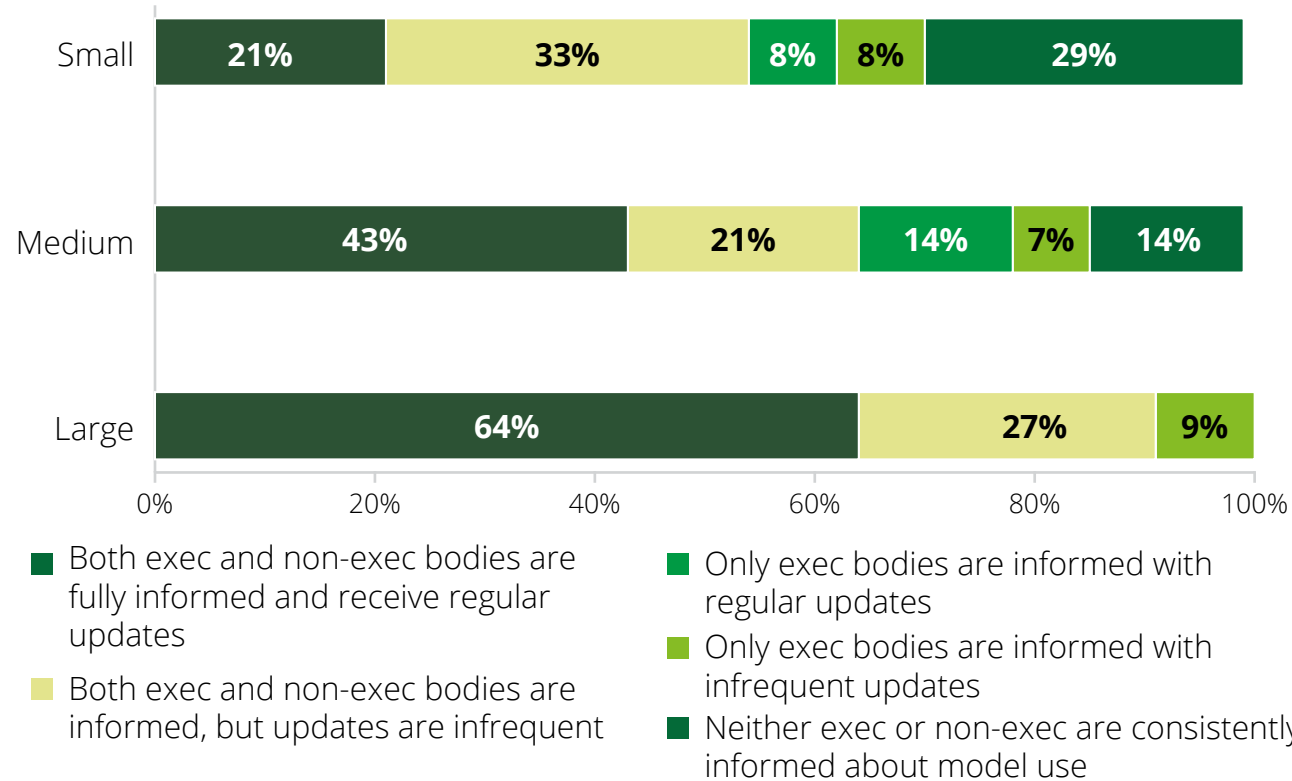**Figure 23. Insurance companies with risk appetite for model risk as a risk type**

55% 45%

■ Yes   ■ No

Figure 24. The extent to which exec and non-exec management bodies are informed about use of models in the organisation and frequency of updates

Small	21% 33% 8% 8% 29%
Medium	43% 21% 14% 7% 14%
Large	64% 27% 9%

■ Both exec and non-exec bodies are fully informed and receive regular updates

■ Both exec and non-exec bodies are informed, but updates are infrequent

■ Only exec bodies are informed with regular updates

■ Only exec bodies are informed with infrequent updates

■ Neither exec or non-exec are consistently informed about model use

Governance

Number of FTEs dedicated to model risk management and model approval committees

Small and medium insurance companies indicated that on average 8-9 FTEs are dedicated to model risk management while this number increased to 17 for large insurers.

Around half (48%) of insurers have a model risk committee or similar committee that is responsible for approving the use of models. 12% of respondents indicated that they are aiming to set up such a committee or role in the next year.

Figure 25. Number of FTEs dedicated to model risk management

Small   Medium   Large
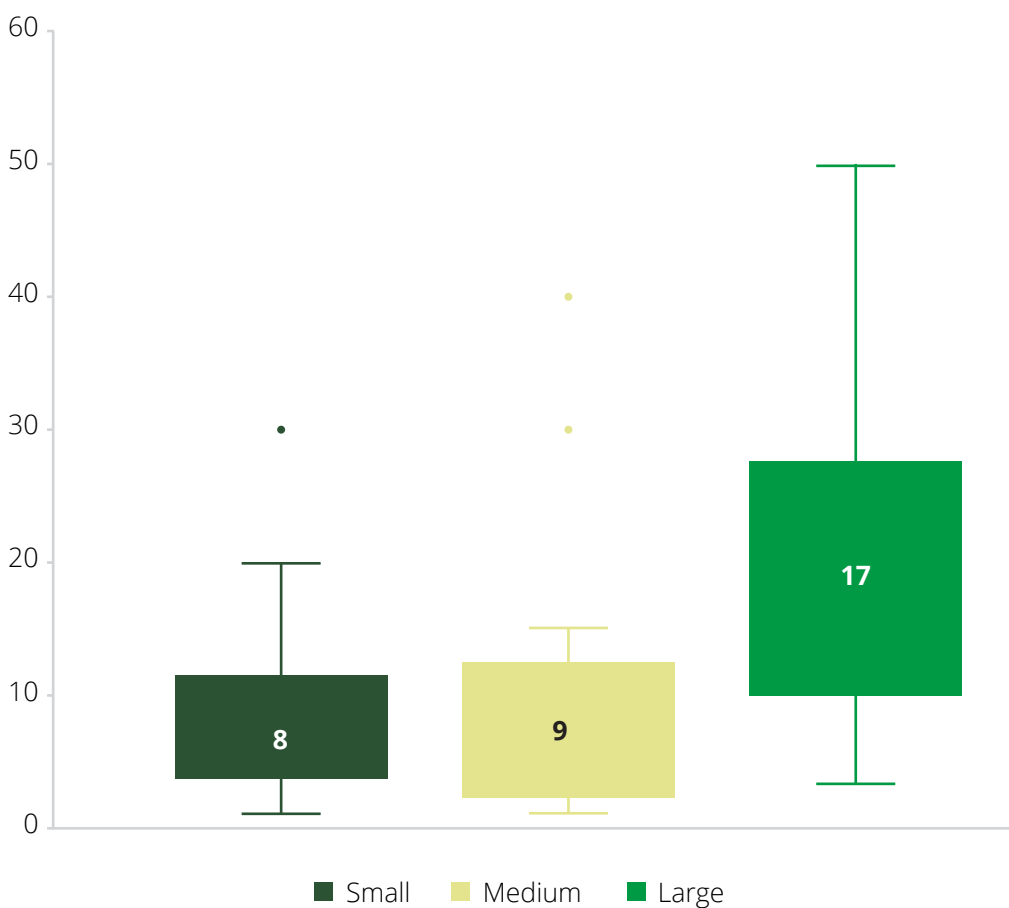
Figure 26. Insurance companies with model risk committee or similar role that is responsible for approving the use of models

Small   Medium   Large
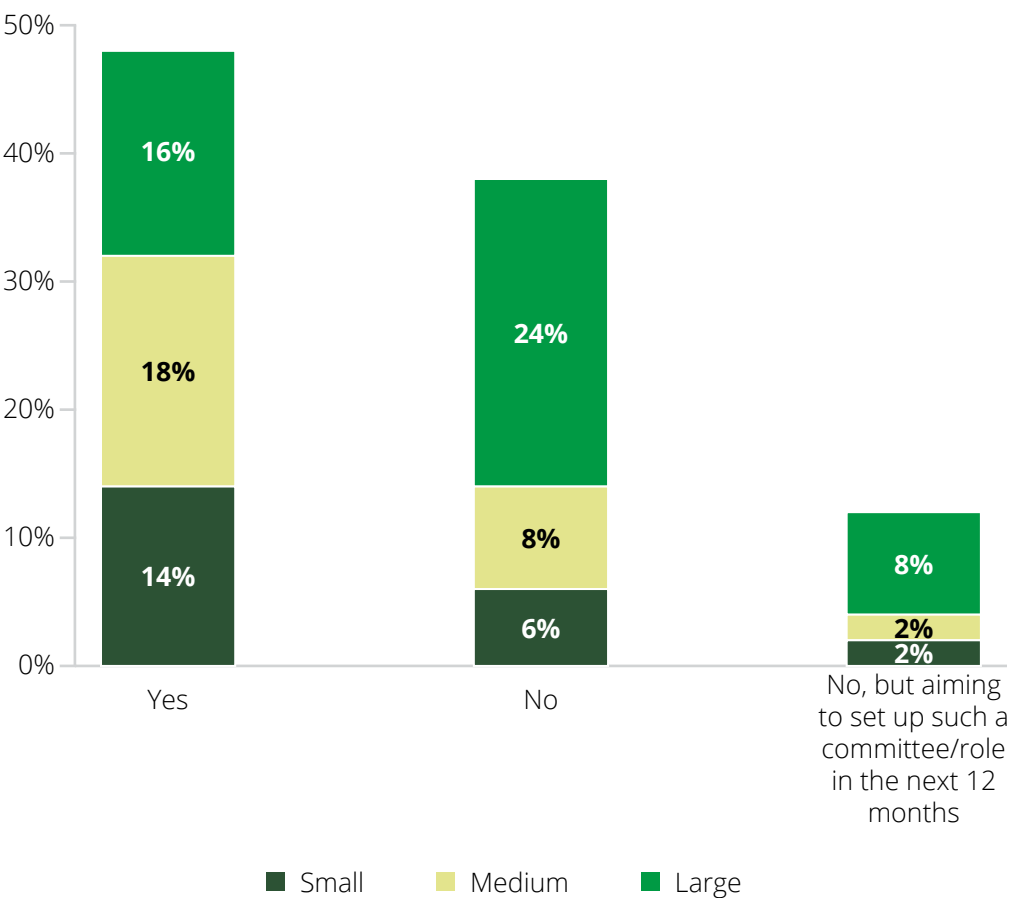
Governance

Model risk management implementation challenges and improvements

Around 47% of insurers indicated that model risk governance is the most significant challenge regarding the implementation of model risk management within the organisation, up from 29% in 2023. Two years ago, the most significant challenge was model identification and discovery with 44% of respondents recognizing this – a 9%-points difference compared to 2025.

Going forward, there are many areas where insurers indicate that they intend to enhance their model risk management framework within the next years. More than 35% of insurers intend to enhance their model risk management framework in the areas of model risk governance, model validation, model inventory, and model identification and discovery.

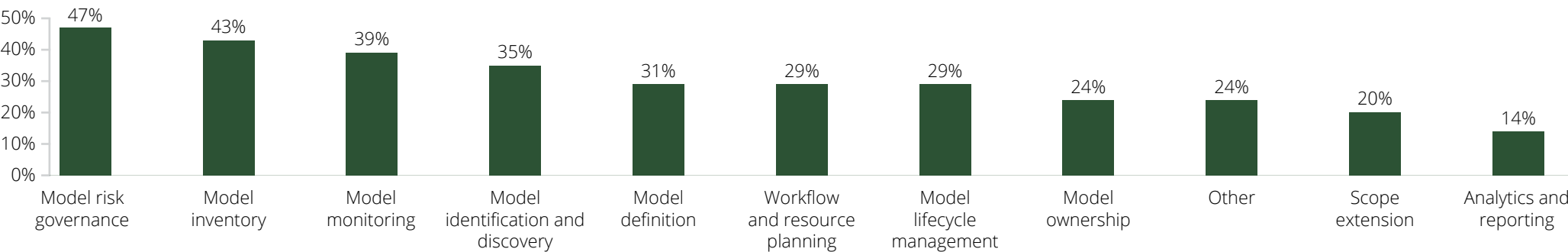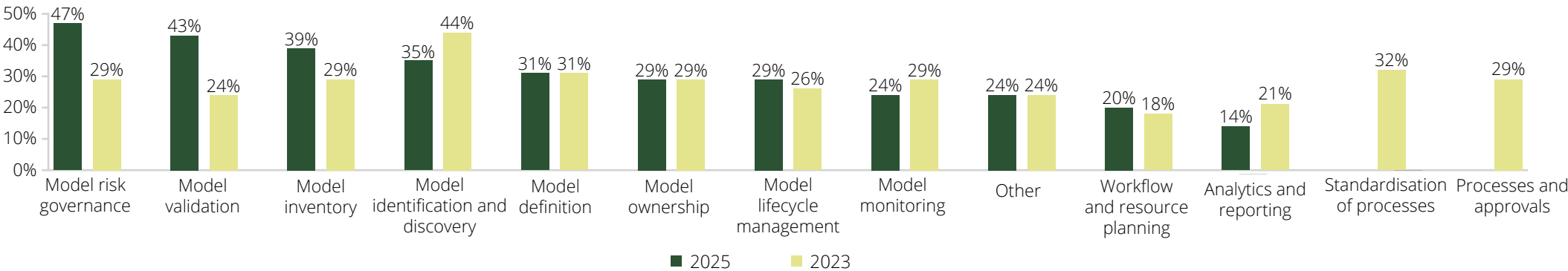**Figure 27. Significant challenges in implementing the model risk management framework**

Figure 28. Intended improvement areas for model risk management

AI – Current Scope and Future Considerations

This part of the survey only considers the 57% of insurers that have identified use of AI and/or ML modelling techniques in their organisation.

AI – Current Scope and Future Considerations

57% of the participants responded that their organisation uses models with artificial intelligence (AI) or machine learning (ML) techniques, compared to 53% in the 2023 survey. A clear difference in the prevalence of AI/ML modelling techniques can be observed between sizes as large institutions lead the way in AI/ML modelling adoption.

EU AI Act

The EU AI Act establishes a risk-based regulatory framework for all AI systems used within the EU. During 2024, the act was formally published by the European Union. New requirements will be introduced gradually until 2030. The goal of the act is to establish a common framework for AI regulation across the EU, to ensure that AI is developed and used in a way that is ethical, safe, and transparent.

Figure 29. Insurers with AI/ML models that analyzed the impact of the proposed EU AI Act
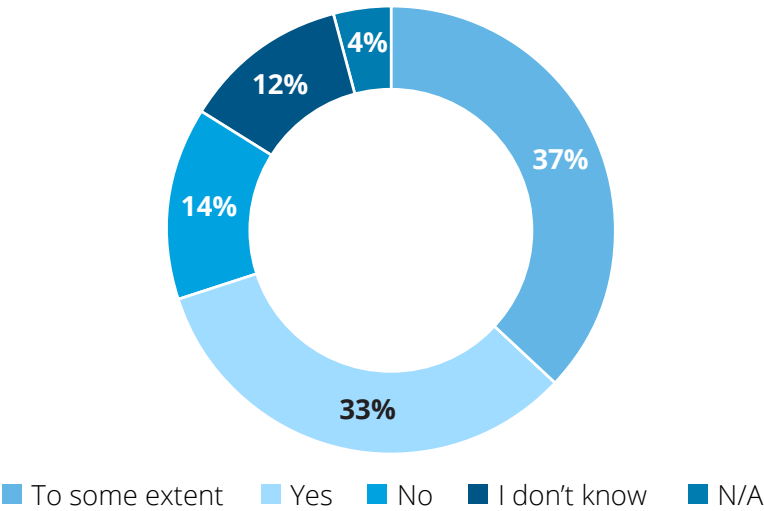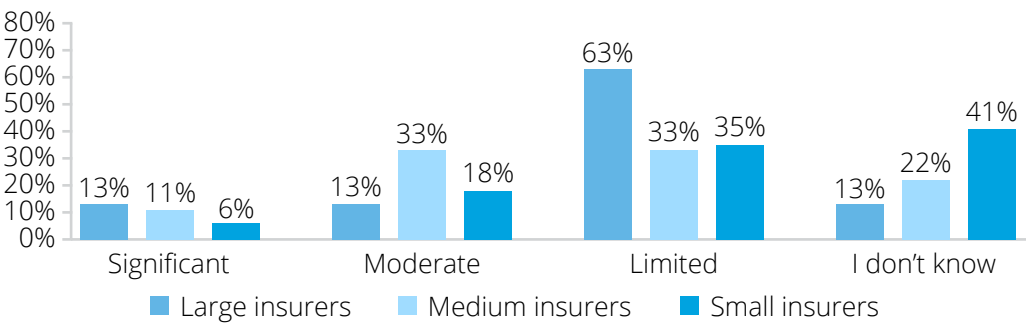

- To some extent
- Yes
- No
- I don't know
- N/A

37%, 33%, 14%, 12%, 4%

Figure 30. Required updates in MRM frameworks to incorporate requirements from the EU AI Act

	Large insurers	Medium insurers	Small insurers
Significant	13%	11%	6%
Moderate	13%	33%	18%
Limited	63%	33%	35%
I don't know	13%	22%	41%

Significant changes
Major changes are required in policies, procedures, and governance structures

Moderate changes
Some updates needed, but core frameworks remain largely intact

Limited changes
Minimal changes required and existing framework is largely sufficient

70% of insurance companies have, at least to some extent, analyzed the impact of the EU AI Act on their MRM framework. Of these 70%, most insurers have assessed that their MRM framework require moderate or limited updates to incorporate the proposed requirements from the EU AI Act. Taking the size of the insurer into account, 55% of the large insurers has performed the analysis while corresponding figures for medium and small insurers are 29% and 25% respectively.

AI – Current Scope and Future Considerations

High-risk AI applications under the proposed EU AI Act

The proposed EU AI Act presents requirements for high-risk applications of artificial intelligence. Insurers are largely unprepared for the requirements regarding high-risk AI applications, and only around 10% answered that they have AI use-cases defined as "High-Risk Applications according to Annex III" of the EU AI Act. These 10% highlighted in the survey include include biometrics, critical infrastructure, educational and vocational training, and employment worker's management and access to self-employment.

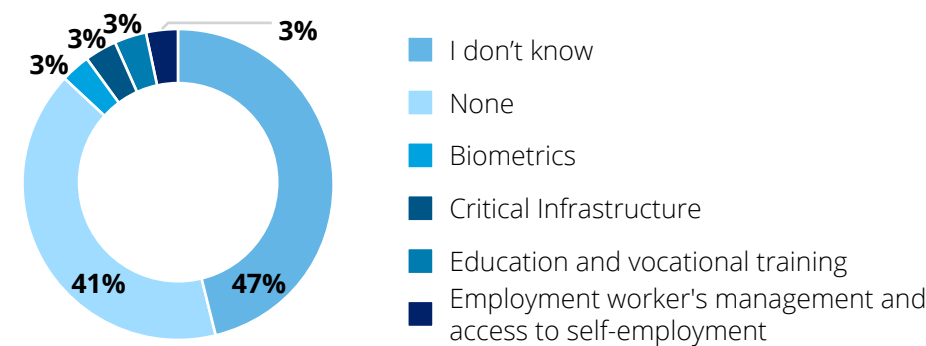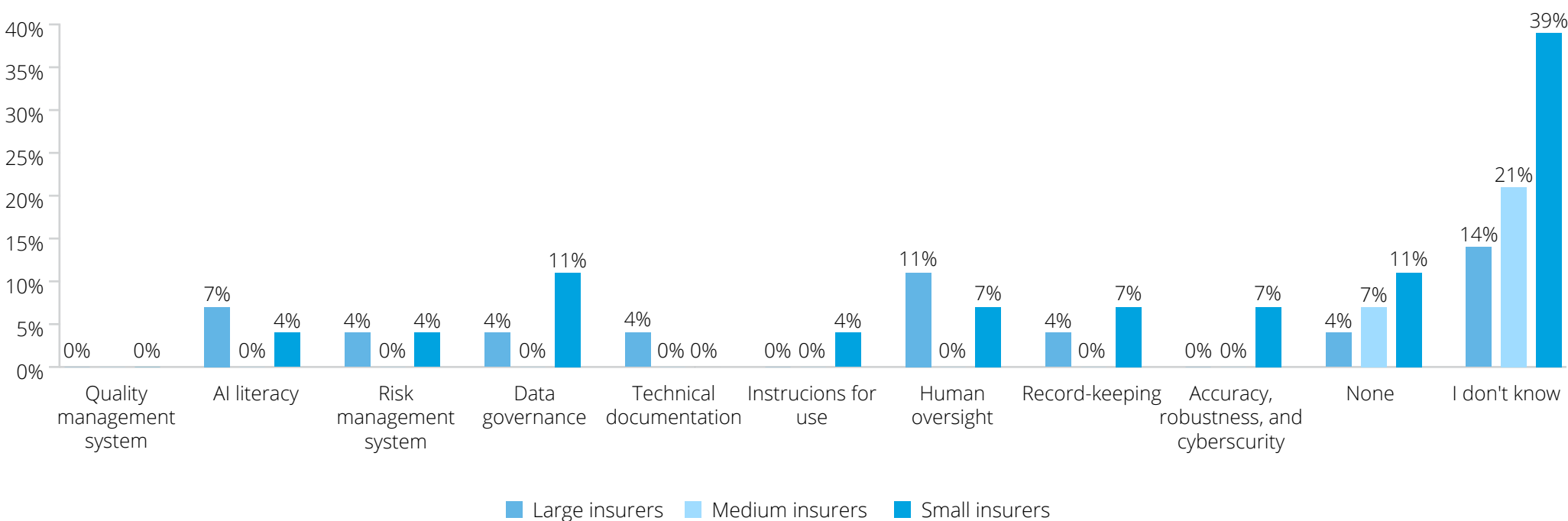**Figure 31. AI use-cases defined as High-Risk Applications according to the EU AI Act**

- I don't know
- None
- Biometrics
- Critical Infrastructure
- Education and vocational training
- Employment worker's management and access to self-employment

Figure 32. Preparedness for requirements regarding high-risk AI models as defined in the EU AI Act

AI – Current Scope and Future Considerations

AI/ML modeling techniques in use

The majority of the insurers use AI/ML models. However, in 2023 AI/ML modelling techniques were mainly used for customer experience and business decision models. In 2025, we see a wider adoption in a diverse range of areas. The majority of usage still lies within customer experience (37%), AML (30%), and insurance pricing and underwriting (26%).

Other uses has seen a sharp uptick from 17% in 2023 to 33% in 2025.

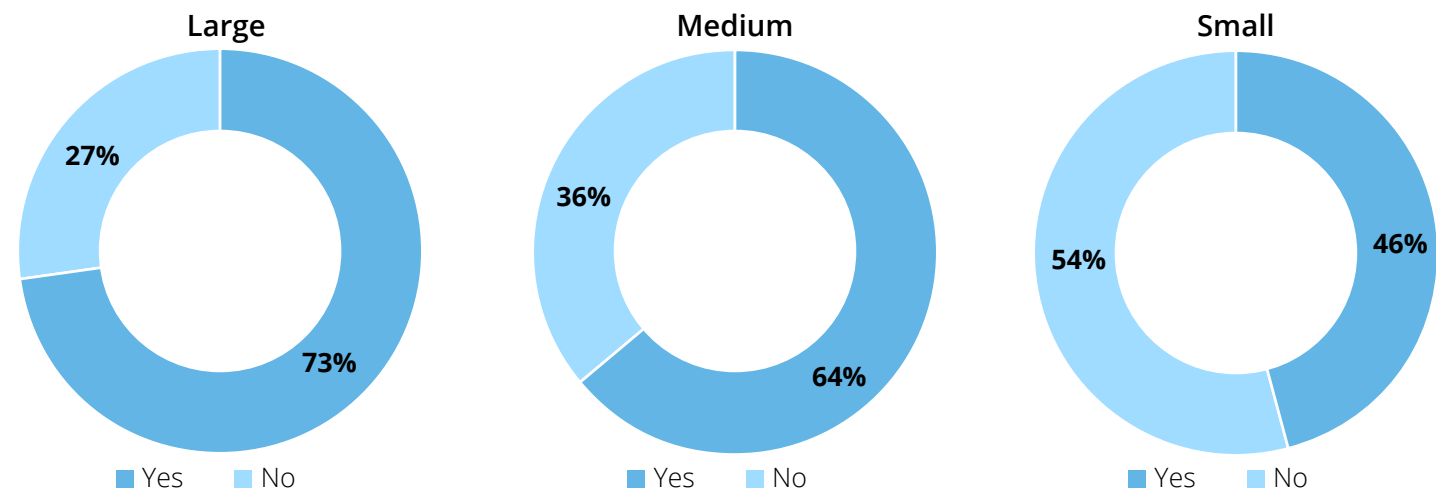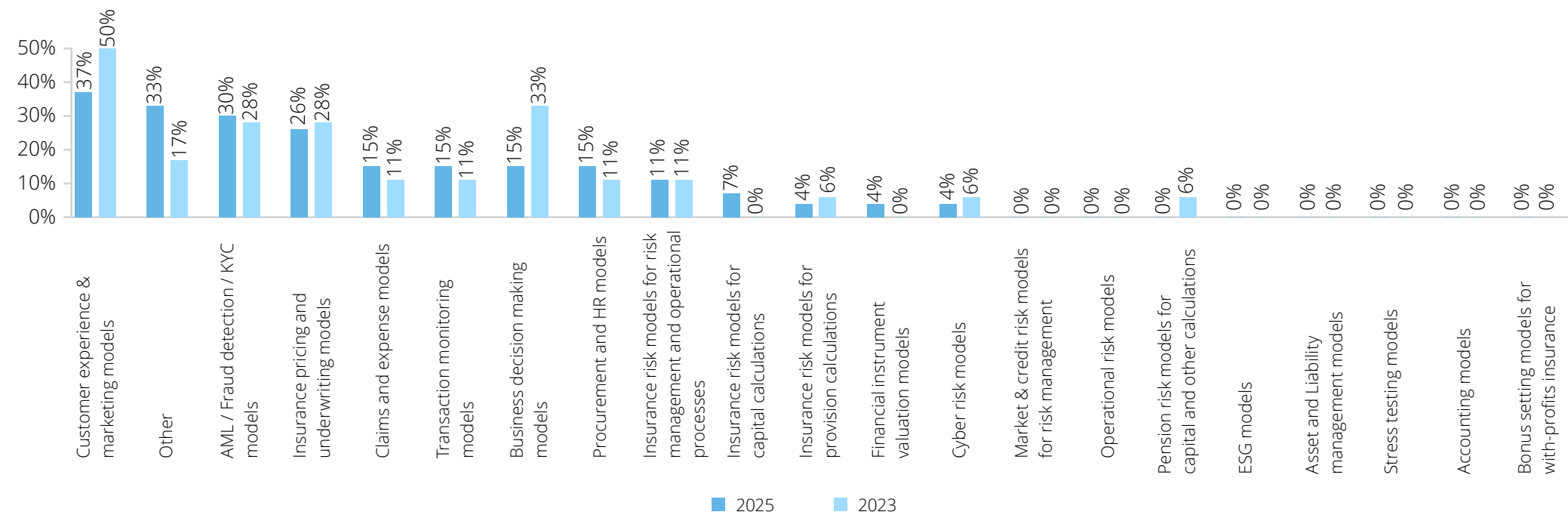**Figure 33. Prevalence of AI /ML modelling techniques in insurers**

Large — Yes 73%, No 27%
Medium — Yes 64%, No 36%
Small — Yes 46%, No 54%

Figure 34. Use of AI /ML modelling techniques in the organisation

Category	2025	2023
Customer experience & marketing models	37%	50%
Other	33%	17%
AML / Fraud detection / KYC models	30%	28%
Insurance pricing and underwriting models	26%	28%
Claims and expense models	15%	11%
Transaction monitoring models	15%	11%
Business decision making models	15%	33%
Procurement and HR models	15%	11%
Insurance risk models for risk management and operational processes	11%	11%
Insurance risk models for capital calculations	7%	0%
Insurance risk models for provision calculations	4%	6%
Financial instrument valuation models	4%	0%
Cyber risk models	4%	6%
Market & credit risk models for risk management	0%	0%
Operational risk models	0%	0%
Pension risk models for capital and other calculations	0%	6%
ESG models	0%	0%
Asset and Liability management models	0%	0%
Stress testing models	0%	0%
Accounting models	0%	0%
Bonus setting models for with-profits insurance	0%	0%

AI – Current Scope and Future Considerations

Significant challenges of using AI/ML models

Insurers using AI/ML modelling techniques face various challenges stemming from the use of these models. In the 2023 survey, challenges lay in transparency and explainability, fairness and impartibility, and skills and capabilities. This year, we see a decrease across all perceived challenges.

The reason behind challenges differ to some extent depending on size of the insurance company. For large and medium size insurers, technical complexity is considered the main reason, while smaller insurers identify the risks posed by AI/ML models as the most prominent challenge.

Figure 35. Reasons for challenges of using AI/ML models
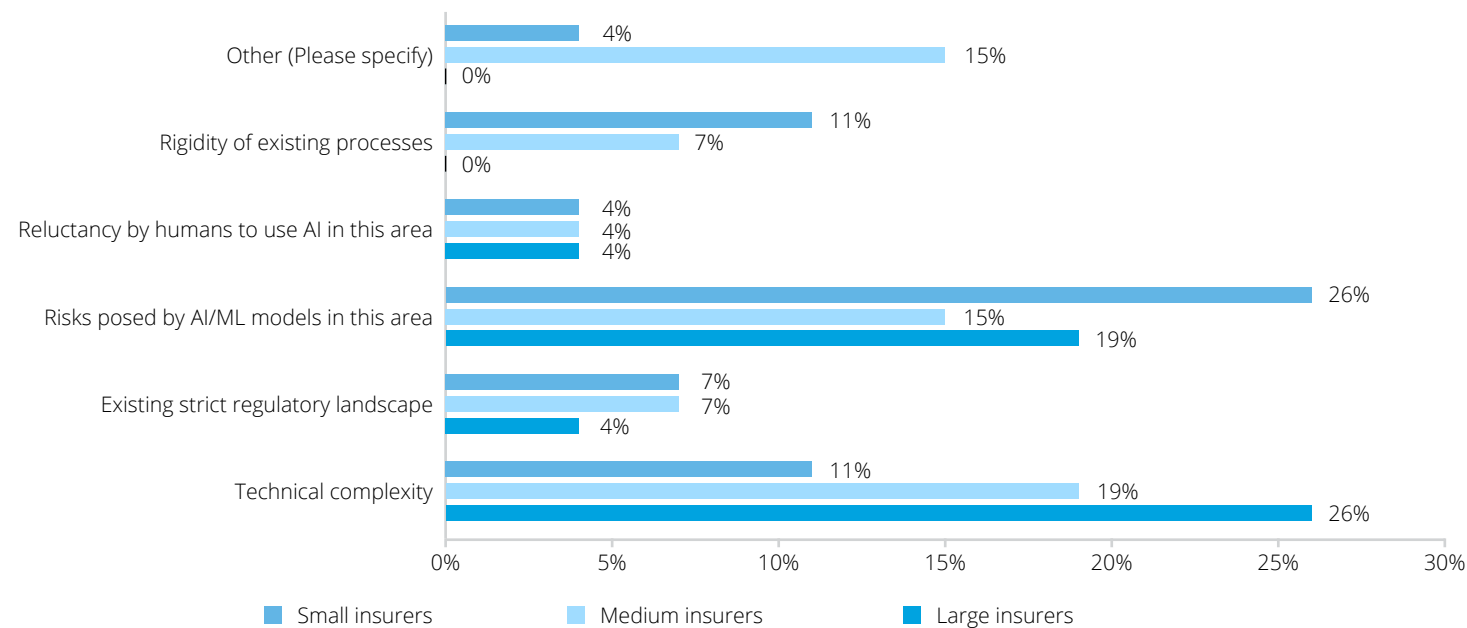
Figure 36. Significant challenges of using AI/ML models
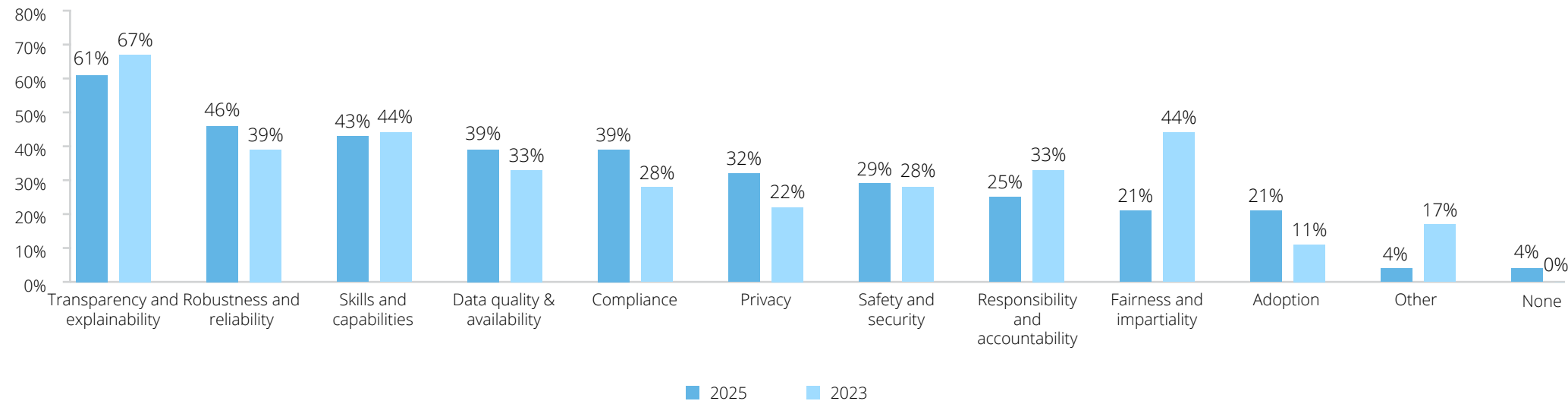
AI – Current Scope and Future Considerations

AI/ML model definitions and model inventory inclusion

With increased adoption, AI/ML models are increasingly finding their way into model definitions and model inventories alike. 44% have established distinct model definitions for AI/ML models and 46% of insurers include AI/ML models in the MRM framework. Additionally, 43% of insurer which use AI/ML models, distinguish them as such in the model inventory demonstrating a significant change since the 2023 survey.

Most insurers use the same tiering method as traditional models or the EU AI Act risk classification. Some insurers mention that they have distinct tiering for AI/ML models, while others are either currently developing a tiering approach for AI/ML models, or not tiering AI/ML models.

Figure 37. Insurers with model definitions distinct for AI/ML models

56% No
44% Yes

■ Yes ■ No

Figure 39. Classification of AI/ML models in the model inventory

- Yes - and they are identifiable as AI/ML models: 43%
- No: 32%
- I don't know: 14%
- Yes - but they are not identifiable as AI / ML models: 7%
- Partially - only some AI/ML models are included: 4%

Figure 38. Insurers that include AI/ML models in the MRM framework

54% No
46% Yes

■ Yes ■ No
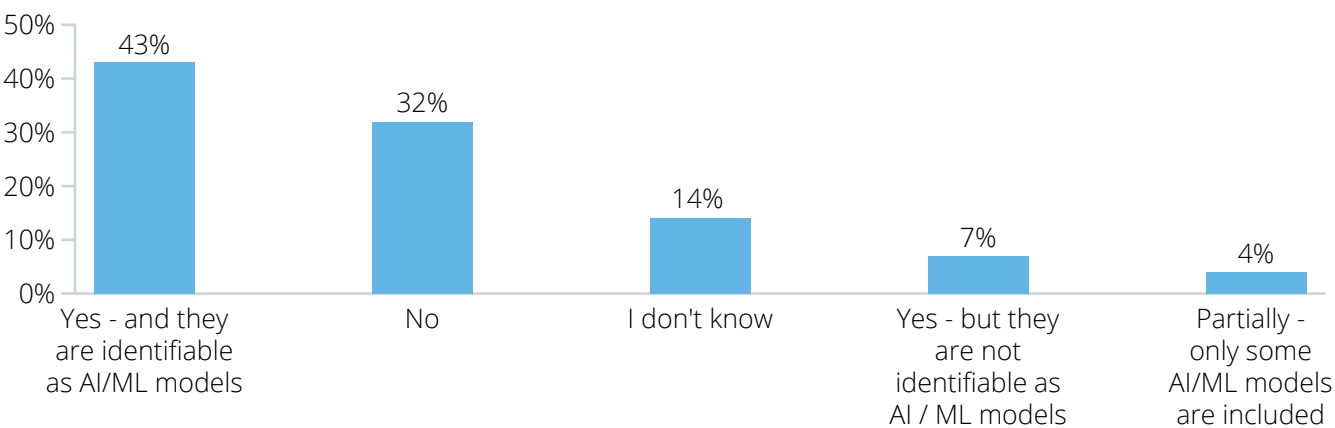
Figure 40. Classification of AI/ML models in the model inventory

- Distinctive tiers for traditional models and AI/ML models: 14%
- Same tiers as for traditional models: 32%
- EU AI Act risk classification is leading: 29%
- Other: 25%
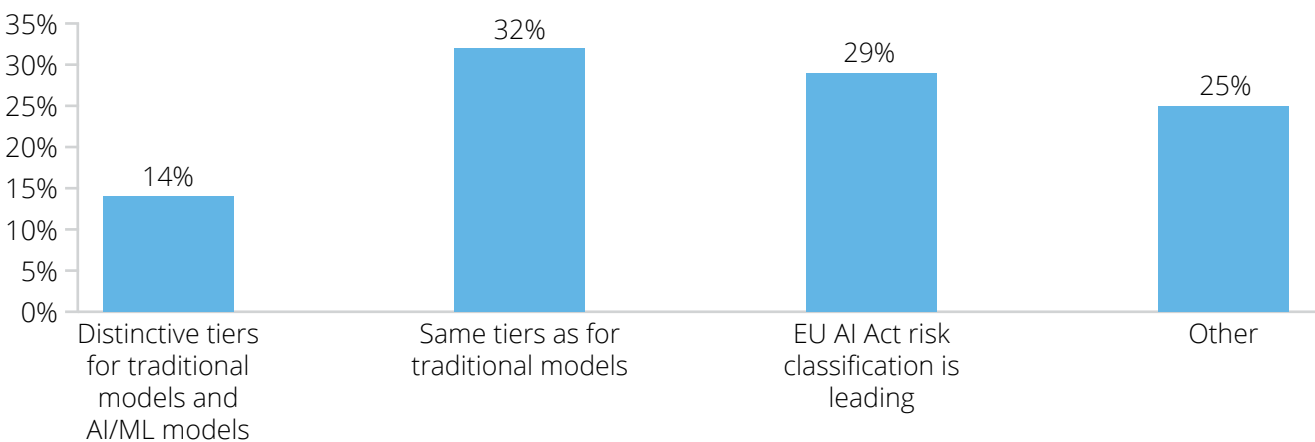
AI – Current Scope and Future Considerations

Governance of AI/ML models within the model risk management framework

92% of the insurers consider their model risk management framework adequate to govern these models to at least some extent. However, only 15% agree with this statement entirely. Nevertheless, no significant improvement is observed compared to 2023 results, with only 8% of insurers reporting that their MRM framework is inadequate for AI&ML models. 67% of the insurers have developed additional model risk management processes and procedures to address the unique characteristics of AI/ML modelling techniques. This is a notable improvement from 40% in 2023.

Figure 41. Insurers that assess their MRM framework as adequate to govern AI/ML models

2023: 6%, 19%, 75%

2025: 8%, 15%, 77%

Legend: Yes | To some extent | No | I don't know
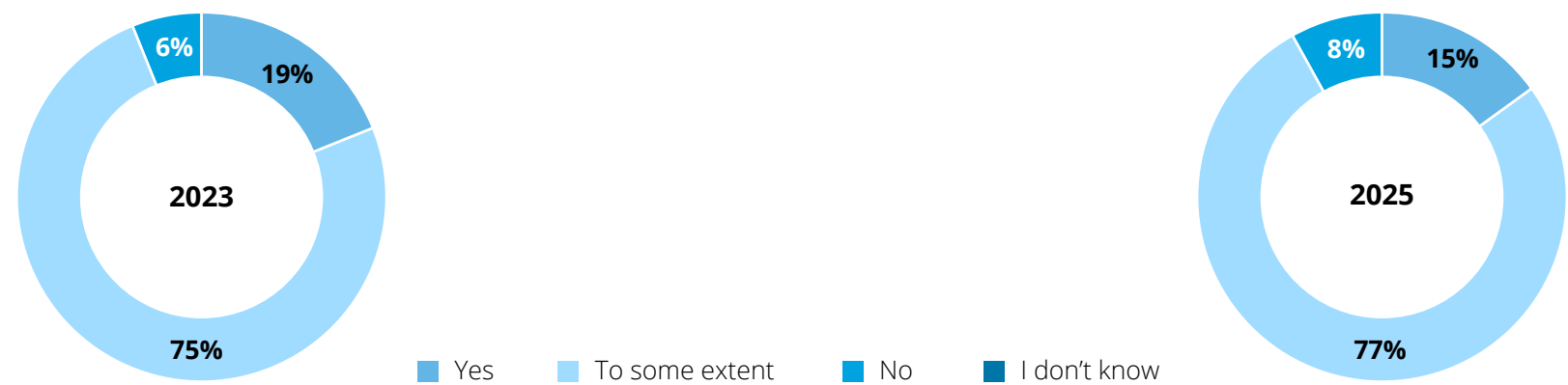
Figure 42. Insurers that have developed additional processes to address unique characteristics of AI/ML models

2023: 60%, 40%

2025: 33%, 67%

Legend: Yes | No
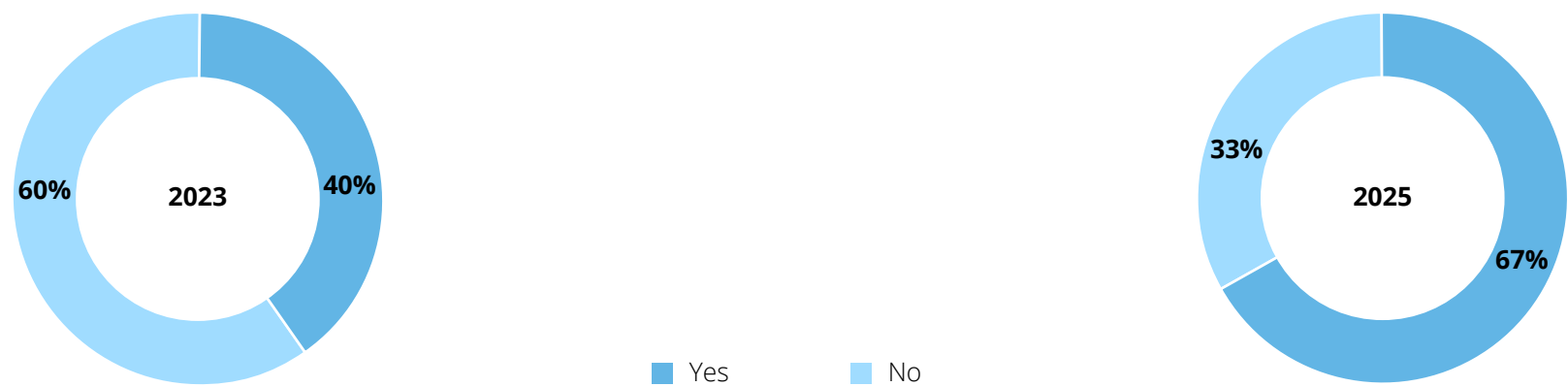
AI – Current Scope and Future Considerations

Roles and responsibilities around AI/ML models

Most insurers report that their MRM teams play a collaborative role within the organisational AI control framework. This suggests a strong trend towards embedding risk management into AI governance. However, a notable minority still lack an AI control framework or are unsure of their team's role, indicating room for improvement, particularly among small and medium insurers.

Figure 43. Main responsibility for AI and AI Risk Management on C-level

Category	Value
Combined responsibility of C-suite	25%
CRO	21%
CTO	18%
No dedicated responsibility on C-level	11%
CIO	11%
COO	7%
CDO	4%
CEO	4%
CCO	0%
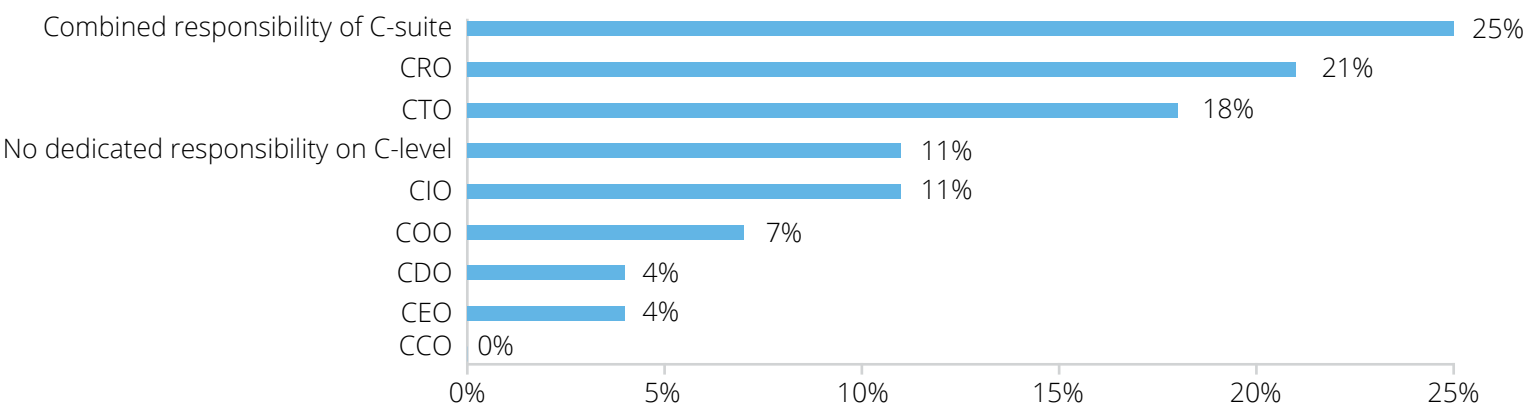
Figure 44. MRM team's role in contributing to the overarching organisational AI control framework

Category	Value
Collaborative role	36%
We don't have an AI control framework	29%
I don't know	11%
Monitoring role	11%
Advisory role	7%
Fully integrated	7%
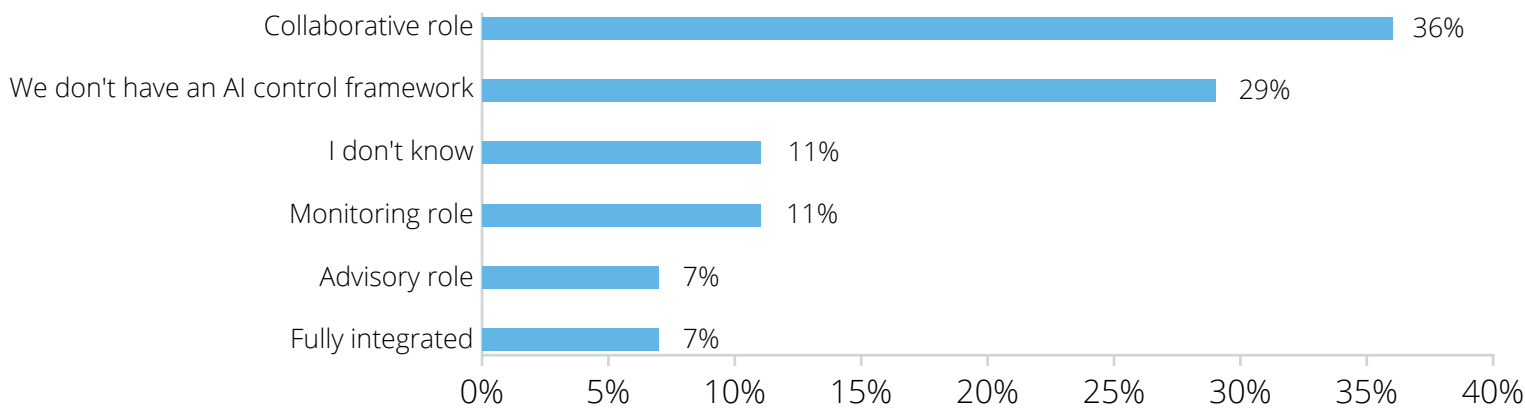
Use of AI/ML in the MRM process

16% of insurers have indicated that they use AI/ML to enhance their MRM processes as uncertainty in use remains significant. This reflects both growing adoption and ongoing uncertainty or lack of clarity about the benefits and implementation of AI/ML in risk management. Common use-cases of the positive responds were report writing, coding, and other administrative tasks such as minute-taking. Many insurers are currently evaluating how AI/ML can be used in the MRM process.

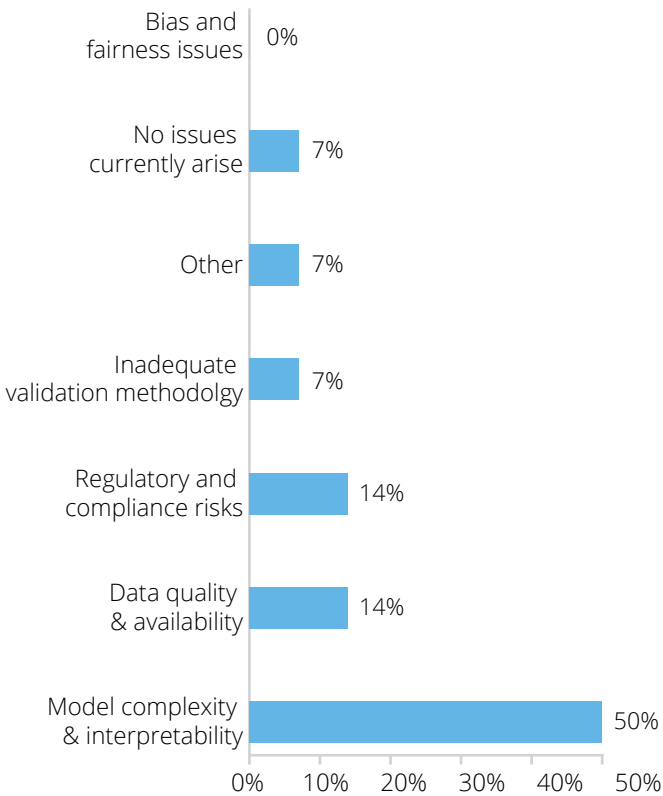**Figure 45. Insurers using AI/ML to enhance their current MRM process**

Yes 16%
No 49%
I don't know 35%
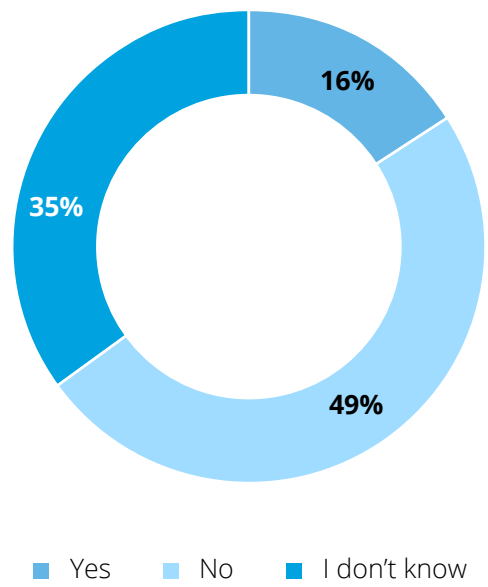
AI – Current Scope and Future Considerations

Main validation challenges

The most significant challenge faced by insurers in AI model validation is model complexity and interpretability, cited by 50% of respondents. Other notable challenges include inadequate validation methodology, regulatory and compliance risks, and data quality and availability. A notable proportion report no issues, highlighting the maturity of insurers AI applications.
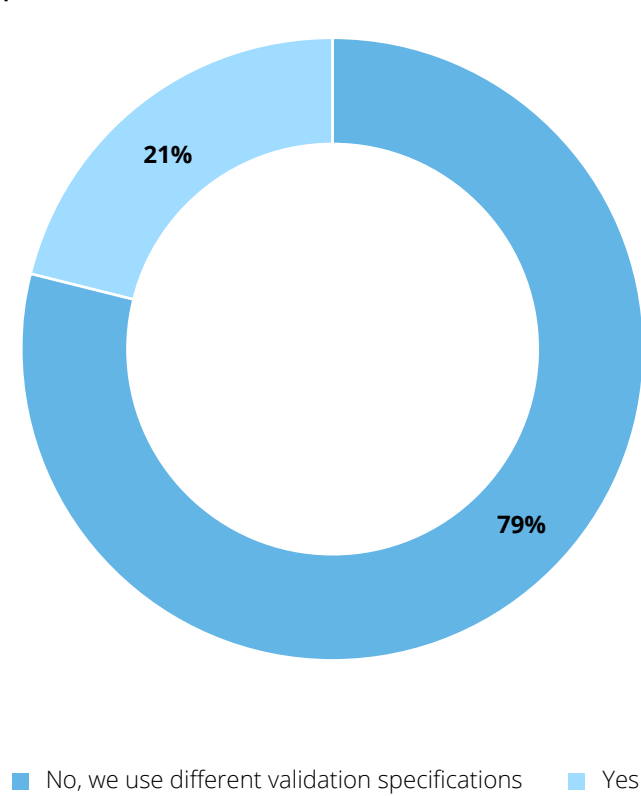
Validation specifications

The majority of insurers do not use the same validation specifications for AI/ML models as for traditional models, indicating a recognition of the unique challenges posed by AI/ML and a move towards tailored validation approaches.

Governance tools

Most insurers do not use MRM or AI governance tools for AI models. Very few have implemented or plan to implement specialised AI governance tools, and a notable proportion are unsure of their approach, especially among small insurers.

Figure 46. Main challenges currently arising around AI model validation

Challenge	%
Bias and fairness issues	0%
No issues currently arise	7%
Other	7%
Inadequate validation methodolgy	7%
Regulatory and compliance risks	14%
Data quality & availability	14%
Model complexity & interpretability	50%

Figure 47. Insurers with specific validation procedures for AI/ML models

- 79% — No, we use different validation specifications
- 21% — Yes

Figure 48. Use (or intended use) of AI governance tools for AI models

	Small insurers	Medium insurers	Large insurers
I don't know	19%	4%	7%
No MRM tool nor AI tool	15%	11%	7%
Use an AI Governance tool	4%	7%	4%
Use current MRM tool	4%	7%	11%
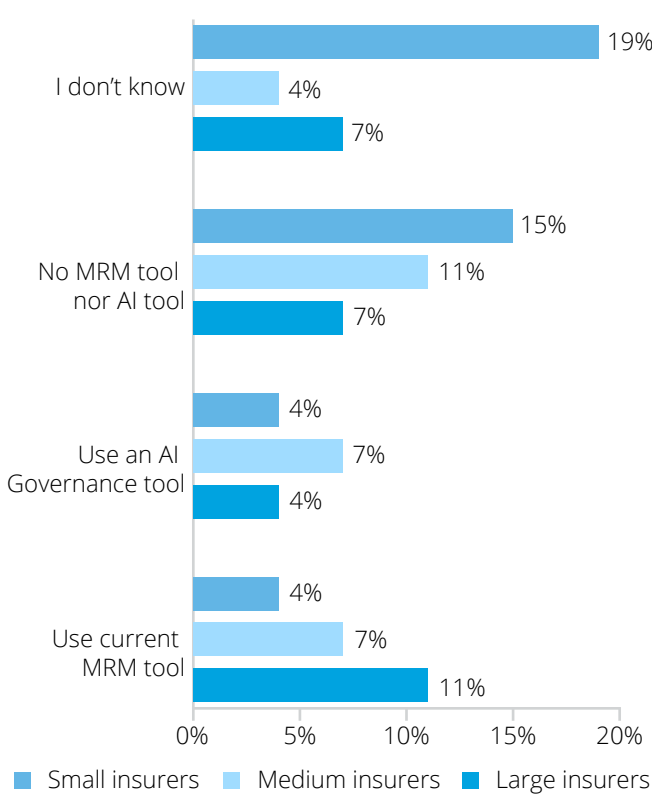
AI – Current Scope and Future Considerations

Adopting generative AI and Large Language Models

Three out of four insurers responded that they use generative AI (genAI) and Large Language Models (LLMs) in their organisation. Most insurers which, in 2023, did not have a policy around the use of genAI and LLMs have since implemented one. 15% of all insurers lack policies around the use of generative AI and Large Language Models, down from 43% in 2023.

Figure 49. Insurance company's using generative AI and Large Language Models

Pie chart:
- Yes: 76%
- No: 24%
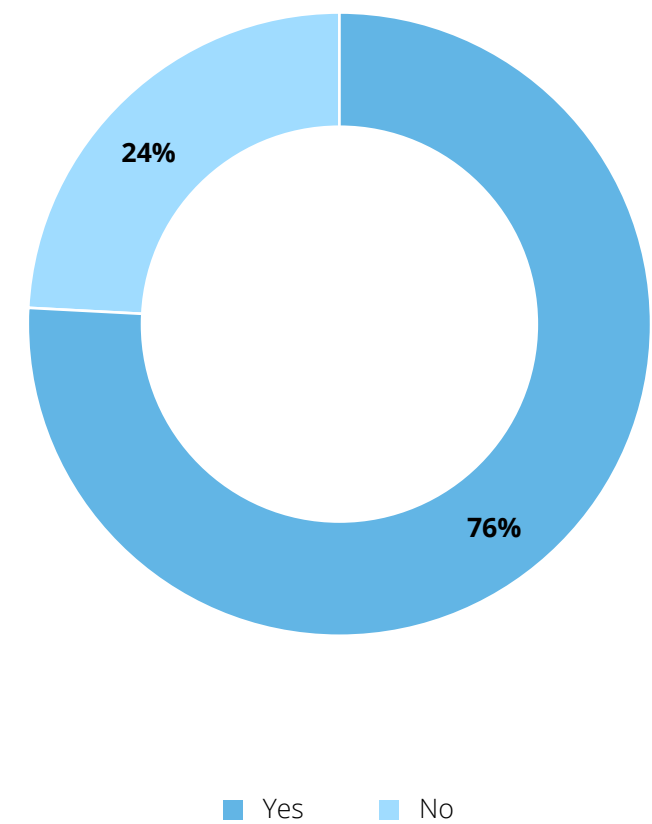
Figure 50. Policies around the use of generative AI and Large Language Models

Size	There is no policy	Yes - use of generative AI is not allowed	Yes - use of generative AI is allowed	Other
Small	9%	18%	45%	27%
Medium	11%	44%	44%	
Large	25%		63%	13%

Legend:
- There is no policy
- Yes - use of generative AI is not allowed
- Yes - use of generative AI is allowed
- Yes - use of generative AI is allowed, and it is included in policies such as a MRM policy or more general AI policy
- Other
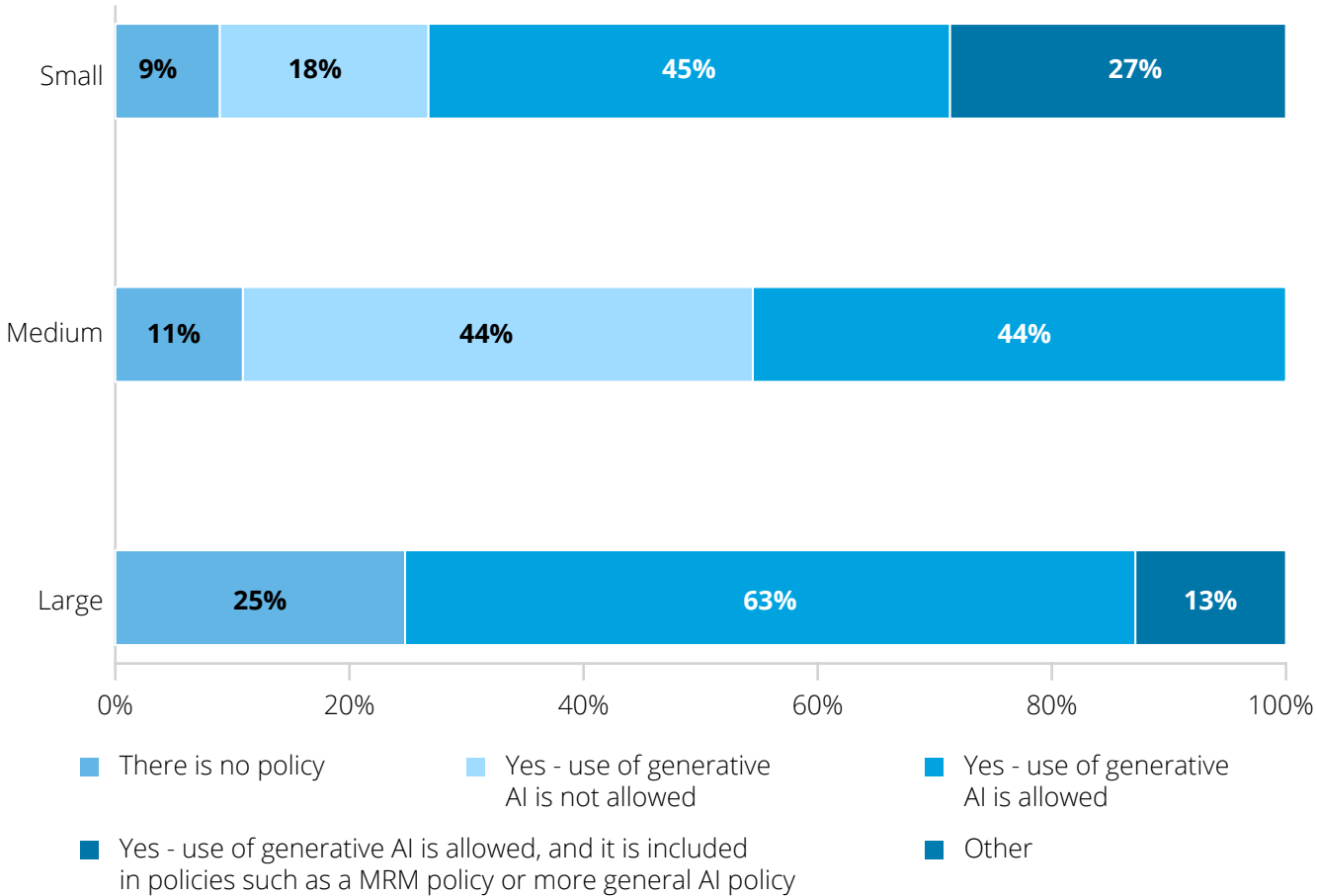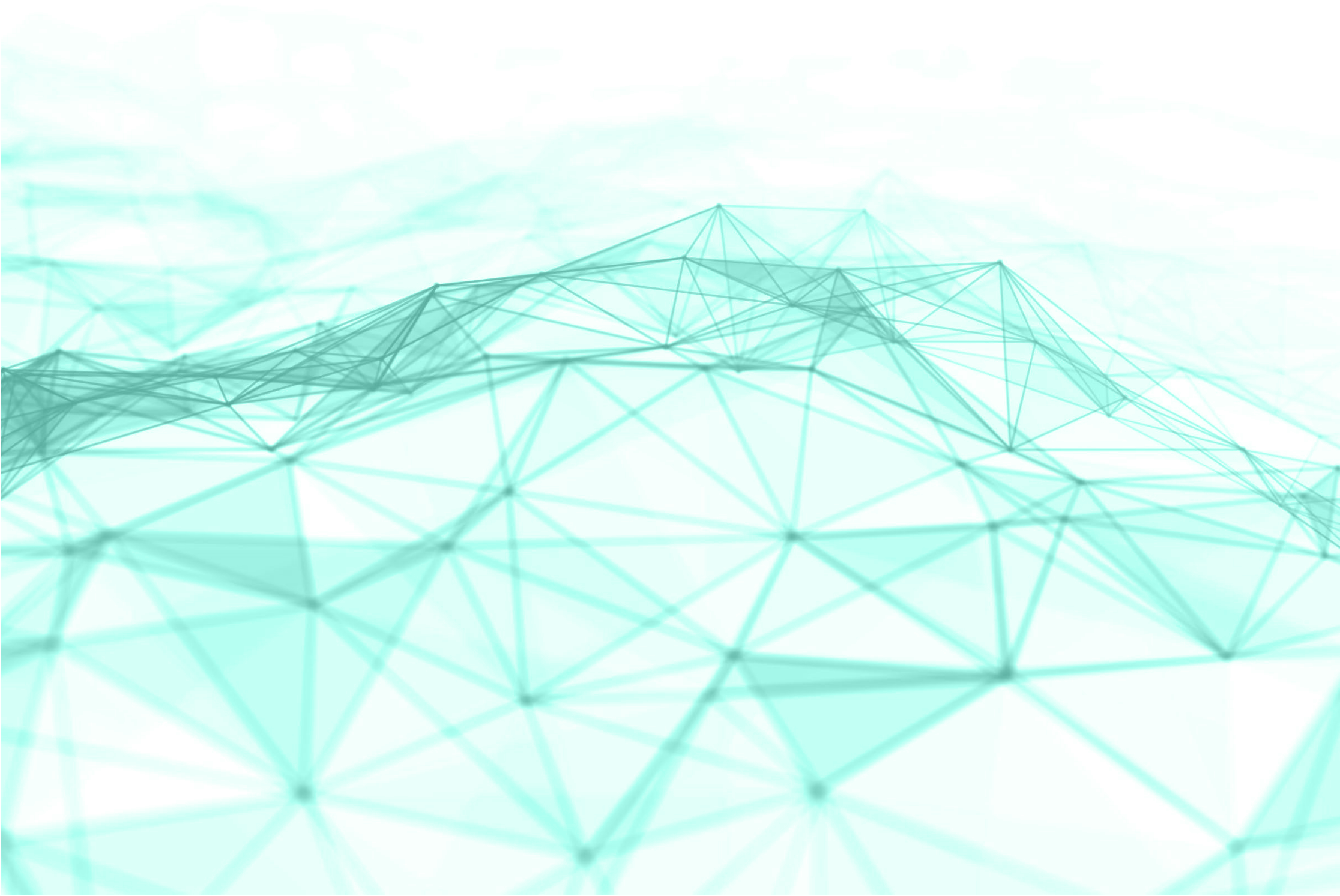
Acknowledgements

Acknowledgements

Subject matter advisors

Roeland Baeten
rbaeten@deloitte.com

Fabio Luca Crepaldi
fcrepaldi@deloitte.it

Thomas Moosbrucker
tmoosbrucker@deloitte.de

Hervé Phaure
HPhaure@deloitte.fr

Elisabeth Werneman
ewerneman@deloitte.se

Ian Wilson
iwilson@deloitte.co.uk

Editors

This reports is the result of a team effort that includes contributions by experts of the member firms of Deloitte Touch Tohmatsu Limited listed in this report.

Special thanks to the subject matter experts mentioned to the left, but especially to the following people from Deloitte who have made this survey a success by administering the survey, assessing the results and creating this document:

Rebecca Andersson, Senior Manager

Timothy Leo, Manager

Kevin Vuong, Manager

Akshay Mungroo, Assistant manager

Balázs Hingyi, Senior consultant

Contact

Contacts

Austria
Sascha Bakry
Partner
sbakry@deloitte.at

Belgium
Roeland Baeten
Partner
rbaeten@deloitte.com

Dirk Vlaminckx
Partner
dvlaminckx@deloitte.com

Central Europe
Przemyslaw Szczygielski
Partner
pszczygielski@deloitteCE.com

Denmark
Brian Skopek Hansen
Partner
brianshansen@deloitte.dk

Mikkel Jarbøl
Partner
mjarboel@deloitte.dk

Finland
Maria Englund
Director
maria.englund@deloitte.fi

France
Hervé Phaure
Partner
HPhaure@deloitte.fr

Germany
Thomas Moosbrucker
Partner
tmoosbrucker@deloitte.de

Iceland
Gunnar Magnusson
Partner
gmagnusson@deloitte.is

Ireland
Sean Smith
Partner
seansmith1@deloitte.ie

Aoife Bayne
Partner
abayne@deloitte.ie

Italy
Fabio Luca Crepaldi
Partner
fcrepaldi@deloitte.it

Middle East
Ravi Ranjan
Partner
rranjan2@deloitte.com

The Netherlands
Koen Dessens
Partner
kdessens@deloitte.nl

Sjoerd Kampen
Director
skampen@deloitte.nl

Norway
Lasse Cornelius Vangstein
Partner
lvangstein@deloitte.no

Portugal
Alexandra Ferreira
Partner
alexanferreira@deloitte.pt

South Africa
Andrew Warren
Partner
anwarren@deloitte.co.za

Spain
Oriol Arnau
Partner
jarnau@deloitte.es

Sweden
Gareth Greenwood
Partner
ggreenwood@deloitte.se

United Kingdom
Ian Wilson
Partner
iwilson@deloitte.co.uk

Tamsin Abbey
Partner
tabbey@deloitte.co.uk

Deloitte.