

# IIF-EY Annual Survey Report on AI/ML Use in Financial Services

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Public summary

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## Section

# I

## Introduction and Executive Summary

Artificial Intelligence (AI) continues to be a top strategic focus for the financial services industry. Firms continue to ramp up their investments significantly while also strengthening internal governance and controls over AI combining for a conservative but concerted approach. The rapid and broad deployment of Generative Artificial Intelligence (GenAI) created a step-change over the last two years. Market participants, policymakers, and consumers have explored the technology as various sectors make large investments in development and adoption. The question of how and where to generate significant value from GenAI remains open for many financial service firms; however, decades of experience with predictive AI and Machine Learning (ML) in finance—with applications in credit risk, fraud prevention, and anti-money laundering to name a few—positions the industry well as it carefully evaluates the path forward.

In this report, the sixth out of a series that started in 2018, the Institute of International Finance (IIF) and Ernst & Young Global Services Limited (EY) explore the latest AI/ML trends in financial services with data from our annual survey of IIF member firms. The 2024 survey focused on:

- 1 Development, Applications and Use Cases
- 2 AI/ML Governance and Oversight
- 3 Third-Party Models
- 4 Regulatory and Supervisory Engagement
- 5 GenAI / Large Language Models (LLMs)

While other sectors of the economy race ahead with GenAI broadly, Financial Institutions (FIs) are maintaining a steady but cautious approach with the overwhelming majority of use cases in production continuing to be found in internal-facing rather than customer-facing applications.

Beyond GenAI and LLMs, FIs are continuing to carefully employ classical/predictive AI tools (88% have use cases in production), under well-established governance and controls, which the industry has used for years. These include training data control, model validation, testing, ongoing performance monitoring, “human-in-the-loop” controls, bias management, “kill switches” and third-party AI risk management.

Data and infrastructure like cloud computing are fundamental components of the AI value chain. The results of this year’s survey show that data quality and data availability are the biggest challenges for further AI adoption in the financial industry. On the cloud computing and other services that tend to be provided by third parties, we found that 84% of respondents have dedicated infrastructure and/or platforms in place to enable AI/ML development/deployment, and 94% of respondents expect this number to increase further in the next months.

Other components that affect the deployment of AI include the regulatory environment institutions have to navigate. This year’s responses show that regulators are mostly focused on transparency, explainability, and bias; and that more than half of the policy developments around the globe fall under a principles-based approach.

The 2024 IIF-EY Annual Survey on AI/ML Use in Financial Services captures the views of 56 participating institutions including global systemically important banks (G-SIBs), international banks, national banks, insurers, and other FIs across eight (8) regions.

## Key findings and highlights from this year's survey include:

### 01

#### Development, Applications and Use Cases

- **The vast majority of FIs are accelerating their AI/ML adoption, supported by robust infrastructure support and significant year-over-year investment growth.**
  - 88% of survey respondents are using AI/ML in production today, with an additional 8% of the remaining institutions having pilot projects or near-term plans to adopt
  - 100% of survey respondents indicated increased investment in AI/ML in 2024
  - 50% of respondents increased investment by greater than 25% from 2023 to 2024
  - The most common predictive AI application uses are found within Risk, Fraud, Operations, and Compliance functions
- **Data quality and availability gaps remain the biggest challenges for further adoption of AI in production.**
  - The top two challenges for deploying AI are data quality and data availability

### 02

#### AI/ML Governance and Oversight

- **Effective AI/ML governance is a priority for FIs, with C-suite oversight, human-in-the-loop systems, and safeguards becoming standard practices.**
  - 74% of respondents either have or are planning to appoint a C-suite manager responsible for AI/ML ethics and governance, an increase of 8% in comparison to last year
  - The Chief Risk Officer and Chief Data Officer Functions are most commonly responsible for overseeing AI governance initiatives
  - Consistent with previous reports, safeguards built into the AI/ML applications include:
    - 87% utilize ongoing performance monitoring
    - 85% have “human in the loop” controls
    - 70% utilize Kill switches / Hard blocks
  - 96% of institutions have in-place or intend to implement feedback mechanisms or controls to correct AI/ML models
  - 61% utilize data quality validation to assess AI/ML model robustness
  - 73% of institutions have a process for review and approval of AI/ML use cases with 29% noting enhancements needed to the process

- In addition to Risk Management Frameworks and other techniques for deploying AI responsibly, 62% of institutions have firmwide policy governing AI/ML use

## 03 Third-Party Models

- **The use of Third-Party AI/ML Models continues to increase.**
  - 94% of respondents expect the use of third-party AI/ML solutions to increase in the next 12 months
  - 85% of respondents utilize the same validation requirements for third party and internally developed models
  - 84% of respondents have dedicated infrastructure and/or platforms in place to enable AI/ML development/deployment (e.g., model ops/DevOps)

## 04 Regulatory and Supervisory Engagement

- **Engagement with regulators continues to increase in every region.**
  - 70% of respondents have engaged with or are planning to engage with regulators on the topic of AI
  - Transparency, explainability, and bias are the most common topics raised by regulators
  - 73% of institutions note that regulatory developments currently taking place in their jurisdiction may have impact on their adoption of AI/ML
    - The majority of these policy developments (54%) fall under a principles-based approach
    - 25% of respondents have a voluntary and principles-based approach
  - 69% of all respondents said their institution sees their regulator/supervisor as sufficiently equipped to understand and direct the path forward on AI/ML, a sharp increase from 2023 results

## 05 GenAI / LLMs

- **The use of GenAI has become mainstream; however, most of its use cases in the financial industry are internal.**
  - 89% of respondents are using GenAI today with close to 50% with active use cases in full scale production
  - 80% of institutions are currently using or piloting GenAI for internal (non-customer facing) uses, and less than 11% of GenAI use cases are external facing
  - Over 50% expect significant expansion in the use of GenAI Models over the next 12 months
  - 80% of respondents highlighted Hallucinations and 74% Data confidentiality/privacy as key risks associated with the use of GenAI

This report is a condensed version of the 2024 IIF-EY Annual Survey Report on AI/ML Use in Financial Services. A detailed version of this document is available for participating institutions and selected authorities.

## Section

# II

## Past Reports, 2024 Survey Methodology and Participants

### II.A. Past reports

As noted above, the IIF published several reports on the use of AI/ML between 2018 and 2020. Starting in 2022, the IIF and EY began jointly publishing reports on AI/ML.

In March 2018, the IIF published the *Machine Learning in Credit Risk* report, which surveyed a globally diverse group of firms on their applications, motivations, experiences and challenges in applying ML to credit risk management. This survey was conducted again the following year, leading to the publication of the second edition, *Machine Learning in Credit Risk 2019*, in July 2019. Additionally, the *Machine Learning in Anti-Money Laundering* report was published in October 2018, of which many survey respondents also participated in the credit risk report.

Through the publication of the Machine Learning Thematic Series, the IIF has addressed common challenges in the use of ML for credit risk management and anti-money laundering (AML) activities. This includes key topics such as model explainability and the ethical implications of bias in ML, which have been discussed in IIF publications like *Explainability in Predictive Modeling* and *Bias and Ethical Implications in Machine Learning*.

In 2020, the IIF published the *Machine Learning Governance Summary Survey Report*, outlining how practices at surveyed IIF member firms related to the end-to-end governance of the ML development and implementation process. The report covered key areas such as foundational aspects, data and inputs to ML, governance mechanism, model validation, model implementation and ongoing monitoring.

In 2022, the IIF and EY jointly published the *Survey Report on Machine Learning – Uses in Credit Risk and Anti-Money Laundering Applications*. This report, based on survey results from 43 globally diverse institutions, assessed the adoption of ML in production, the realized benefits and challenges, the maturity of ML governance, regulatory engagement, model validation, safeguards against unfairness and bias, and the monitoring of ML models.

In 2023, the IIF and EY jointly published the *IIF-EY Annual Survey Report on AI/ML Use in Financial Services*, surveying 65 globally diverse FIs. The report expanded its scope beyond Credit Risk and Anti-Money Laundering and introduced use cases, risks, and impacts of GenAI, as its adoption continued to grow. It also analyzed AI/ML governance and ethics, regulatory and supervisory engagement, and the use of third-party AI/ML models.

In 2024, we maintained several topics and questions from earlier editions to provide a timescale view on developments and applications.

## II.B. 2024 survey methodology and participants

The IIF and EY staff surveyed a globally diverse group of 56 FIs in 2024 from June to August 2024. The survey included a mix of single/multiple-choice questions and rank-ordered questions, both of which encouraged more detailed commentary. In certain instances, institutions did not respond to all questions, affecting the overall distribution of responses. The survey results are based on a sample size of 56 participants and may not be fully representative of the global financial institution population. Given the rapidly evolving environment during the survey period, the results should be viewed as a snapshot in time.

In this report, Predictive AI is defined as “a term used to refer to classical AI; the use of statistical analysis and ML to identify patterns, anticipate behaviors and forecast upcoming events,” while GenAI is defined as “the class of AI models that emulate the structures and characteristics of input data in order to generate derived synthetic content. This can include images, videos, audio, text and other digital content.”

The sample included institutions from six continents, categorized by the location of their headquarters, although most operate in multiple jurisdictions. The study spans eight regions and includes nine different types of FIs.

Percentage Distribution of Respondents by Region

Euro Area	29%
Other Europe	9%
Latin America	16%
North America	11%
Asia Pacific (excl. Japan)	7%
Japan	9%
Middle East	13%
Africa	5%

## II.C. Confidentiality

In recognition of the detailed insights provided by the 56 participating firms, this full report is confidential and is distributed only to the participating firms and selected authorities. A condensed version of the report will be made available to the public at the time of release.

# Section III

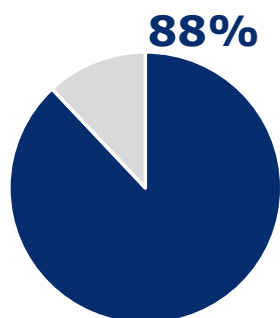
## Development, Applications and Use Cases

As in prior years, survey results indicate widespread adoption of AI/ML usage across FIs. The following section highlights trends in development, Applications and Use Cases

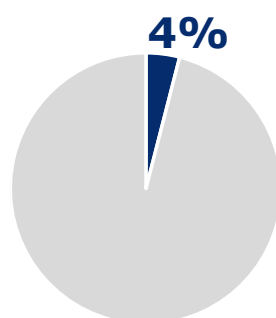
### Does your organization apply Predictive AI techniques in either production or pilot projects?

Ninety-two percent of survey respondents indicated that they are currently applying predictive AI/ML techniques whether in production (88%) or pilot projects (4%). In comparison to the responses received in 2023, institutions are still strongly focused on applying AI/ML use cases, with a slight increase in the percentage of institutions currently applying Predictive AI fully in production. Example use cases noted by respondents include claims fraud models, credit risk assessment, call retention propensity models, document processing, biometrical behavior and inquiry handling

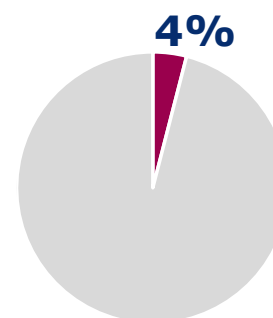
92% of institutions are utilizing Predictive AI/ML



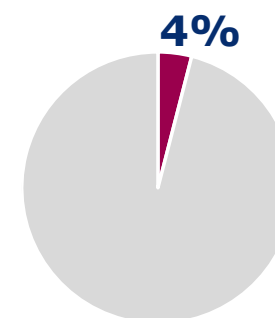
88% of respondents are applying predictive AI/ML techniques in production



4% of respondents are only experimenting with pilot projects



4% of respondents are planning for the foreseeable future



4% of respondents have no plans to

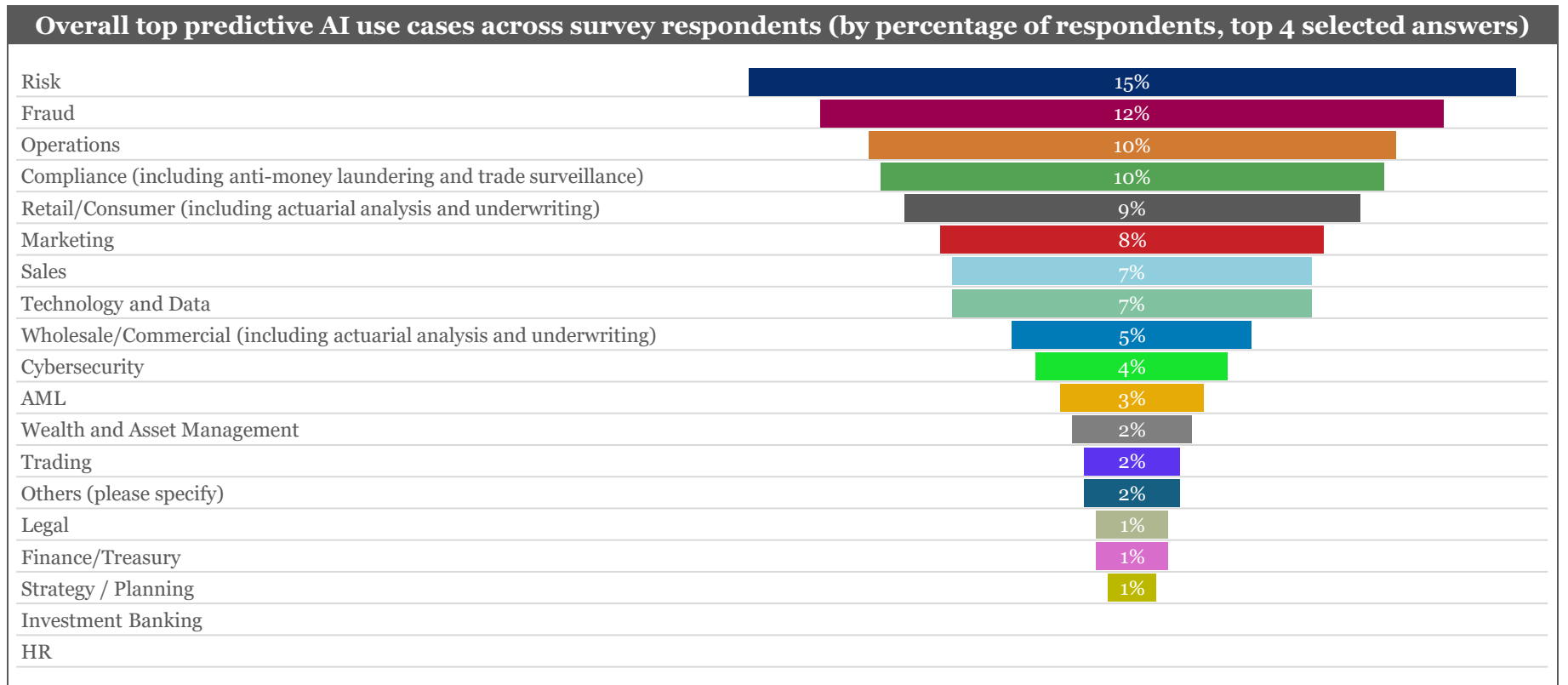


## Which of the following functions have the most Predictive AI use cases at your firm? Select top 4 options

The top four use cases or areas where Predictive AI is deployed among respondent included Risk, Fraud, Operations, and Compliance, followed by Retail/Consumer, Technology and Data, Marketing and Sales. While the use of AI/ML does introduce additional risks (as further described in Section IV), 32 institutions indicated that they are using Predictive AI as a key risk management tool. Risk management use cases highlighted by survey respondents included transaction monitoring or communication

surveillance, unstructured data analysis, anomaly detection and pattern recognition.

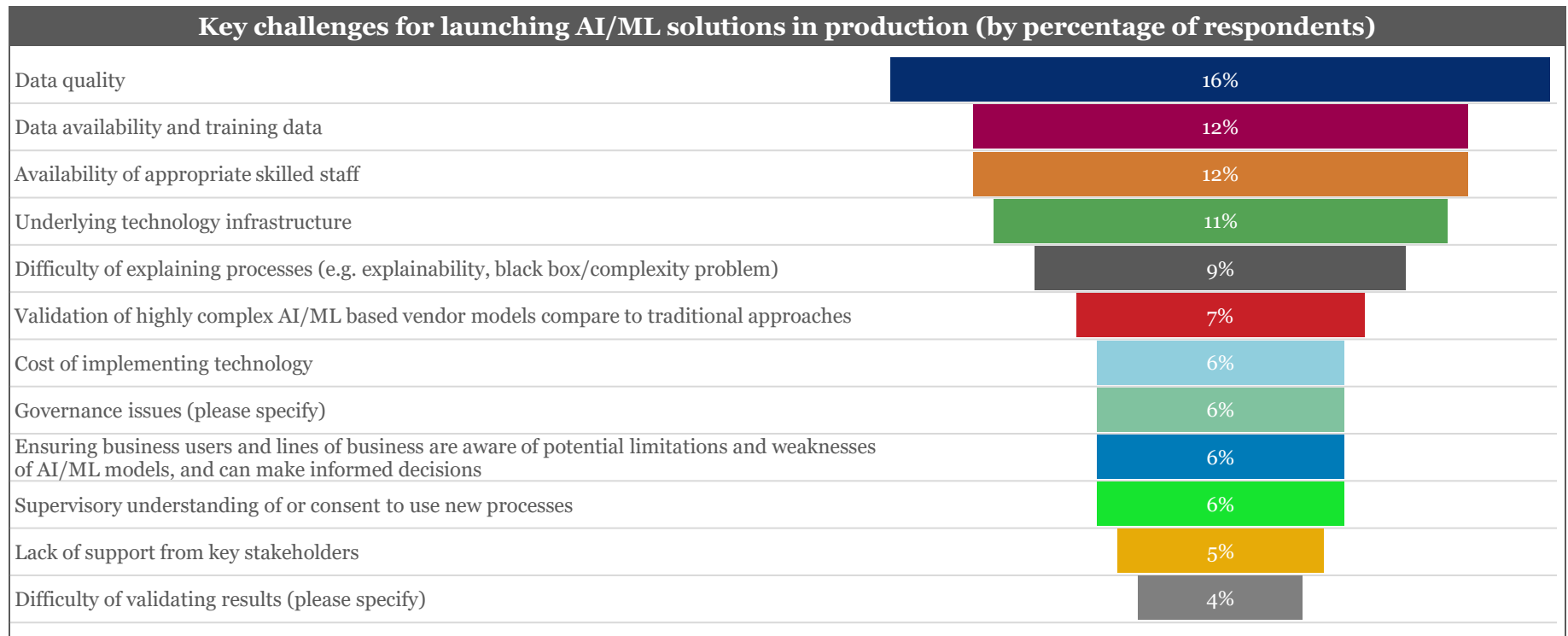
Though firms also indicated they use Predictive AI for AML, marketing, legal and others, those are still important use cases but not the main ones (see following page).

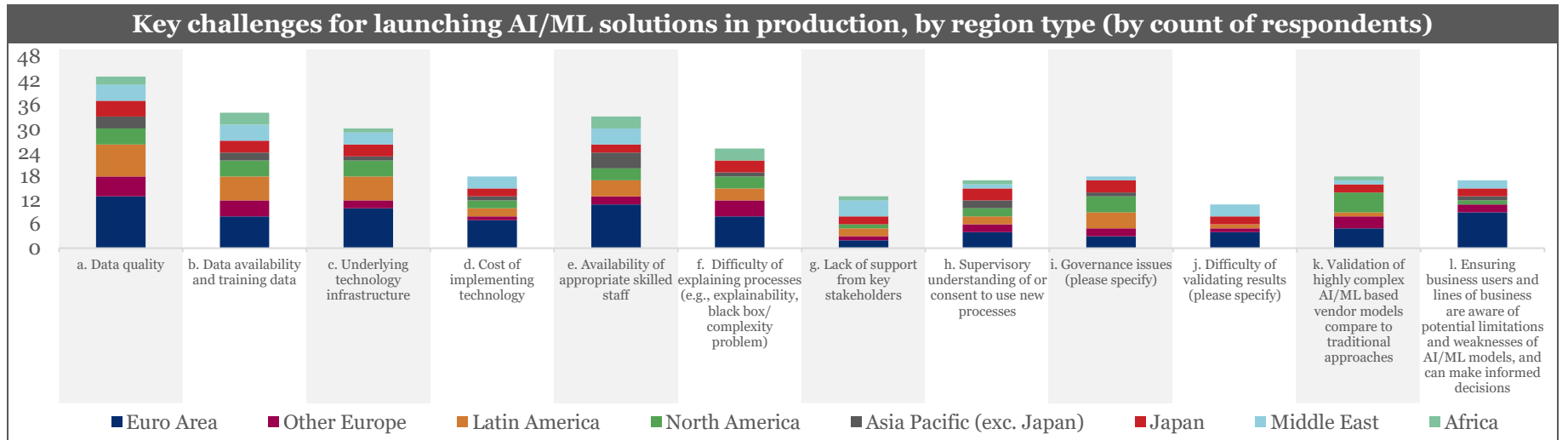


## What are the key challenges for launching AI/ML solutions in production?

Despite the success of institutions in deploying AI/ML solutions in production, there are common challenges observed, including data quality, data availability, and the availability of appropriately skilled staff. Broadly speaking, data-related issues (e.g., quality, availability) and technology/infrastructure are highlighted as common challenges across organizations. As can be seen in the data below, all challenges are relatively equally flagged as a key challenge for launching AI/ML solutions in production.

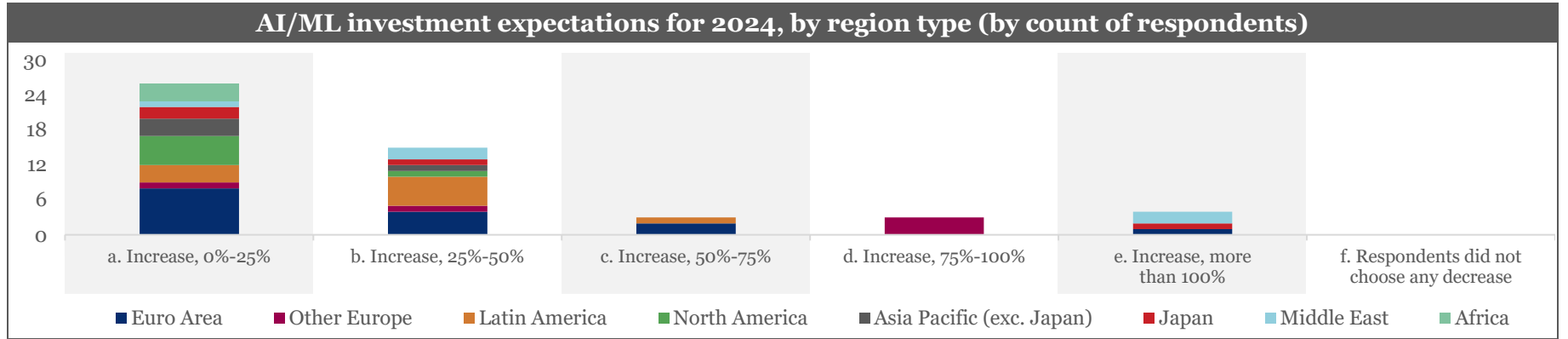
While in the 2023 survey, supervisory understanding of or consent to use new processes was the second most common challenge highlighted by participants, this year’s survey saw only 31% of respondents noting supervisors as a key challenge. A European International Bank specifically mentioned validating EU AI Act requirements with specifications identified by the European Committee for Electrotechnical Standardization as a challenge that their organization is currently facing. Similarly, two international institutions also noted difficulty in complying with multiple regulatory bodies and sectoral agencies.





## Indicate the approximate increase or decrease in investment in your institution in AI/ML for 2024 (including projected), when compared to 2023

Despite the challenges in launching predictive AI in production highlighted above, all survey respondents indicated that they increased their investment in AI/ML in 2024, with the majority of respondents showing <50% increase in investment in AI/ML.



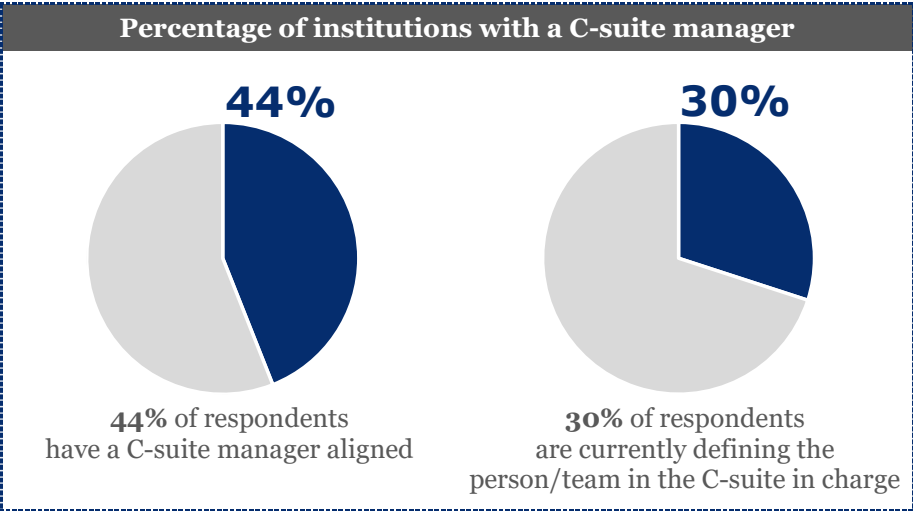
# Section **IV**

## AI/ML Governance and Oversight

Survey results demonstrate AI/ML Governance and Oversight continues to be a key component of FIs AI/ML strategy. Many organizations either have or are in the process of designating a C-Suite manager responsible for AI/ML Ethics. Further, the majority of respondents govern their AI applications through existing frameworks, have developed, or are in the process of developing new frameworks that complement existing ones.

### Has your organization appointed a C-suite manager responsible for AI/ML ethics and governance?

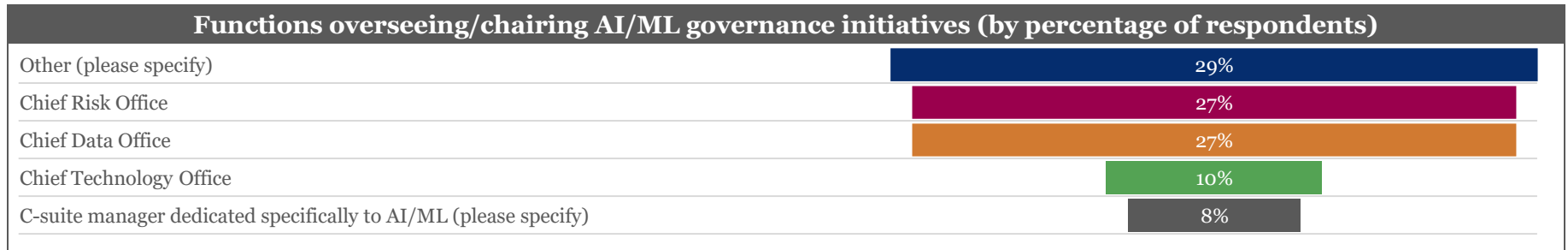
Survey results highlight that AI/ML is represented at the C-suite level at most FIs, where 74% of survey participants have or are planning to appoint a C-suite manager to be responsible for AI/ML ethics and governance. C-suite level representation proves to be of increasing importance to FIs, as the percentage has grown from 66% in the previous year's survey. Notably, all institutions that responded from the Asia Pacific region indicated that they have put a C-suite position in place. A European G-SIB noted that in addition to C-suite level governance, the Head of Environmental, Social and Governance at the institution has a voice in ethics-related AI/ML matters.



## Which function oversees/chairs (or equivalent) AI/ML governance initiatives within your organization?

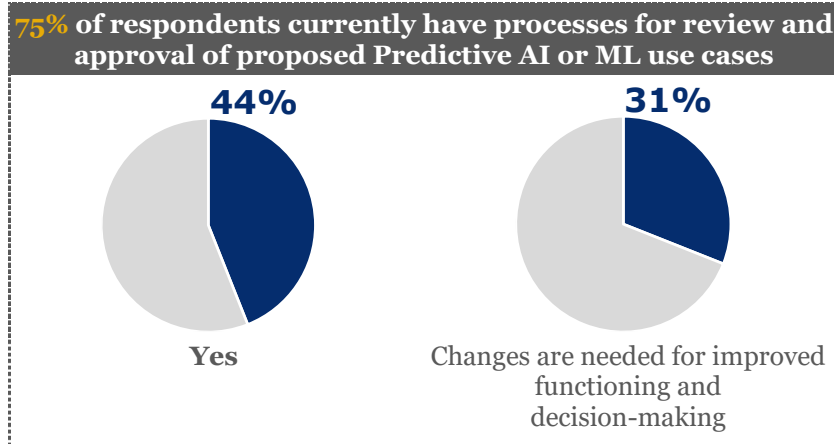
Based on survey responses, there continues to be a range of practice across the industry for ownership of AI/ML governance initiatives with The Chief Risk Office (27%) and Chief Data Office (27%) as the most common single functions noted. Additionally, 29% of institutions selected “other”

function/officer overseeing governance initiatives, the majority of which noted some combination of the Chief Technology Officer, Chief Data Officer, Chief Risk Officer and Chief Information Officer.

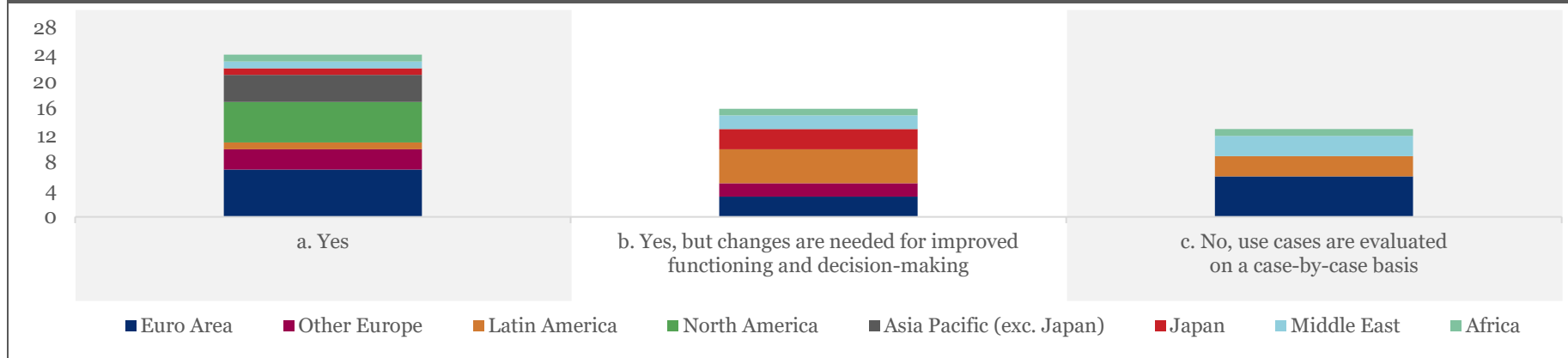


## Does your organization have a process for review and approval of proposed Predictive AI or ML use cases?

As a group, many respondents (44%) said they have a process for review and approval of proposed Predictive AI or ML use cases, with 32% of the group saying their approval processes need changes for improved functioning and decision-making. About a quarter of the respondents (24%) say they do not have such processes since their use cases are evaluated on a case-by-case basis. Asia Pacific and North America were the only regions to have 100% of institutions with a process for review and approval but with no changes for improved functioning and decision-making needed.



### Review and approval processes of proposed Predictive AI or ML use cases, by region type (by count of respondents)

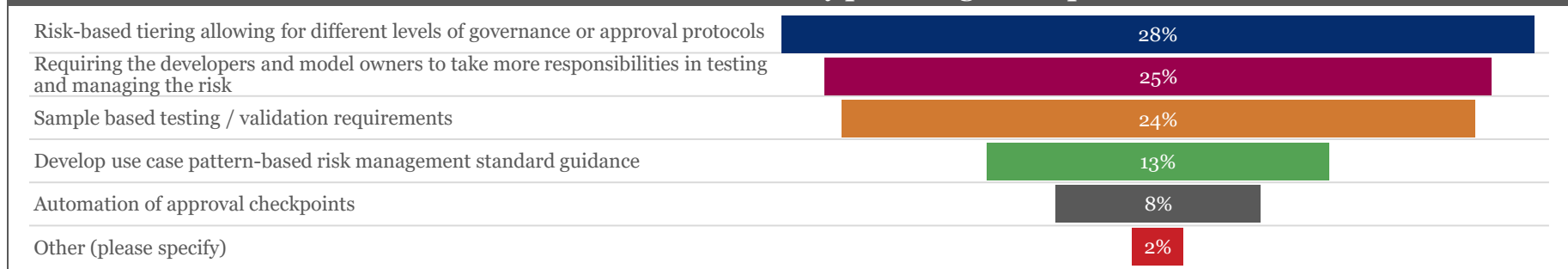


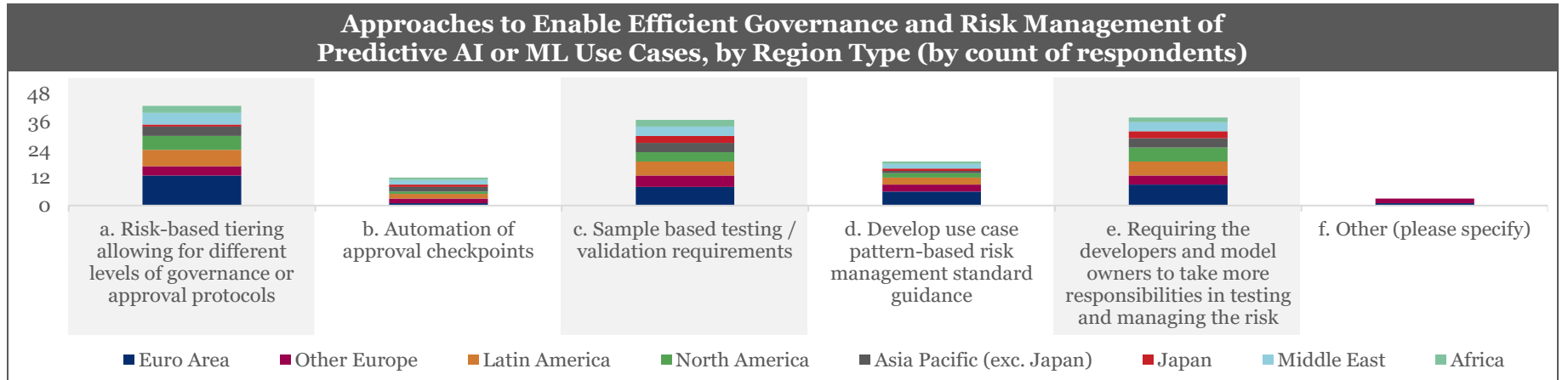
### Does your organization use any of the following approaches to enable efficient governance and risk management of Predictive AI or ML use cases?

Most organizations either approached their governance and risk management of predictive AI or ML use cases by using either risk-based tiering for different levels of governance (28%), sample-based testing or validation requirements (24%), or by requiring developers or model

owners to take ownership managing risk (25%). Other Europe and Euro Area are the only regions that claimed they use other approaches to enable governance and risk management that were not measured.

### Approaches to enable efficient governance and risk management of Predictive AI or ML use cases (by percentage of respondents)

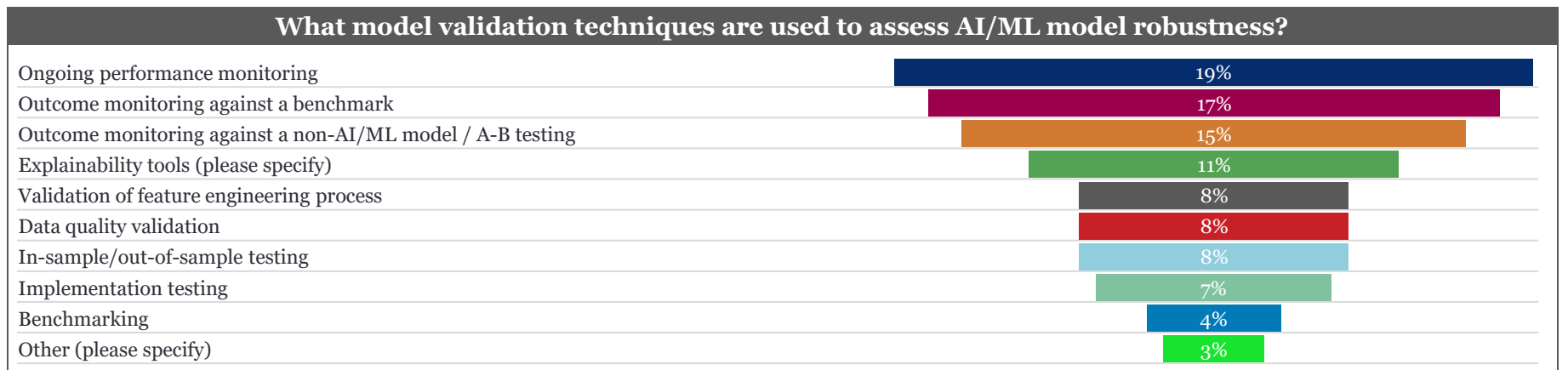




## What model validation techniques are used to assess AI/ML model robustness? (Select top 4)

Ongoing performance monitoring, data quality validation, in-sample/out-of-sample testing, and implementation testing were the top four model validation techniques identified among participants to assess AI/ML

model robustness. Some respondents also named transparency/explainability techniques such as Shapley values, Partial Dependence Plots (PDPs), sensitivity analysis, and LIME.



## What safeguards are built into AI/ML applications?

“Human-in-the-loop” mechanisms and performance monitoring were the top two most selected safeguards that institutions are incorporating into their AI/ML applications. A Latin American National Bank indicated that their institution has a monitoring library for their production models, scoring outputs and alerting key stakeholders via Microsoft Teams and are in the process of developing an additional library which will monitor

traditional models (such as regression and classification models). Additional safeguards mentioned included regular control sampling and content filtering. The prevalence of “Human-in-the-loop” controls suggests that while there is widespread adoption of AI/ML, it is not replacing the needs for humans to be involved in key processes that are complemented by the technology.

### Safeguards built into AI/ML applications (by percentage of respondents)

Performance monitoring	27%
“Human-in-the-loop” mechanisms	27%
Alert systems (e.g., log monitoring or upstream/downstream monitoring)	19%
Backup systems	14%
Guardrails/soft-blocks (please indicate type of algorithm)	5%
Kill switch/hard-blocks	5%
Other (please specify)	2%



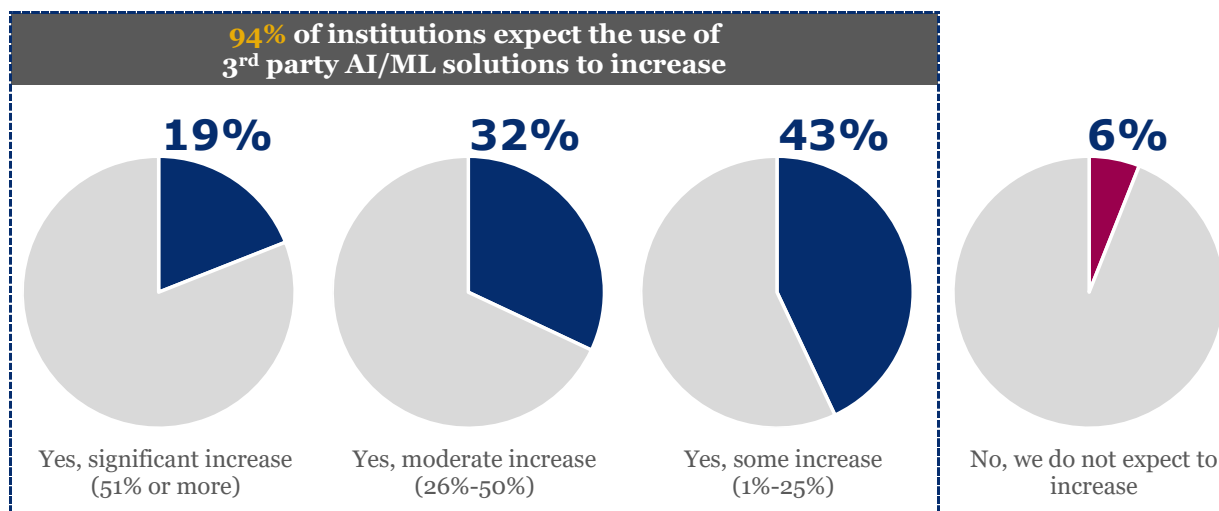
## Third Party Models

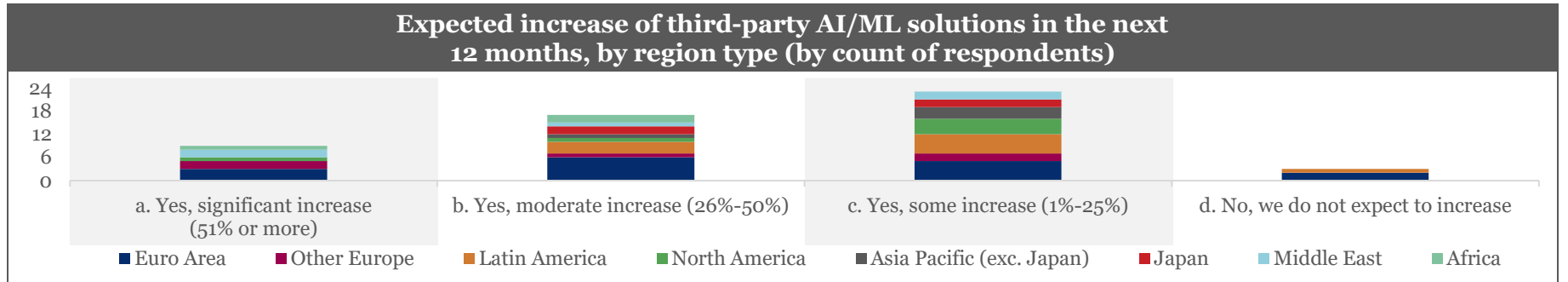
The growth of AI/ML has enabled organizations to utilize infrastructure and platforms to assist them with things like model development and deployment. Additionally, organizations are putting safeguards in place to protect themselves from the risks associated with third parties through utilizing internal risk management requirements, ensuring mechanisms are in place for data governance/privacy, and protecting their personally identifiable information (PII).

### Do you expect the use of third-party AI/ML solutions to increase in the next 12 months?

Among the respondents, 94% expect the use of third-party AI/ML solutions to increase in the next 12 months. Of these, 43% anticipate a slight increase of 1%-25%, 32% predict a moderate increase of 26%-50%, and 19% foresee a significant rise of 51% or more.

These results are consistent with last year's responses as most regions were expecting a 10-25% increase in third-party AI/ML solutions in the next 12 months. They also portray an issue that has been flagged by international organizations like the International Monetary Fund (IMF) and the Financial Stability Board (FSB) in recent papers: a trend toward leveraging third parties for developing AI models, with its consequent considerations regarding concentration risks and competition.



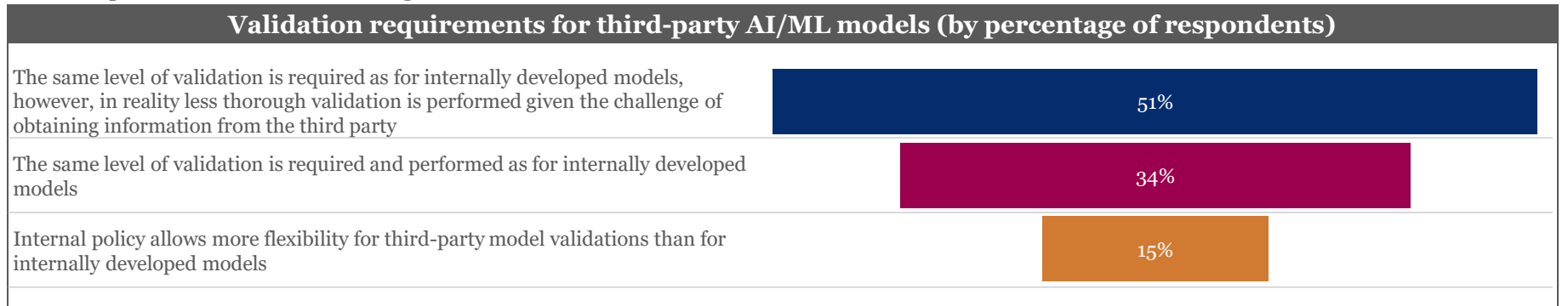


## What is your validation requirement for third-party AI/ML models?

Model validation processes are important for an organization to manage third-party risk for their AI/ML models with 85% of respondents indicating that equal level of validation is required of third-party models as is required of internally developed models. However, the majority of that group of respondents flagged that in reality less thorough validation is actually performed because of constricted access to the information needed to validate the models, regulatory and contractual arrangements, and other reasons. This is generally consistent with the survey results in 2023 and points to a continued challenge from FIs to access information

from their technology providers, which we have also heard in meetings with senior business and technology experts at IIF’s member institutions.

Regionally, many of the regions surveyed have a mixed approach on validation requirements. However, Other Europe had 100% of respondents agree that they utilize the same level of validation as their internally developed models but find that a less thorough validation is performed given the difficulties of obtaining information from third parties.



# Section VI

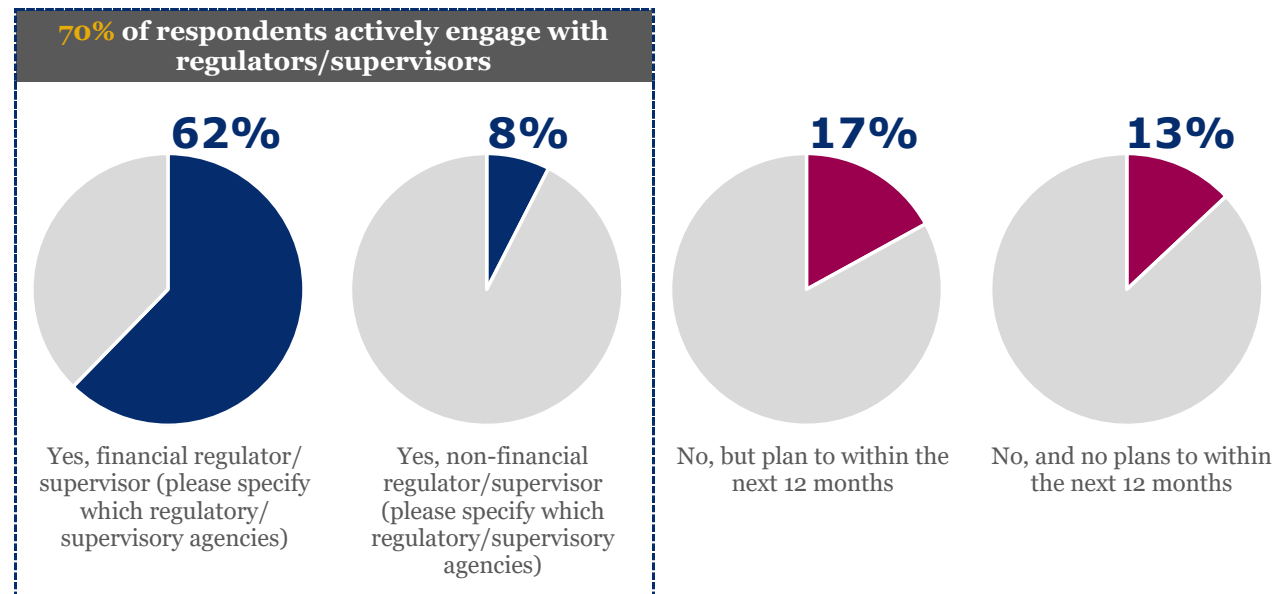
## Regulatory and Supervisory Engagement

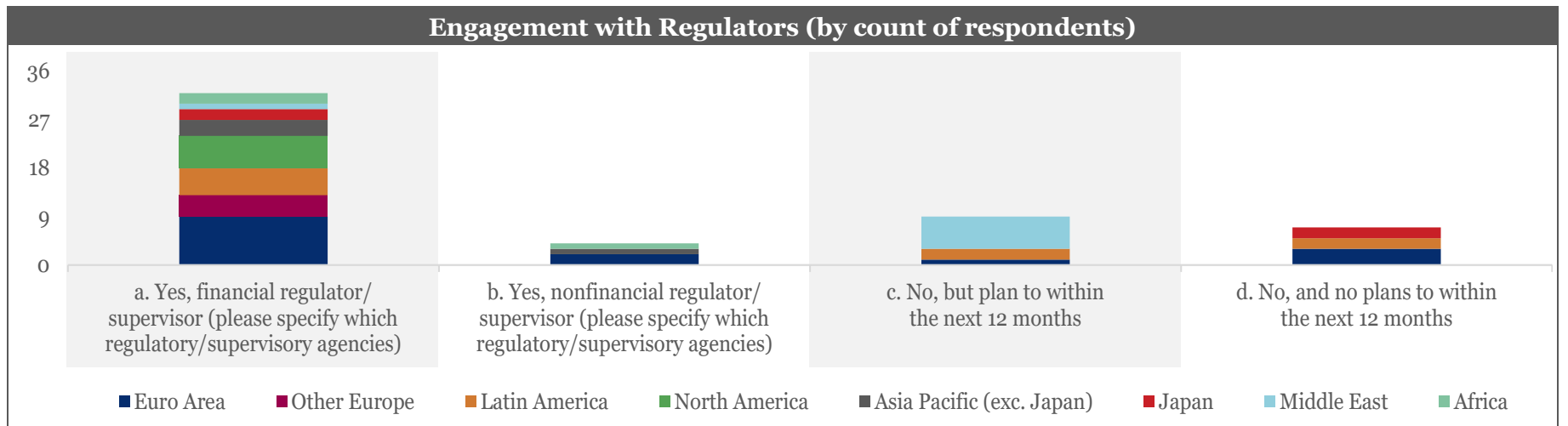
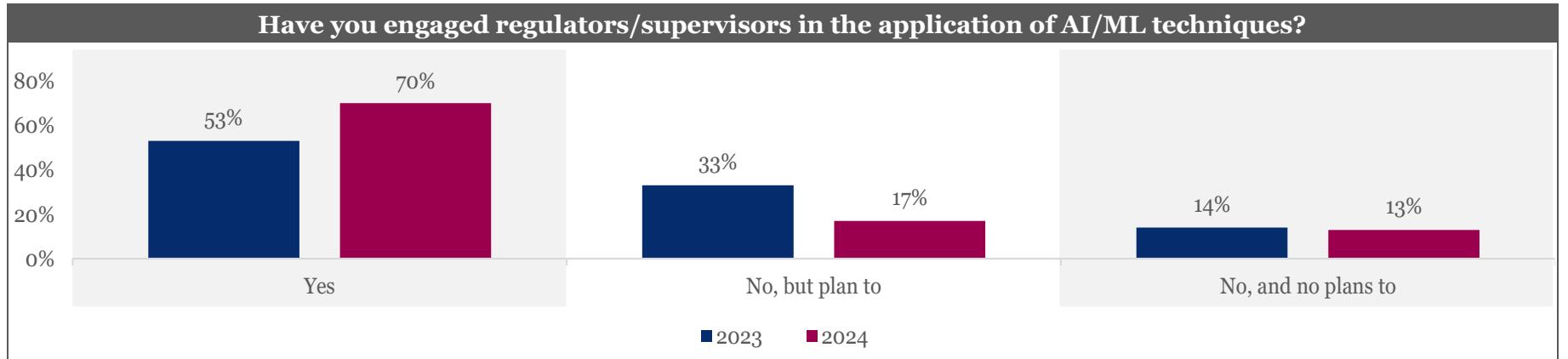
As AI/ML continues to expand, the public and private sectors are spending more time thinking about the technology, the different types of AI (Predictive AI, ML, GenAI, etc.), and the best way to align various approaches with policy and development objectives. While most regions and institutions are actively promoting the engagement between the public and private sectors to better advance their thinking, some jurisdictions are pursuing different paths. This year's responses regarding regulatory and supervisory engagement are consistent with those from the 2023 Report.

### Have you engaged regulators/supervisors in the application of AI/ML techniques?

Eighty-seven percent of all respondents surveyed have either engaged financial and nonfinancial regulators/supervisors in their application of AI/ML techniques or plan to within the next 12 months. Though this number is similar to the results from 2023 if we group the responses of those who have already engaged with authorities and those who plan to do so, a difference emerges if we look only at the institutions that already engaged the authorities, in 2023 only 53% of the FIs had already engaged with authorities, whereas in 2024 this number grew to 70%. Demonstrating the material attention authorities are paying to policy approaches to AI.

Regionally, the respondents from North America, Other Europe, Africa, and Asia Pacific are all engaging financial and nonfinancial regulators/supervisors in their AI/ML applications. Furthermore, all respondents from North America and Other Europe pointed out that their engagement has been with financial authorities. In the Middle East, all institutions but one said they haven't engaged with authorities on the use of AI/ML, but they expect to do so in the following 12 months.



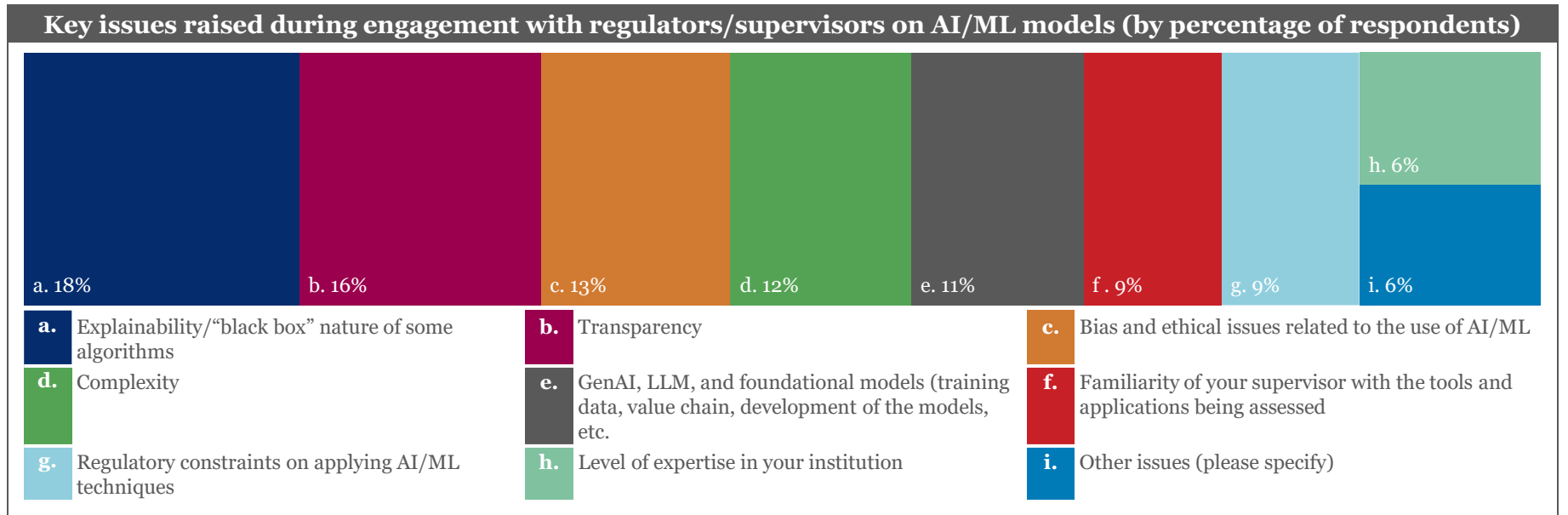


## If yes, what are the common/key issues raised during the engagement on AI/ML models by your regulator/supervisor?

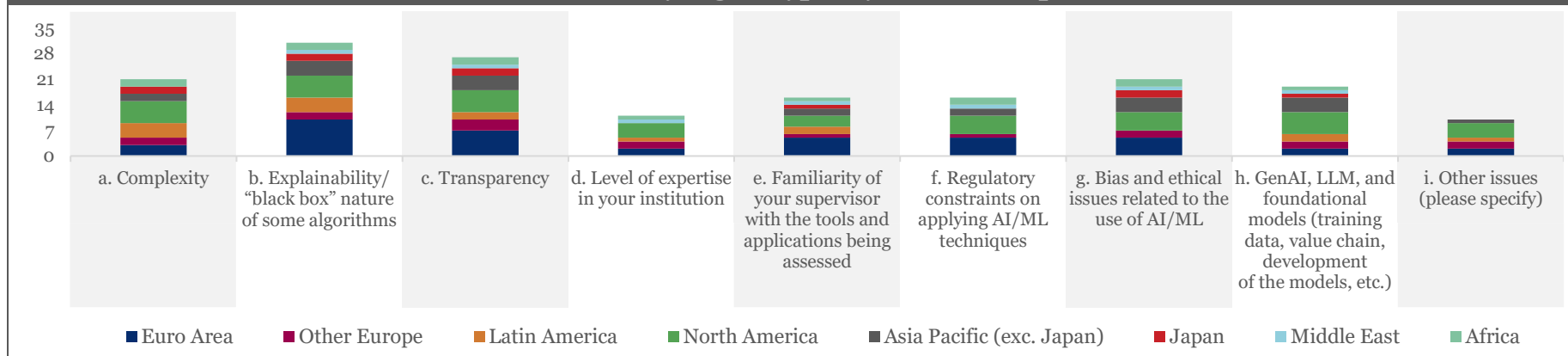
The responses spread across all the areas as expected. The four most common issues raised during engagement with regulators and supervisors are explainability/“black box” nature of some algorithms (18%), transparency (16%), bias and ethical issues related to the use of AI/ML (13%), and complexity (12%). These four common issues align with the regions and institutions surveyed. Additionally, a North American G-SIB reported “inventory management” as “Other issues”. Other issues reported include “data privacy,” “data quality validation,” and issues related to controls and governance.

When compared to the responses received in 2023 to this same question, though the top response continues to be explainability and the “black box” nature of some algorithms, the second most selected option changed, from bias and ethical issues in 2023 to transparency in 2024.

Comparing banks and non-banks, banks were aligned to the same four common issues across all respondents. Non-banks were more scattered in their responses with a mix of all issues being raised by regulators/supervisors during engagement on AI/ML models.



### Key issues raised during engagement with regulators/supervisors on AI/ML models, by region type (by count of respondents)

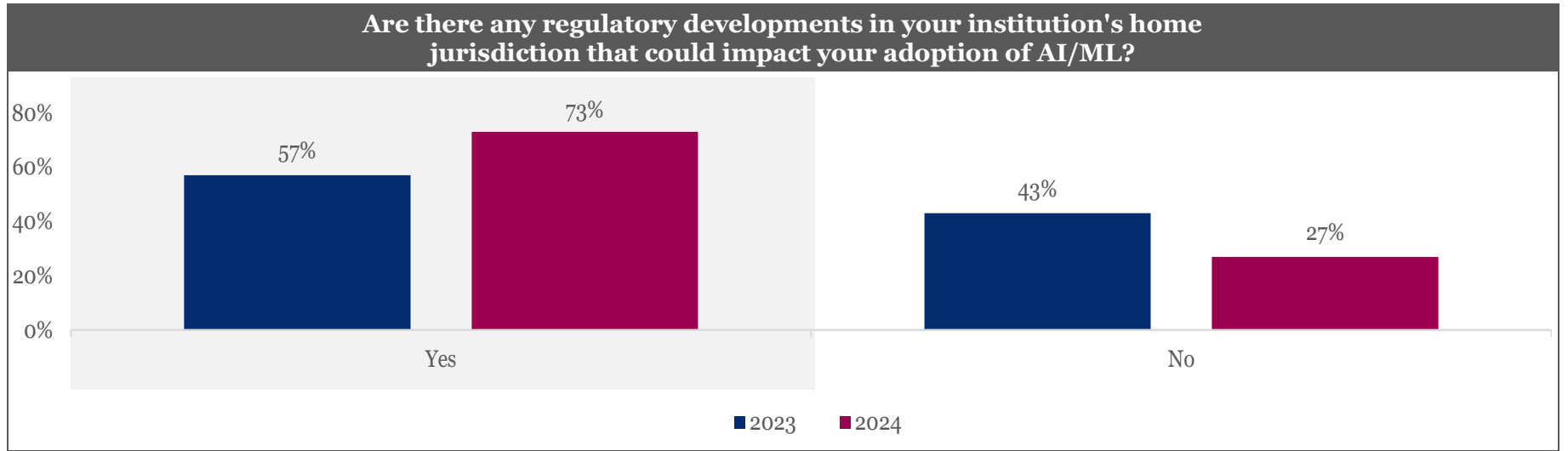
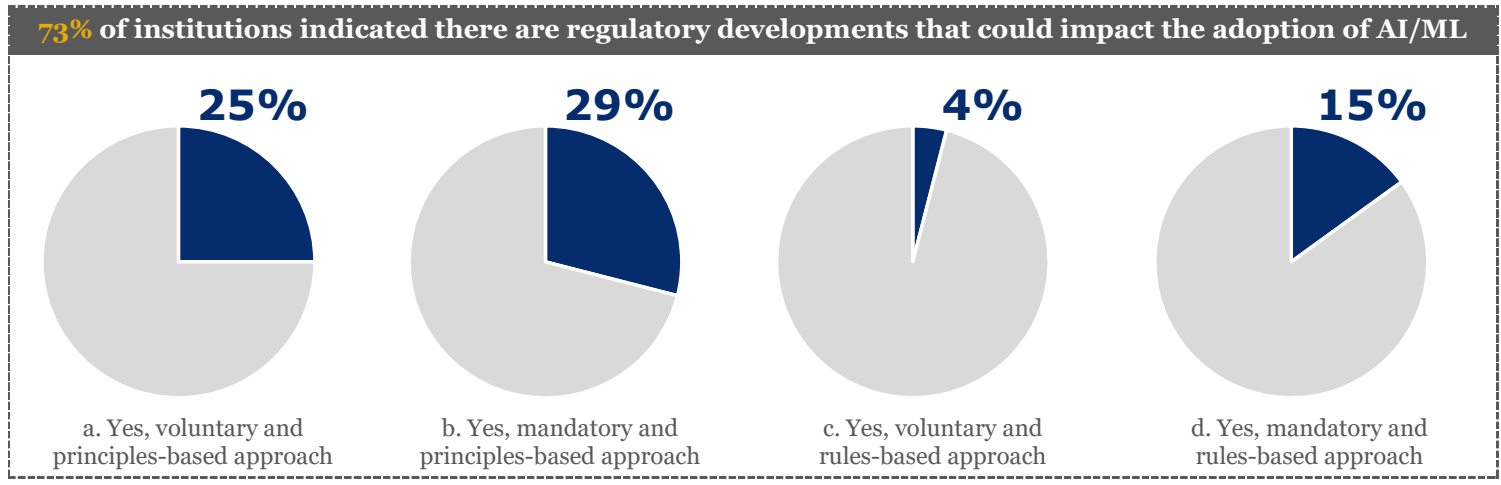


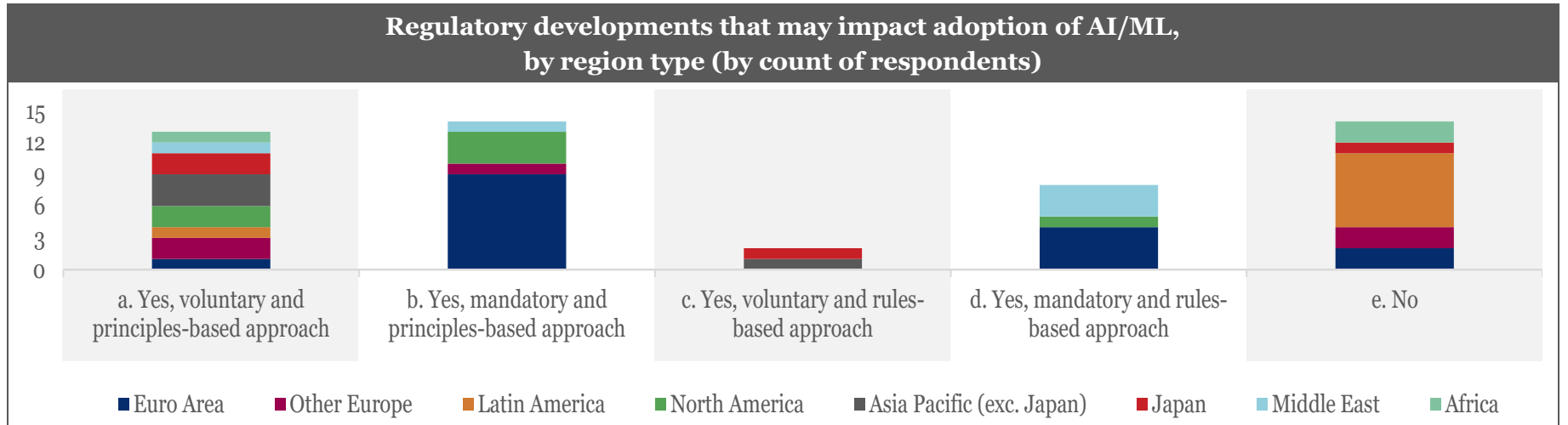
## Are there any regulatory developments in your institution's home jurisdiction that could impact your adoption of AI/ML?

This year's responses show that 73% of institutions surveyed have regulatory developments that could have an impact on their AI adoption, reflecting evident increased attention from policymakers on AI. This is a steep increase in comparison to 2023, where about 57% of the institutions surveyed saw regulatory developments in their home jurisdiction that could impact their AI/ML adoption. However, the majority of these policy developments (54%) fall under a principles-based approach (whether mandatory or voluntary), and only 19% of the respondents are in a jurisdiction with a mandatory and rules-based approach, showing that principles-based approaches are the leading approach by authorities in this space. In detail, 29% of those respondents have a mandatory and principles-based approach, 25% of those respondents have a voluntary and principles-based approach, 15% of those respondents have a

mandatory and rules-based approach, and 4% of those respondents have a voluntary and rules-based approach.

Regionally, most respondents from LAC and Africa indicated that there were no regulatory developments in their institution's home jurisdiction affecting AI/ML adoption. However, it is worth mentioning that countries in these and other regions are studying various approaches to govern AI, many of which are not based on creating regulation, but rather on promoting investments, data gathering efforts, and more. One institution noted that their 'local regulator is currently working on defining principles and potential future legislation regarding the use of AI.' These findings are consistent with the 2023 results for the region.







# Section VII

## Generative AI (GenAI) / Large Language Models (LLMs)

As FIs seek innovative ways to enhance operational efficiency, GenAI/LLM adoption continues to increase across the industry. Last year, the 2023 survey report indicated that 69% of institutions expected a significant to moderate increase in GenAI techniques, and this takeaway has held true. In 2024, 89% of survey respondents indicated that they are applying GenAI/LLM techniques in production or pilot projects. Notably, the percentage of institutions banning GenAI/LLM usage dropped 11% in 2023 to only 1% in 2024. The financial services sector is increasingly adopting GenAI, leveraging its advanced capabilities to generate value for the industry and its customers.

### Where do you see GenAI/LLMs currently being used in your institution?

Eighty percent of the institutions surveyed are currently using or piloting GenAI for internal (non-customer facing) uses. Overall, more than half of the firms surveyed (54%) are currently using GenAI/LLMs predominantly for optimizing employee access and use of internal knowledge, followed by automating processes, systems, and operations (26%).

Usage of GenAI/LLM varies among respondents by institution type and region. For example, International and National banks are the only institutions that report using GenAI/LLM for customer-facing interfaces. Some of those institution types also use GenAI/LLM for external sales, marketing, and customer outreach. In contrast, surveyed G-SIBs are currently

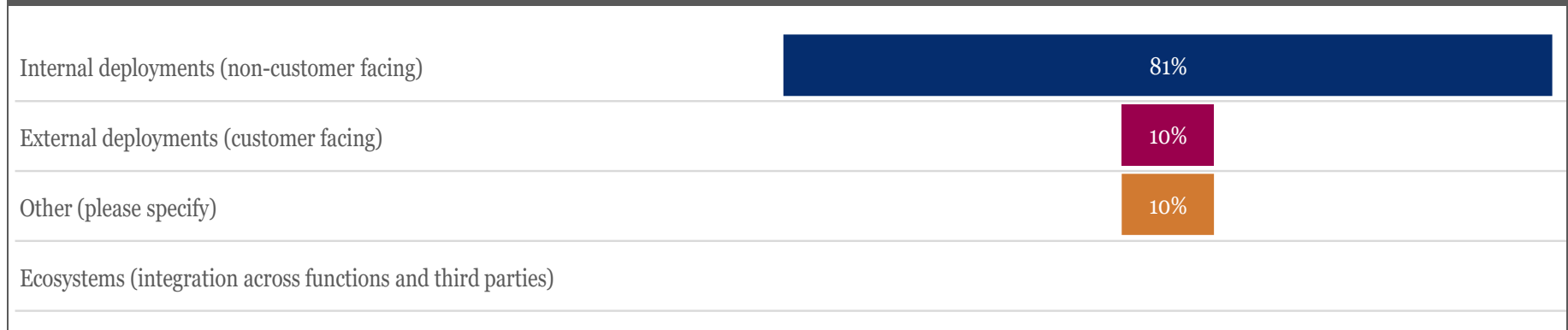
focusing on the internal application of GenAI/LLM practices and do not report external usage.

In 2023, 81% of institutions indicated that they see GenAI most likely to be used for internal use cases over the course of the next 12 months. Bringing us to today, this held true for the majority of institutions (63%), who currently have deployed GenAI/LLMs for internal use cases. With regards to external use cases, the percentage of institutions currently deploying Gen AI technology is 31% according to the 2024 survey results, greater than the 10% of institutions who had anticipated external use cases in 2023.

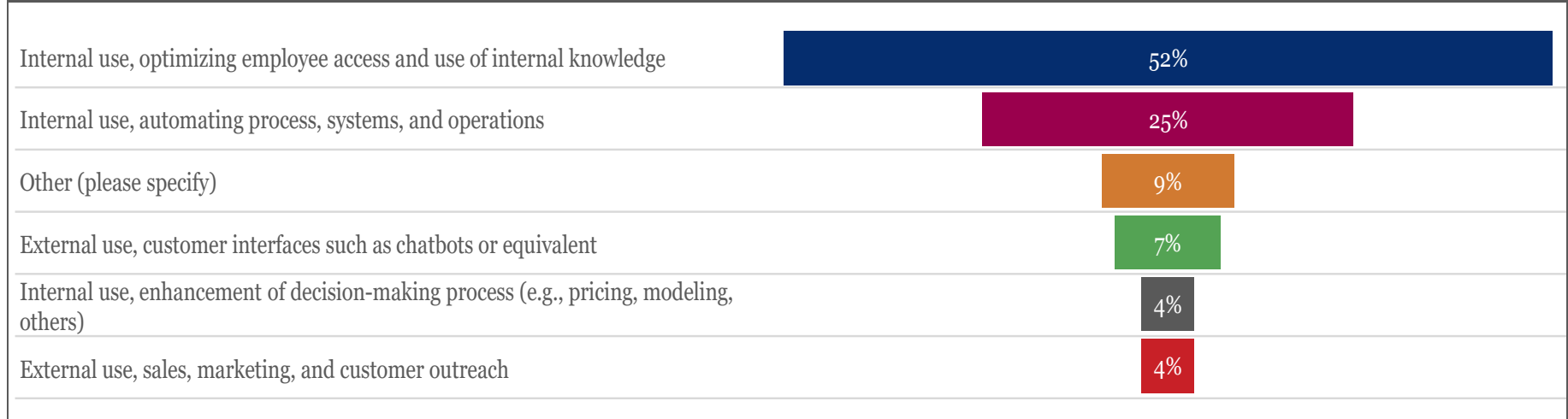
GenAI/LLM usage within institutions (by percentage of respondents)

Internal Use	80%
External Use	11%
Other	9%

### Institutional view on GenAI growth in the next 12 months from 2023 survey (by percentage of respondents)



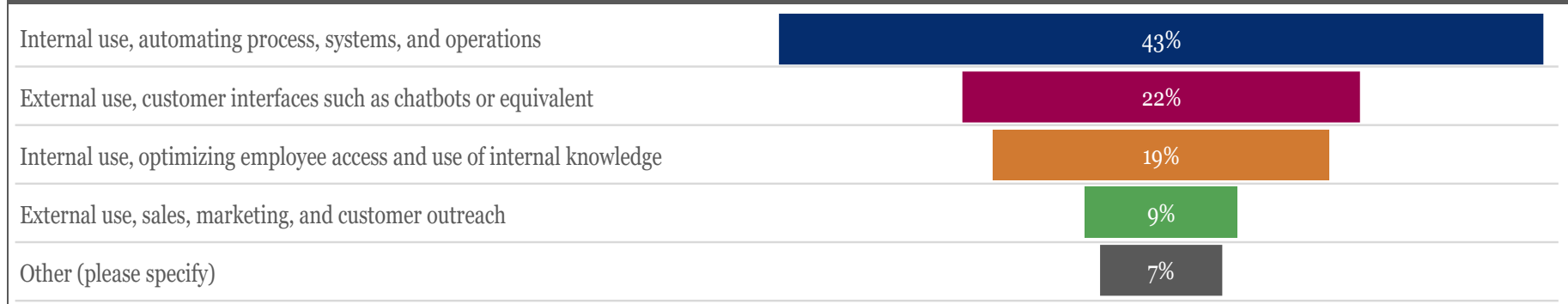
### Institutional view on GenAI currently in use from 2024 survey (by percentage of respondents)



## Where do you see GenAI/LLMs most likely to be used in your institution in the near future?

Among all respondents surveyed, 43% believe that over the next 12–18 months, GenAI/LLMs will continue to be most commonly used for internal processes, but for process automation and systems operations rather than the current focus on optimizing employee access and use of personal knowledge. Additionally, external usage, particularly for customer interfaces, is expected to grow during this period. If FIs continue to be as precise with their predictions as they were last in last year’s survey, 2025 could be the year where external use cases of GenAI reach about 30% of the total inventory of GenAI use cases in finance. Notably, all respondents from “Other Europe” expect GenAI to increase only for internal uses in the next 12–18 months.

### Institutional view on GenAI growth in the next 12 to 18 months (by percentage of respondents)



## What are the top 3 risks/concerns in using GenAI/LLM applications?

Among all respondents, hallucination emerged as the top concern, with 43% survey participants reporting it. Data confidentiality/privacy is the second most cited issue, with 40% considering it a top concern. Lack of explainability and cybersecurity also raise concerns, with 46% and 33% of institutions reporting them, respectively. The inability to extend validation and governance techniques to third-party models was identified as the least concerning area of risk among survey participants.

In comparison to the 2023 survey, data confidentiality/privacy proved to be overwhelmingly the top concern by institutions. This year, institutions are more equally concerned with data confidentiality/privacy and hallucination.

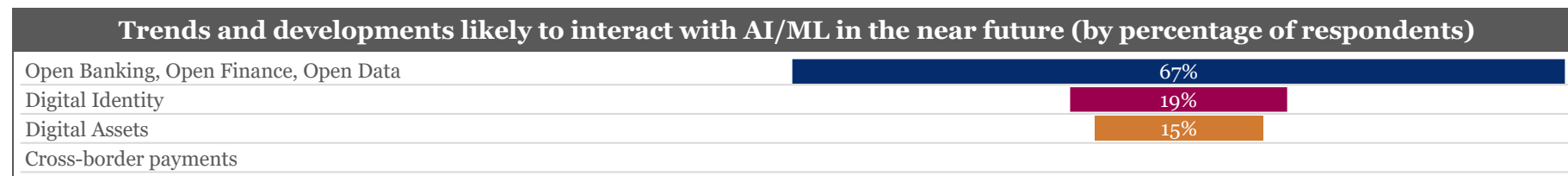
What are the top 3 risks/concerns in using GenAI/LLM applications? Select top 3 options, 1 being the highest	Ranking		
	1	2	3
a. Fairness/bias	7	6	3
b. Data confidentiality/Privacy	19	13	8
c. Cybersecurity	5	7	6
d. Toxic contents	1	2	5
e. Lack of explainability for how an output is generated	3	11	11
f. Hallucination	18	12	13
g. Inability to extend validation and governance techniques to models developed by third parties	0	2	3
h. Other (please specify)	2	0	3

# Section VIII

## Strategic Considerations

### Which of the following trends and developments are more likely to interact with AI/ML in the near future?

Across all responses, 67% of respondents believe open banking/open finance/open data is the most popular trend/development most likely to interact with AI/ML in the near future. Digital identity (19%) and digital assets (14%) make up the rest of the responses while cross-border payments did not receive any votes. Open banking/open finance/open data remained the unanimous trend/development across all regions surveyed. Euro Area made up 35% of the region's responses in favor of open banking/open finance/open data. This data is consistent with the importance of data and other components of the AI value chain.





## Section **IX**

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### Conclusion

The financial services industry continues to push forward with careful and well governed use of AI/ML for a wide range of applications. 88% of survey respondents are using the technology in production today and 100% reporting increased investment in 2024.

The rapid growth of GenAI and LLM is a step-change in AI with distinct models for development and deployment. 87% of respondents anticipate an increase in their inventory of GenAI/LLM models in the next 12 months and 94% of respondents expect the use of third-party models to increase as use of this new type of AI expands. FIs are working to address this change and other top challenges they see when using GenAI applications including data confidentiality/privacy and hallucination. Financial service firms are starting from a strong position in GenAI risk management because they can leverage the knowledge they have gathered over the years from deploying Predictive AI tools and managing third-party risk in general. On this issue of third-party risk, the majority of respondents require third-party models to have the same level of validation as required for internally developed models; however, a majority within that group noted challenges in obtaining the requested information to perform that same level of validation.

The financial services industry has taken a cautious approach to GenAI and is still largely focused on internal use cases this year rather than client-facing ones. 73% of institutions surveyed expect regulatory developments that could have an impact on their AI adoption. Regulatory signal and compliance concerns continue to constrain the pace of adoption and innovation with new GenAI tools in financial services.

FIs continue to strengthen governance and oversight of AI with 74% of respondents assigning a C-suite executive responsibility for oversight as they continue to evolve review and approval routines for use cases. To support rapid adoption, institutions are utilizing robust infrastructure, committing to significant year-over-year investments, and implementing safeguards such as human-in-the-loop systems.

The 2024 IIF-EY Survey Report on AI/ML Use in Financial Services is a continuation of a multiyear effort to study global AI in the financial industry. In future surveys, AI/ML risk management, engagement with regulators, and the continued growth of GenAI will continue to be explored, along with new technologies and industry shifts that emerge.

## Section

# X

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# Section **XI**

## Glossary

**Anti-money laundering (AML):** Money laundering is the criminal practice of processing ill-gotten gains, or “dirty” money, through a series of transactions; in this way the funds are “cleaned” so that they appear to be proceeds from legal activities. Money laundering generally does not involve currency at every stage of the laundering process. Although money laundering is a diverse and often complex process, it basically involves three independent steps that can occur simultaneously. Anti-money laundering consists of laws, rules, and regulations to prevent money laundering.

**Artificial intelligence (AI):** The theory and development of computer systems able to perform tasks that traditionally have required human intelligence. It is broadly applied when a machine mimics cognitive functions that humans associate with other human minds, such as learning and problem-solving.

**Asset management:** The business of providing financial products or services to a third-party for a fee or commission.<sup>1</sup>

**Bias:** An unfair inclination for or prejudice against a person, group, object, or position.

**Black box testing:** Input-output testing without reference to the internal structure of the ML application. The developer “experiments” with the model, feeding it different data inputs to better understand how the model makes its predictions.

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<sup>1</sup> OCC. OCC Comptroller's Handbook: Asset Management Version 1.0. June 22, 2023.

<sup>2</sup> U.S. Securities and Exchange Commission. Introduction to Investing: Working with an Investment Professional – Brokers. Accessed on November 30, 2023.

<sup>3</sup> European Central Bank. What is a central Bank? July 10, 2015.

**Brokerage:** A firm or individual that engages in the business of buying and selling securities (stocks, bonds, mutual funds, exchange-traded funds (ETFs), and certain other investment products) on behalf of its customer (as a broker), for its own account (dealer), or both.<sup>2</sup>

**Central bank:** A public institution that manages the currency of a country or group of countries and controls the money supply.<sup>3</sup>

**Clearinghouse:** A common entity (or common processing mechanism) through which participants agree to exchange transfer instructions for funds, securities, or other instruments. In some cases, a clearinghouse may act as a central counterparty for those participants, thereby taking on significant financial risks.<sup>4</sup>

**Data quality validation:** Refers to when one or more techniques are used to ensure potential issues with data (such as class imbalances, missing or erroneous data) are understood and considered in the model development and deployment process. Examples of these include data certification, source-to-source verification or data issues tracking.

**Ethics:** A system of moral principles governing a person’s behavior or the conduct of an activity. In the case of FIs, ethics bridges the gap between regulated and non-regulated spaces – that is, firms know what they should do (what is right or wrong). FIs have long-established ethical standards that are enshrined in firms’ values and codes of conduct, incremental to those that are adopted in response to regulatory requirements such as

<sup>4</sup> European Central Bank. Glossary of Terms Related to Payment, Clearing and Settlement Systems. December 2009.



those relating to fair lending or best interest standards. It is important to note that what is deemed “ethical” varies between individuals, societies, and jurisdictions, and can change over time.

**Explainability tools:** Tools and techniques aimed at explaining the inner workings of the ML model.

**Generative AI (Gen AI):** The class of AI models that emulate the structures and characteristics of input data in order to generate derived synthetic content. This can include images, videos, audio, text, and other digital content.<sup>5</sup>

**G-SIB:** A financial institution that is classified as a Global Systemically Important Bank by the Financial Stability Board (FSB) for 2022.<sup>6</sup>

**Insurance corporations:** Financial intermediaries that offer direct insurance or reinsurance services, providing financial protection from possible hazards in the future.<sup>7</sup>

**International bank:** A financial institution licensed to take deposits and make loans and whose businesses are distributed in two or more countries.

**Large language models (LLMs):** Neural network–based models trained on massive amounts of data, including text and documents, and capable of producing understandable and meaningful text or human languages.<sup>8</sup>

**Machine learning (ML):** One of the techniques used for AI and includes neural networks, among others. In general, ML is characterized by an algorithm autonomously “learning the rules” or “developing a model” from training data and using it to predict outcomes for new data (i.e., not from the training set).

Example ML modeling approaches within the scope of this survey include:

- Ensemble methods (e.g., gradient boosting machine, random forest, and isolation forest)
- Neural networks (trained through supervised, unsupervised, or semi-supervised learning) kernel or instance-based algorithms (e.g., support vector machines and support vector regression)
- Complex dependence structure (e.g., hidden Markov models, Bayesian networks, and generative adversarial networks); and
- Online or reinforcement learning (e.g., Q-learning, state-action-reward-state-action and adaptive dynamic programming)

**Model governance:** Sets an effective framework with defined roles and responsibilities for clear communication of model limitations and assumptions, as well as the authority to restrict model usage. A strong governance framework provides explicit support and structure to risk management functions through policies defining relevant risk management activities, procedures that implement those policies, allocation of resources, and mechanisms for evaluating whether policies and procedures are being carried out as specified. Notably, the extent and sophistication of a bank’s governance function are expected to align with the extent and sophistication of model usage.<sup>9</sup>

**Model risk:** The potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. Model risk can lead to financial loss, poor business and strategic decision-making, or damage to a bank’s reputation.<sup>10</sup>

<sup>5</sup> The White House. Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. October 30, 2023.

<sup>6</sup> Financial Stability Board. 2022 List of Globally Systemically Important Banks (G-SIBs). November 21, 2022.

<sup>7</sup> European Central Bank. Statistics – Financial Corporations. November 20, 2023.

<sup>8</sup> International Monetary Fund. Generative Artificial Intelligence in Finance: Risk Considerations. August 22, 2023.

<sup>9</sup> Federal Reserve. SR 11-7 attachment: Supervisory Guidance on Model Risk Management. April 4, 2011.

<sup>10</sup> Federal Reserve. SR 11-7 attachment: Supervisory Guidance on Model Risk Management. April 4, 2011.

**Model validation:** The set of processes and activities intended to verify that models are performing as expected, in line with their design objectives and business uses. Effective validation helps ensure that models are sound. It also identifies potential limitations and assumptions and assesses their possible impact.<sup>11</sup>

**Multilateral organization:** An organization formed by or encompassing multiple nations for a common purpose. In the context of this report, the multilateral organizations surveyed are focused on the financial sector.

**National bank:** A financial institution licensed to take deposits and make loans and whose businesses are primarily focused in one country.

**Outcome monitoring against a benchmark:** Refers to when decisions or actions associated with the AI/ML system are monitored using one or multiple metrics. Performance is assessed against a certain benchmark value of those metrics.

**Outcome monitoring against a non-ML model/A-B testing:** Decisions or actions associated with the AI/ML system that are monitored using one or multiple metrics. Performance is assessed by comparing it to the performance of a separate, non-AI/ML model. The same approach is used in A-B testing (also known as split testing).

**Predictive AI:** Draws inferences from large data sets, relying on hypothesis-free data mining and inductive reasoning to uncover patterns to make predictions about future outcomes, and may use natural language processing, signal processing, topic modeling, pattern recognition, machine learning, deep learning, neural networks, and other advanced statistical methods.<sup>12</sup>

**Tollgate:** An AI/ML tollgate process refers to a formal, pre-designated point of review and approval before proceeding with utilization of the AI/ML use case in production.

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<sup>11</sup> Federal Reserve. SR 11-7 attachment: Supervisory Guidance on Model Risk Management. April 4, 2011.

<sup>12</sup> U.S. Securities and Exchange Commission. Conflicts of Interest Associated with the Use of Predictive Data Analytics by BrokerDealers and Investment Advisers. October 10, 2023.

## About the Institute of International Finance

The Institute of International Finance (IIF) is the global association of the financial industry, with about 400 members from more than 60 countries. The IIF provides its members with innovative research, unparalleled global advocacy, and access to leading industry events that leverage its influential network. Its mission is to support the financial industry in the prudent management of risks; to develop sound industry practices; and to advocate for regulatory, financial and economic policies that are in the broad interests of its members and foster global financial stability and sustainable economic growth. Within its mission, the IIF is leading efforts to help our members and the public sector understand and leverage the technology-driven transformations reshaping financial services. IIF members include commercial and investment banks, asset managers, insurance companies, professional services firms, exchanges, sovereign wealth funds, hedge funds, central banks and development banks.

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