



Are You Overestimating Your Responsible AI Maturity?

RESPONSIBLE AI SURVEY 2021

March 2021

Responsible AI

OUR DEFINITION

Developing and operating artificial intelligence systems that integrate human empathy, creativity, and care to ensure that they work in the service of good while achieving transformative business impact



WHAT THIS MEANS IN PRACTICE

- Ensure that the goals and outcomes of AI systems are fair, unbiased, and explainable
- Secure AI systems to be safe and robust
- Follow best practices for data governance to preserve user privacy
- Minimize negative social and environmental impacts
- Augment rather than replace human capacity

Survey methodology

BCG conducted a survey of more than 1,000 organizations, across regions and industries

Companies were first asked to report their responsible AI (RAI) maturity

Then companies were asked 21 assessment questions, grouped by seven dimensions of RAI:

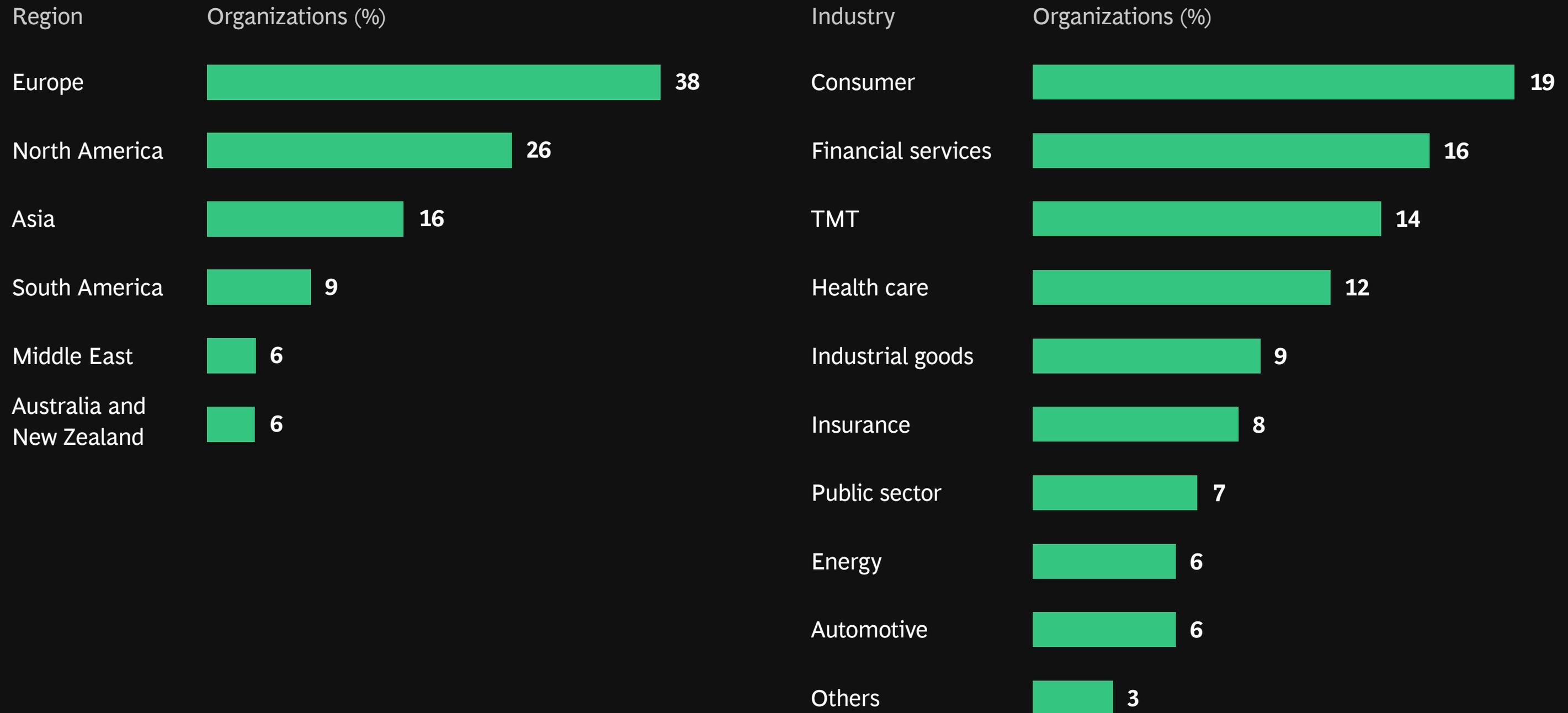
- Accountability
- Transparency and “explainability”
- Fairness and equity
- Safety, security, and robustness
- Data and privacy governance
- Social and environmental impact mitigation
- Human plus AI

The questions asked the companies to assess the maturity level of various aspects of RAI adoption on a categorical scale (from “no progress” to “fully implemented”)

We performed a cluster analysis on the responses to the 21 questions to identify groups with similar patterns of adoption

We computed an aggregate maturity score for each company (ranging from 0 to 100) for each of the seven RAI dimensions and overall

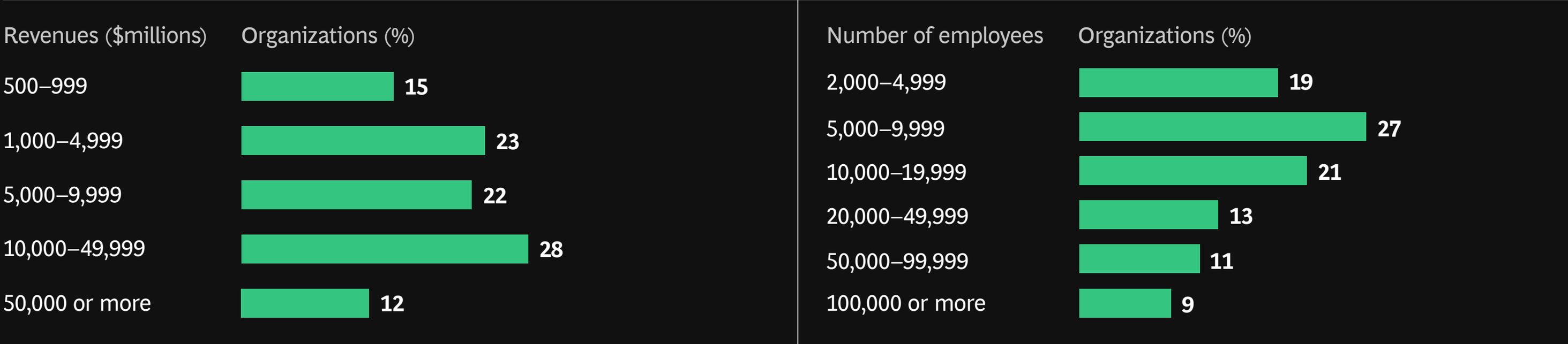
We surveyed organizations in six regions and nine major industries



Source: BCG's Responsible AI Survey 2021.

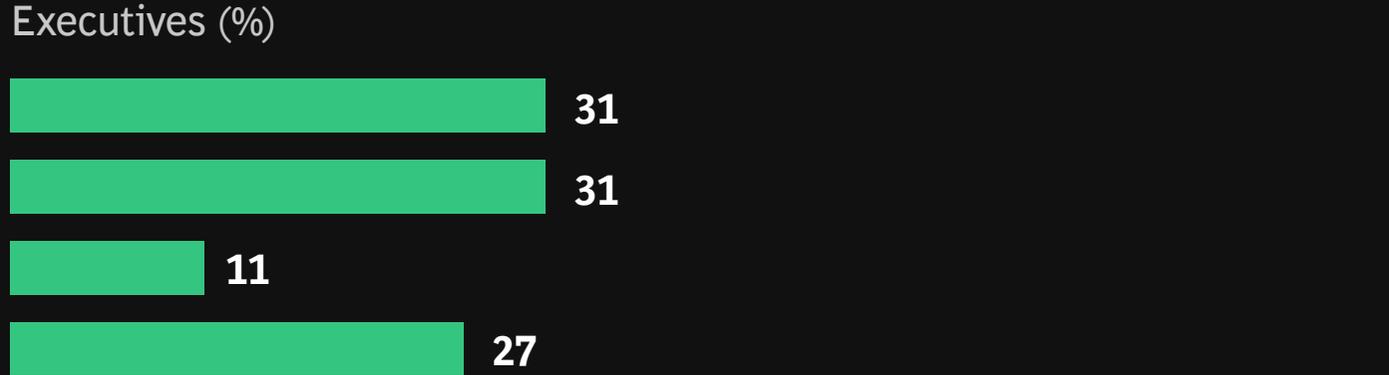
Note: n = 1,034. TMT = technology, media, and telecommunications.

Each organization that participated in the survey had at least \$500 million in revenues and 2,000 employees



Role of executives

- C-suite, operations (for example, CEO or chief operating officer)
- C-suite, technical (for example, chief data officer or chief information officer)
- Executive position (for example, vice president or senior vice president)
- Middle management (for example, director)



Source: BCG's Responsible AI Survey 2021.
 Note: n = 1,034.

Sample survey questions

Has your organization defined principles that guide the development and deployment of AI systems?

How does your organization ensure that business processes and users of AI solutions/outputs adhere to responsible AI principles?

Does your organization have a formal governance process for managing AI systems?

How does your organization document data sources?

How are documentation and requirements for the design and development of AI systems currently managed?

How does the organization minimize the likelihood that AI systems negatively impact the rights and livelihood of end users?

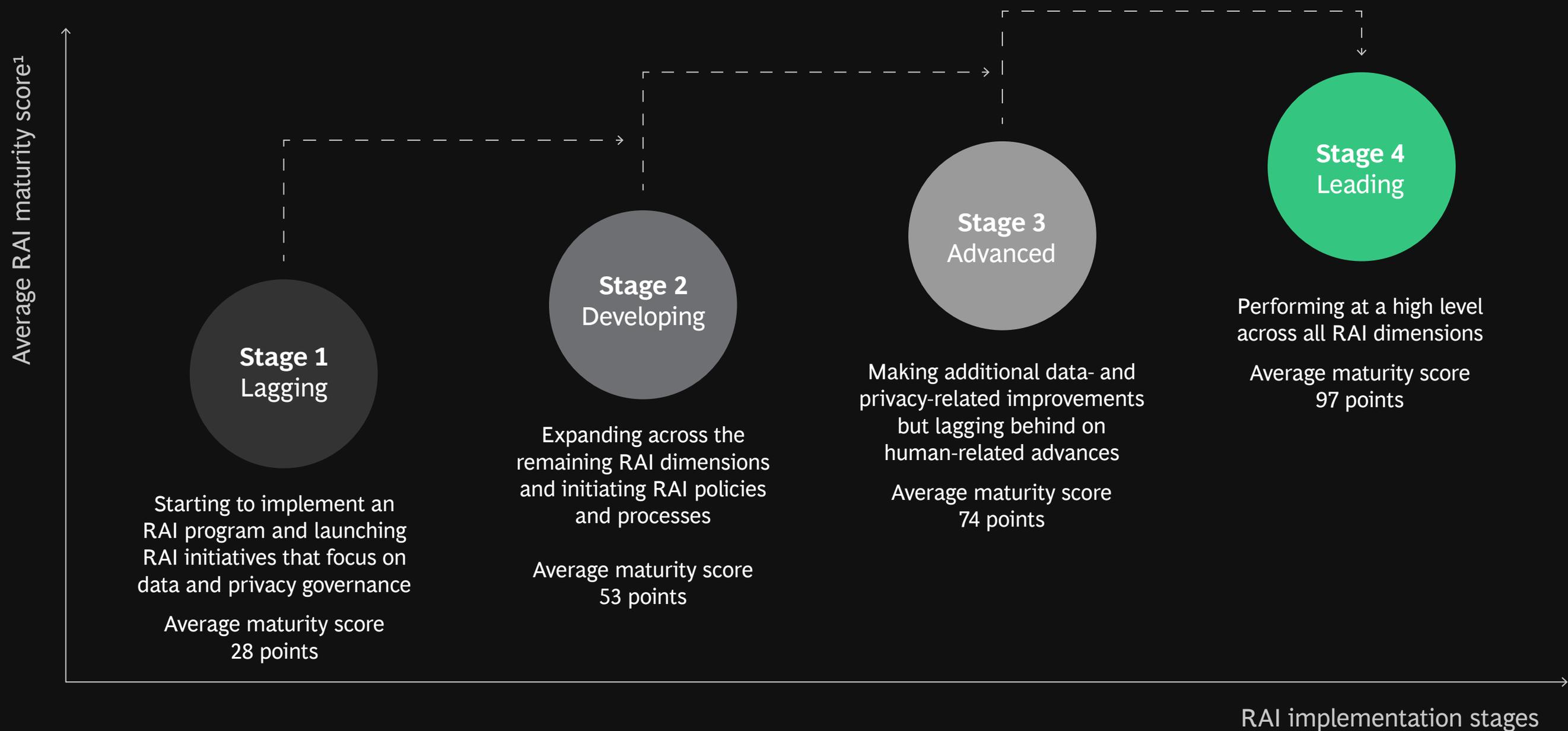
How does the organization ensure reproducibility of AI system training and validation?

How do humans audit, monitor, or control AI systems in production?

Key themes and insights

- 1 Four archetypes define the RAI journey**
Distinct RAI maturity profiles, from lagging to leading, emerged from the survey
- 2 Perception differs from reality**
Organizations often perceive their own RAI maturity as being higher than it actually is
- 3 A maturity gap exists between AI and RAI**
Less than 50% of organizations with AI at scale have a fully implemented RAI capability
- 4 Business benefits are the key driver for RAI**
Organizations with the highest RAI maturity are more likely to pursue RAI for business benefits
- 5 Data security and privacy are the most mature**
Organizations are more advanced in data and privacy as opposed to human-related RAI dimensions
- 6 Regional differences exist in RAI development**
Regional differences are more significant than industry factors

Four distinct RAI stages define an organization's path to maturity



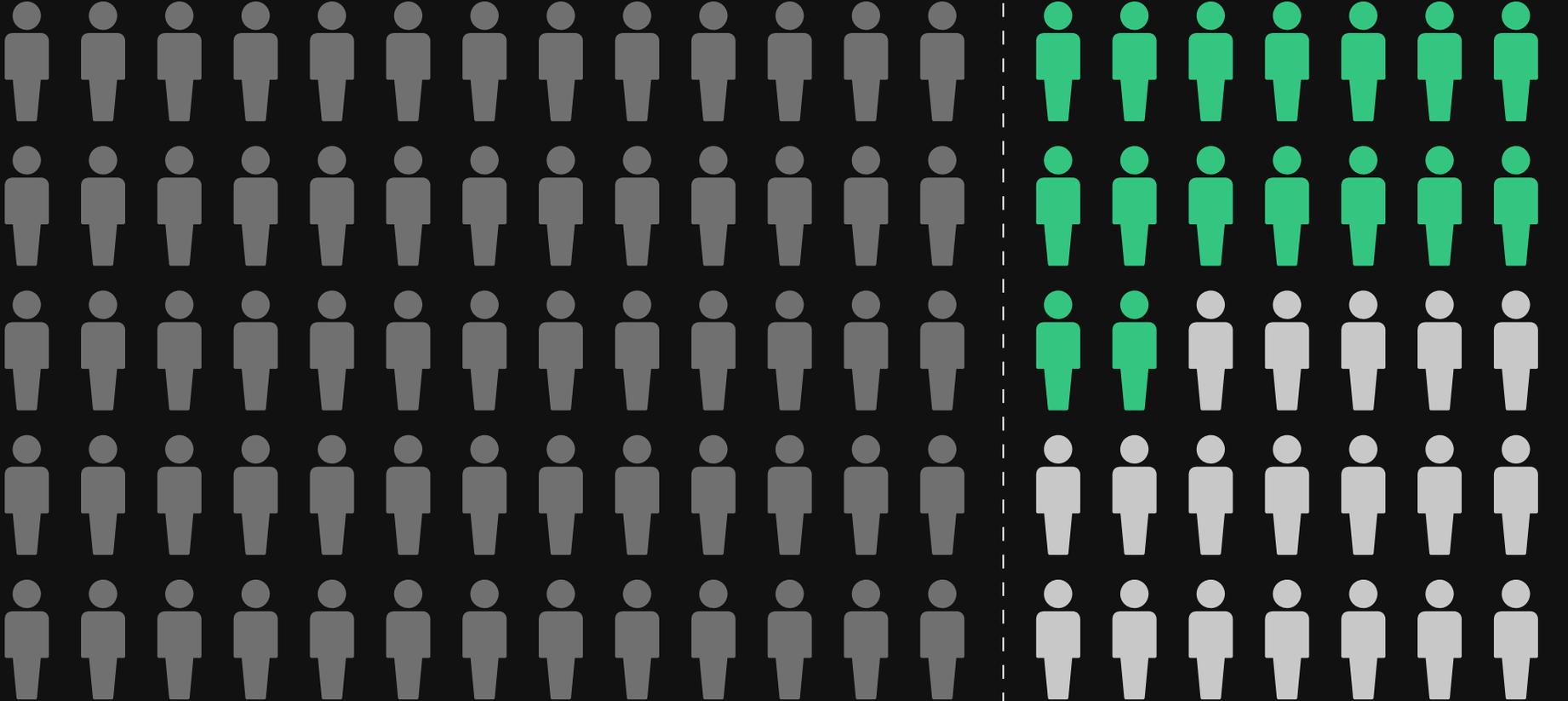
Source: BCG's Responsible AI Survey 2021.

Note: n = 1,034. RAI = responsible artificial intelligence. RAI dimensions offer a guide to developing and implementing AI systems in a responsible way.

¹An organization's RAI maturity score is the average of all its dimension-specific scores. An organization's dimension-specific score (0–100) is the average of its responses to 21 questions about its implementation across generally accepted RAI dimensions. Across all organizations, the average dimension-specific score is 65.

Even organizations that think they have fully implemented an RAI program often have not

35% of respondents reported that an RAI program had been fully implemented



46%

Those respondents who accurately estimated their organization's progress

54%

Those respondents who overestimated their organization's progress¹

Source: BCG's Responsible AI Survey 2021.
Note: n = 1,034. RAI = responsible artificial intelligence. Because of rounding, not all percentages add up to 100.
¹Based on organizations' responses to 21 questions about their implementation across generally accepted RAI dimensions.

More than half of the organizations that reported achieving AI at scale have not fully implemented an RAI program

Some respondents—26%—reported using AI at scale...



...but only 12% have fully implemented an RAI program¹

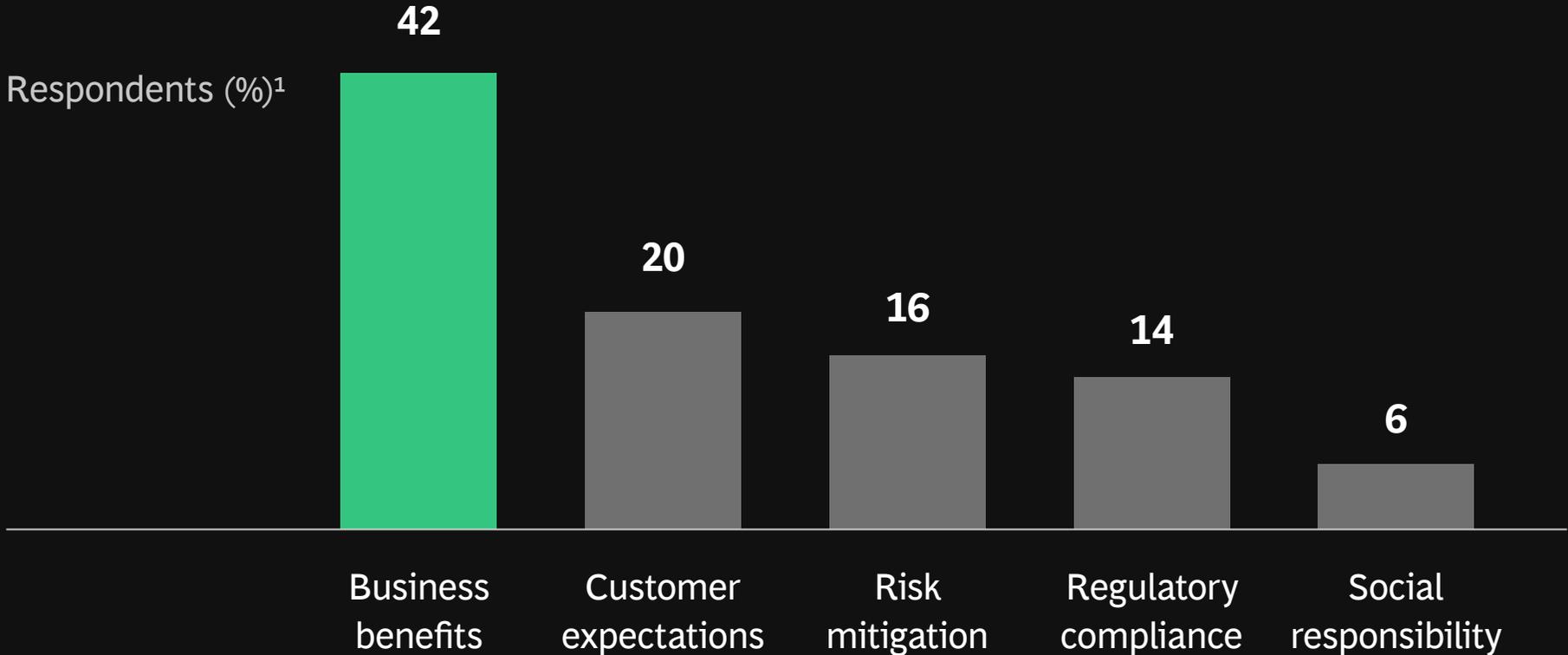


To achieve AI at scale, organizations must ensure that AI is being implemented responsibly

Source: BCG's Responsible AI Survey 2021.
Note: n = 1,034. RAI = responsible artificial intelligence.
¹Based on organizations' responses to 21 questions about their implementation across generally accepted RAI dimensions.

The primary motivator for organizations engaging in RAI is to realize business benefits

PRIMARY DRIVERS FOR PURSUING RAI



EXAMPLES OF BUSINESS BENEFITS



Brand differentiation that leads to stronger customer relationships and, ultimately, higher profitability



Improved employee recruiting and retention, particularly of digital workers



A culture of responsible innovation, supported by corporate purpose and values

Source: BCG's Responsible AI Survey 2021.
Note: n = 1,034. RAI = responsible artificial intelligence.
¹Survey question: What was the primary driver for your organization's engagement with responsible AI? Two percent of respondents selected others/don't know.

Data and privacy governance tends to be the most mature dimension across the four stages

Average maturity score for each RAI dimension¹



OUR PERSPECTIVE

These are logical findings, given that regulations or policies often mandate a focus on data and privacy

Fairness and equity as well as human plus AI are the most difficult to address, and investment in these areas often lags behind

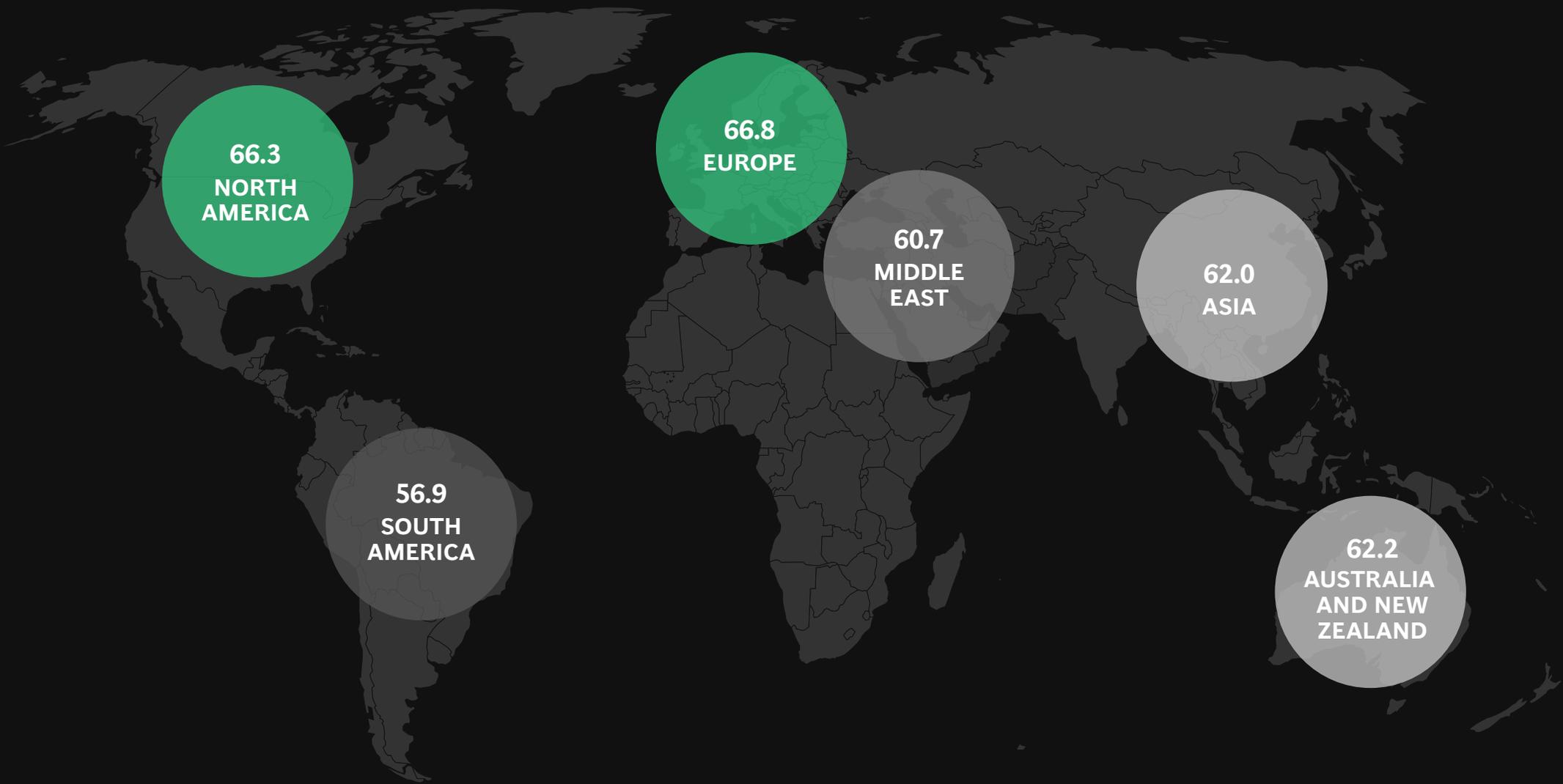
Source: BCG’s Responsible AI Survey 2021.

Note: n = 1,034. RAI = responsible artificial intelligence.

¹Each dimension-specific score (0–100) is the average of all responses to the corresponding dimension-specific questions.

Organizations in Europe and North America have the highest RAI maturity

Average RAI maturity score¹



OUR PERSPECTIVE

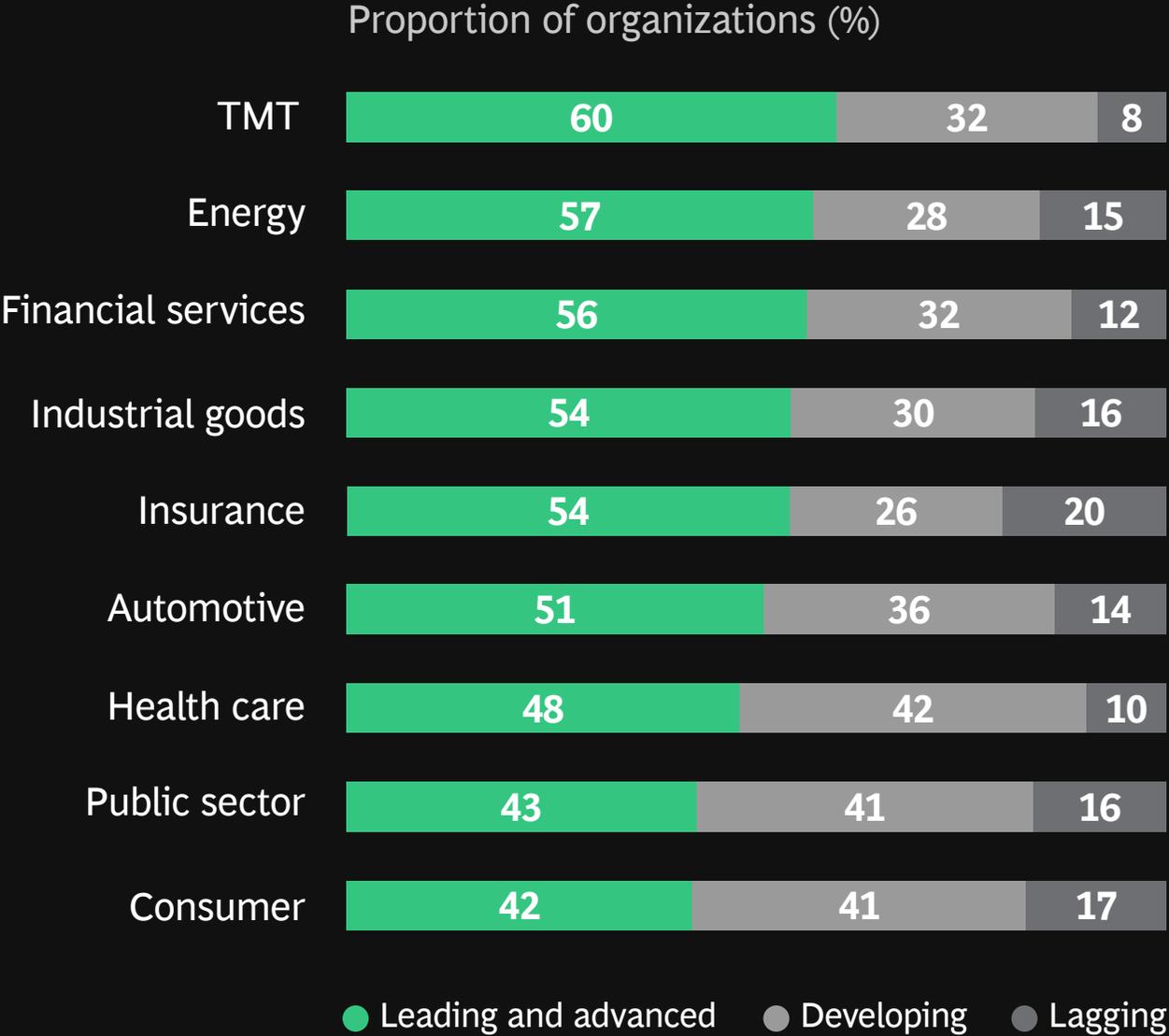
Our findings indicate that an organization's region is a better predictor of overall maturity than its industry

Source: BCG's Responsible AI Survey 2021.

Note: n = 800. RAI = responsible artificial intelligence.

¹The average RAI maturity score for each region is the average of the dimension-specific scores (0–100) for all organizations in the region. An organization's dimension-specific score is the average of its responses to 21 questions about its implementation across generally accepted RAI dimensions. Outliers from Brazil, Canada, China, Japan, and India were excluded. Across all responses (1,034), the average dimension-specific score for all organizations is 65.

The differences in RAI maturity among industries are not statistically significant, but some observations are worth noting



OUR PERSPECTIVE

As expected, TMT is a leader, with several exemplar companies

The financial services and health care industries are heavily regulated and have a history of strong compliance and risk management, so their pursuit of RAI is unsurprising

Of the remaining industries, a focus on RAI seems to track the relative degree of human and societal impact that is inherent to the industry’s use cases:

- Industrial goods and automotive are more mature than expected; AI applications tend to be focused on business operations or B2B transactions, which are simpler to implement
- The consumer industry is less mature than expected because of the complexity of issues that arise in customer-centric use cases

Source: BCG’s Responsible AI Survey 2021.
 Note: RAI = responsible artificial intelligence. TMT = technology, media, and telecommunications. Because of rounding, not all percentages add up to 100.

What this means for organizations



REAL VALUE IS AT STAKE— CAPTURE IT

- Leading organizations see RAI as a source of value
- 42% of organizations are primarily motivated by business benefits (vs. only 16% by risk mitigation)
- Ignoring responsible AI overlooks this huge upside potential



INVEST PROACTIVELY TO STAY AHEAD OF COMPETITORS

- The more complex dimensions of RAI take time to mature
- 20% of organizations are already leading—a source of competitive advantage
- Organizations need to invest now to get ahead and stay ahead



BE REALISTIC ABOUT YOUR STARTING POINT

- 55% of all organizations overestimated their maturity
- Understanding gaps is critical to knowing where to invest
- A clear view of strengths reveals how to accelerate the journey