

# Enterprise AI Development: Obstacles & Opportunities

 JANUARY 2025



## Methodology

This survey was conducted October 31 to November 1, 2024, among a total sample of **1,063 Enterprise AI Developers** in the US. The interviews were conducted online, and the data is unweighted. Results from the full survey have a margin of error of +/- 3%.

To qualify as an Enterprise AI Developer survey respondents must meet the following requirements:

- ✓ Be employed (Full-time, Part-time, or Self-employed)
- ✓ Work in one of the following roles: Data Scientist, Application Developer, System Developer, AI Developer, ML Engineer, Software Engineer, Software Developer, AI Engineer, or IT Engineer
- ✓ Contribute at least occasionally to the development of enterprise AI applications in their current role

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### AI skill gaps

Generative AI skill levels vary significantly among developers. **Most developers surveyed do not view themselves as experts**, despite being on the front lines of generative AI adoption.

- Less than one quarter (24%) of application developers surveyed ranked themselves as "experts" in generative AI.
- One third of respondents list the lack of a standardized AI development process as a top challenge.
- 99% of respondents are exploring or developing AI agents.



### AI tool gaps

The most important tool qualities for building enterprise AI are also the rarest, **hampering the development process**. Meanwhile, developers must juggle a roster of tools.

- Performance (42%), Flexibility (41%), Ease of Use (40%), and Integration (36%) are the most essential qualities in enterprise AI development tools, according to respondents. Yet over a third also said those very same traits are the rarest.
- A majority (72%) of respondents use between 5 and 15 tools to create an AI enterprise application.



### Simplicity is the solution

Developers crave tools that are easy to master. And when it comes to developer productivity, **AI-powered coding solutions are incredibly popular**.

- Only one third of respondents are willing to invest more than two hours in learning a new AI development tool.
- 99% are using coding assistants in some capacity for AI development. And most commonly, developers said these tools saved them 1-2 hours per day (41% of developers).



SECTION 1

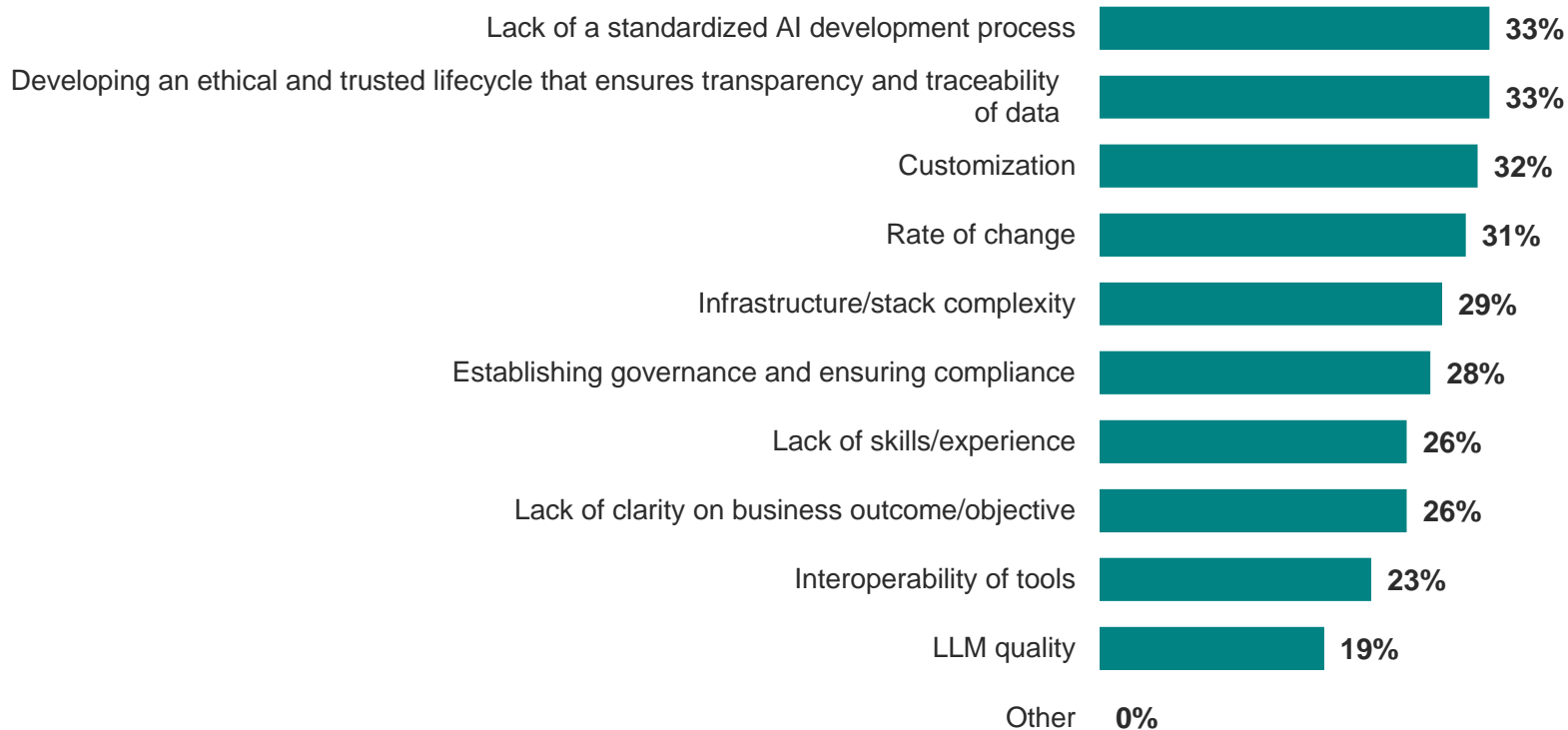
# AI Skills & Developer Challenges

## AI SKILLS & DEVELOPER CHALLENGES

# A lack of standard processes and trust are inhibiting the development of generative AI applications for business

### Top Challenges of Developing Gen AI at the Enterprise Level

All Enterprise AI Developers, Showing % selected



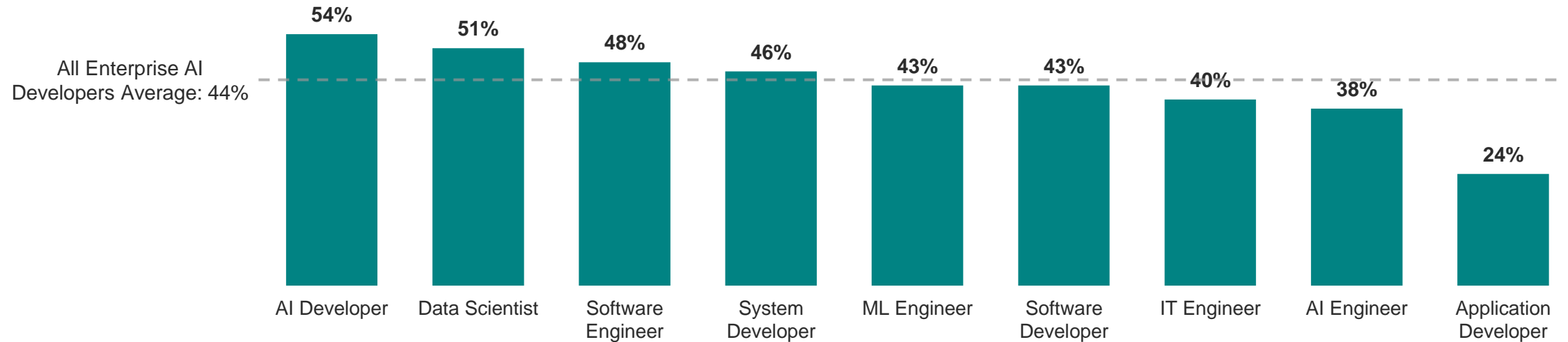
## AI SKILLS & DEVELOPER CHALLENGES

# Expertise in generative AI varies greatly by developer role

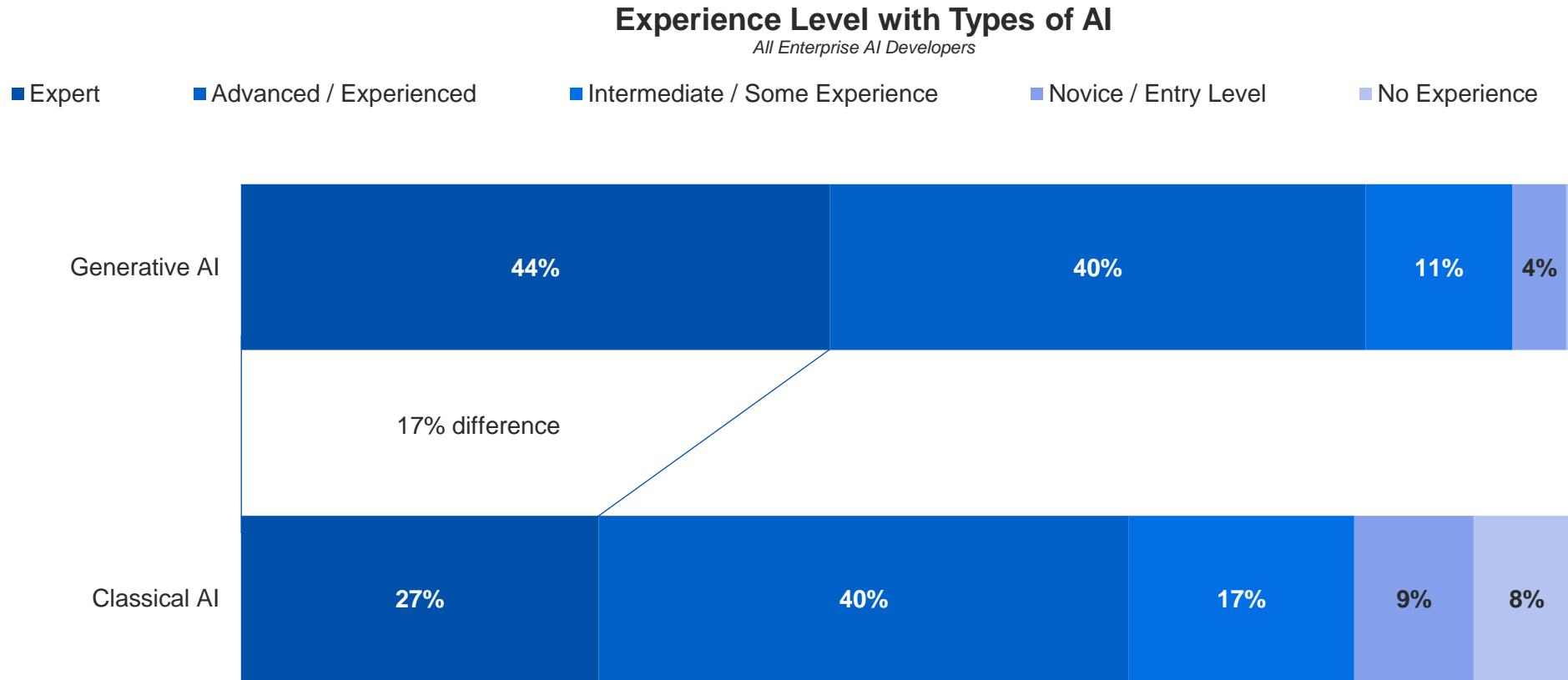
*Most application developers don't view themselves as experts in generative AI*

### Expert Experience Level with Generative AI

*Enterprise AI Developers by Role, Showing % selected 'Expert'*



# Developers feel more comfortable with Generative AI versus Classical AI



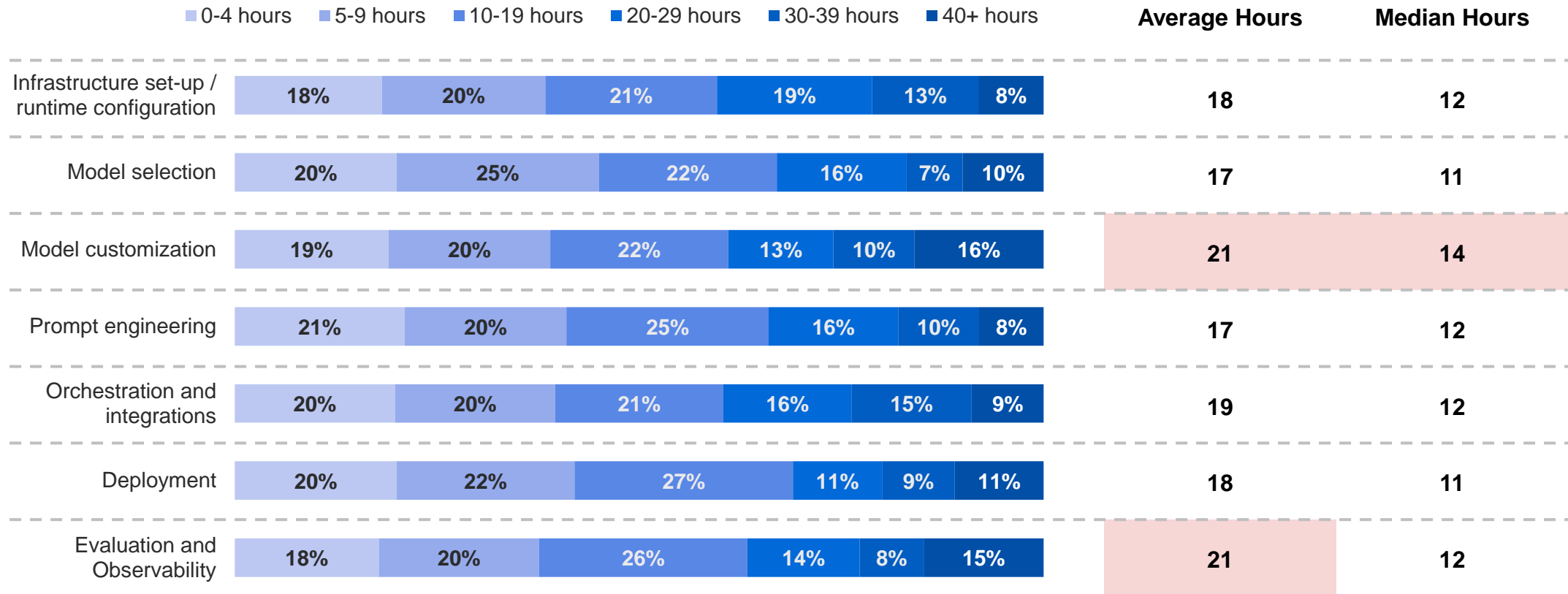
## AI SKILLS & DEVELOPER CHALLENGES

### Time spent on project phases

*The number of hours developers spend on tasks becomes less predictable later in the project cycle*

#### Average Number of Hours Spent on Project Cycle Tasks/Stages

*All Enterprise AI Developers, Showing % within specific tasks/stage*



Time variance increases throughout the cycle





SECTION 2

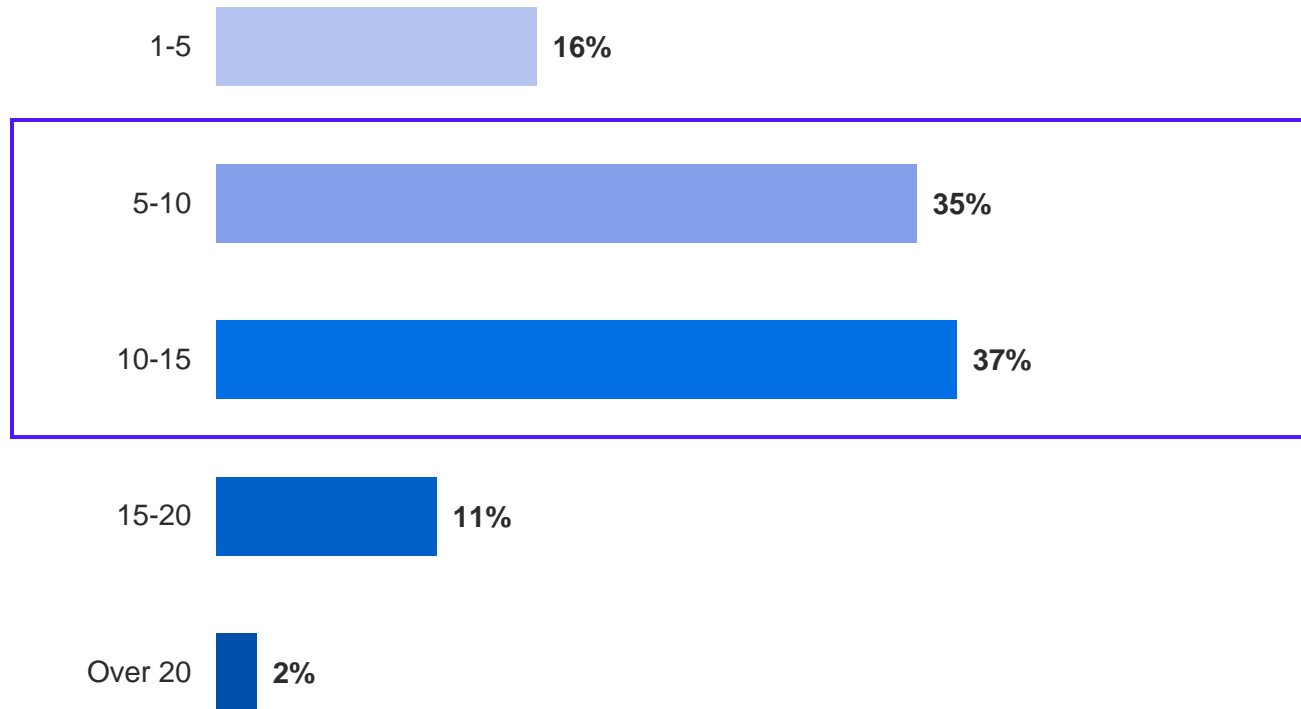
# Technology Landscape | Developer Tools

## Enterprise AI Developers face tool sprawl

*The majority of those surveyed use between 5 and 15 tools to create an AI enterprise application; 13% of developers are using 15 or more*

### Average Number of Tools Used to Create an AI Enterprise Application

*All Enterprise AI Developers, Showing % Selected*



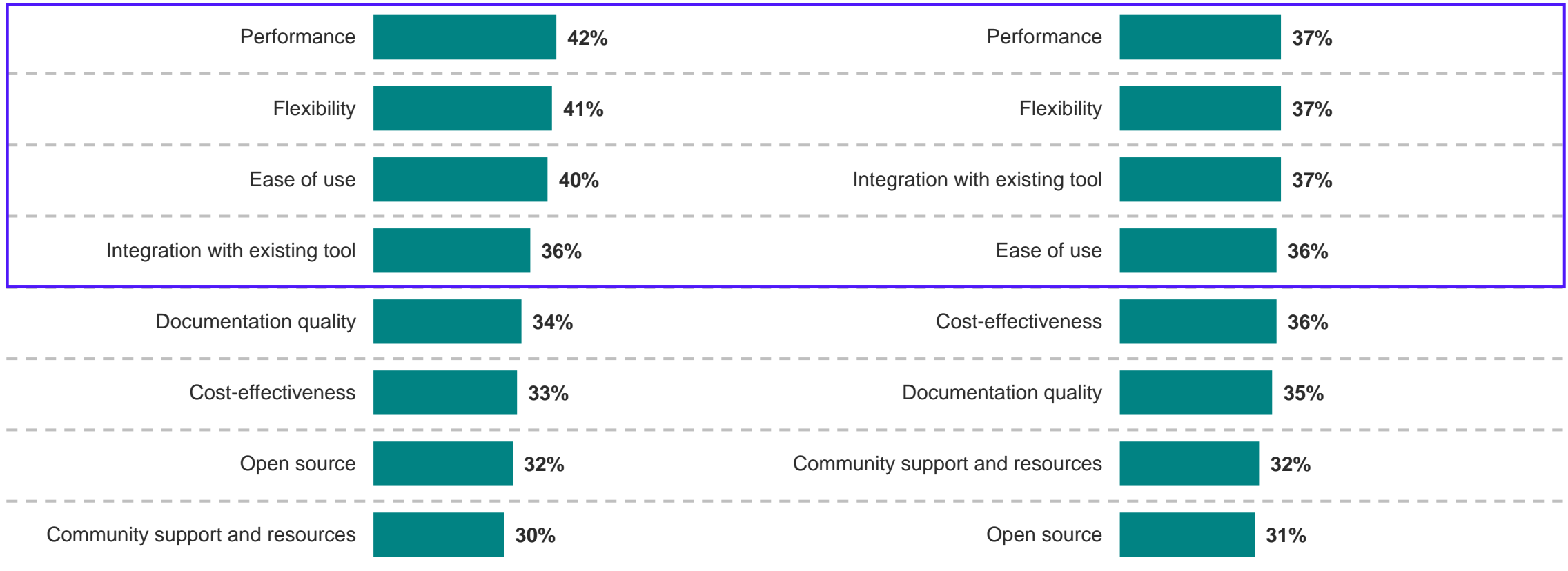
# When it comes to tooling, the most critical tool qualities are also among the rarest

## Most Essential Traits in Enterprise AI Development Tools

All Enterprise AI Developers, Showing % selected

## Top Missing Traits in Enterprise AI Development Tools

All Enterprise AI Developers, Showing % selected

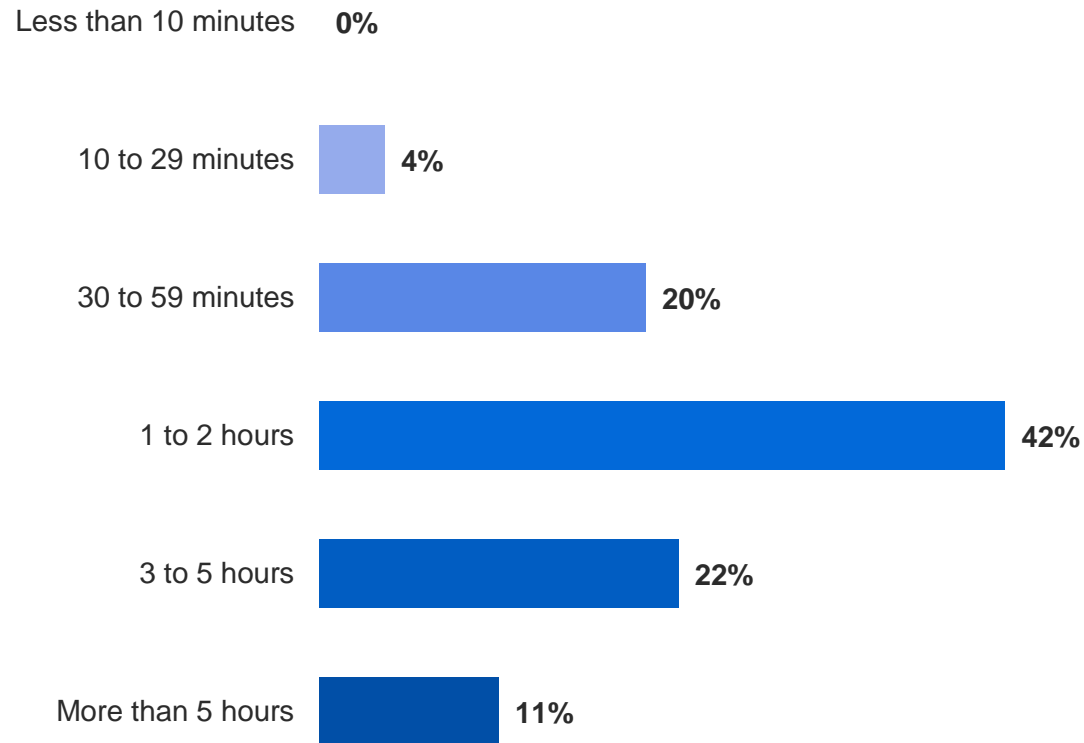


## Enterprise AI Developers crave tools that are easy to master;

*Only one third of those surveyed are willing to invest more than two hours in learning a new AI development tool*

### Time Willing to Invest in Learning New AI Tools

*All Enterprise AI Developers, Showing % Selected*



## Developers are leaning into a variety of tools to streamline AI development

*More than half are using no-code or low-code tools; 73% are leaning into pro-code tools*

### Types of Development Tools | Extent of Usage by Level

*All Enterprise AI Developers, Showing T2B (Often + Very Often)*



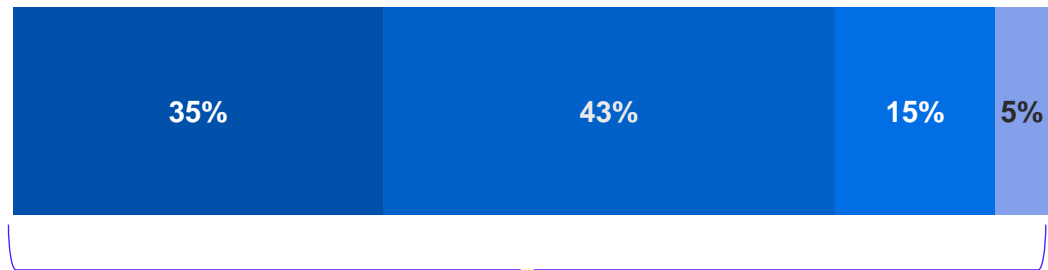
# AI-powered Coding Assistants are saving developers significant amounts of time

41% of developers said these tools saved them 1-2 hours per day

## Extent of Coding Assistant Usage for AI Development

All Enterprise AI Developers

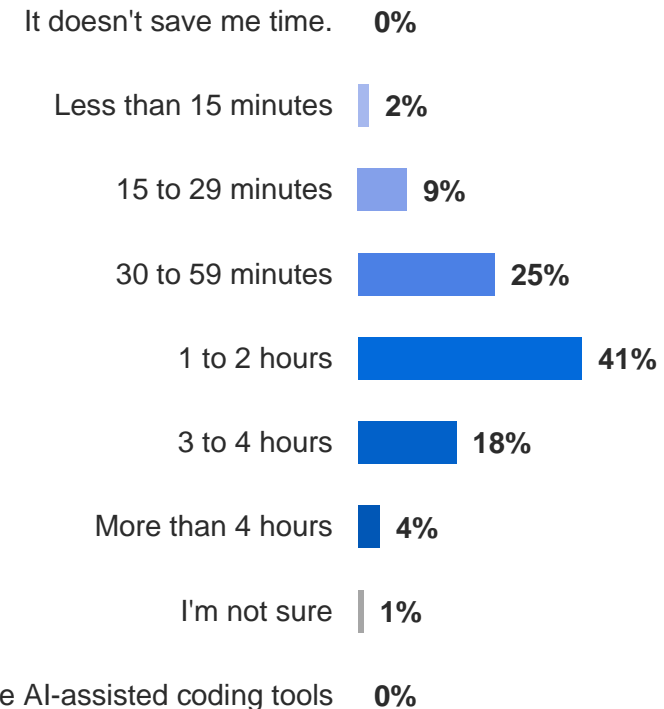
■ Very often ■ Often ■ Occasionally ■ Rarely ■ Not at all



Nearly all enterprise AI developers are using coding assistants – and 78% are using them often or very often.

## Time Saved [Per Day] Using AI-Assisted Coding Tools

All Enterprise AI Developers, Showing % Selected



# Exploration of new AI development tools is limited, with nearly 80% only occasionally experimenting with new tools

## Frequency of Experimenting with New AI Development Tools

All Enterprise AI Developers

■ Every month ■ Every 1 to 3 months ■ Every 3 to 6 months ■ Rarely or never



Enterprise AI Developers **experiment with ~6 new tools** on average during these time frames.



SECTION 3

# Agents

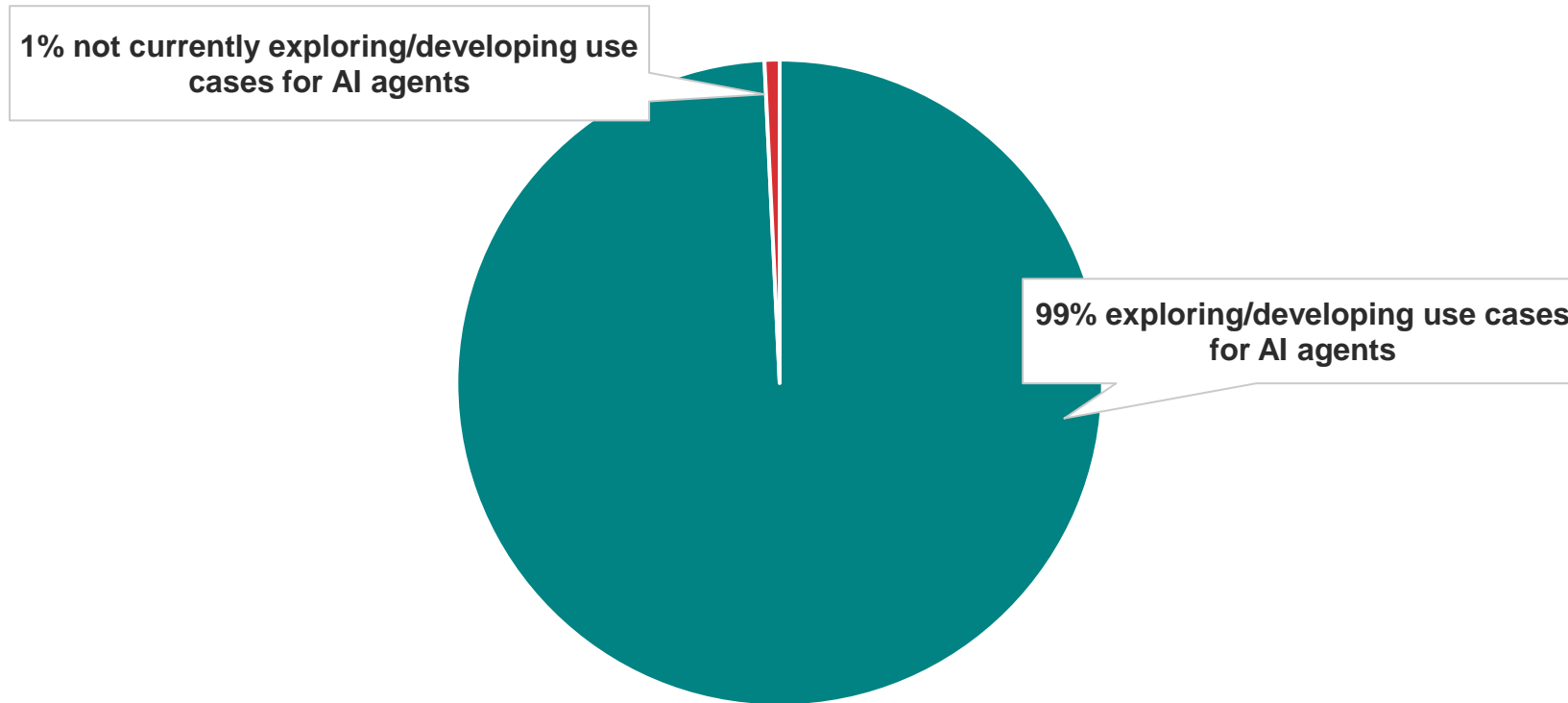


## AGENTS

# Just about everyone is exploring or developing AI agents

### Exploration/Development of Use Cases for AI Agents

*All Enterprise AI Developers*

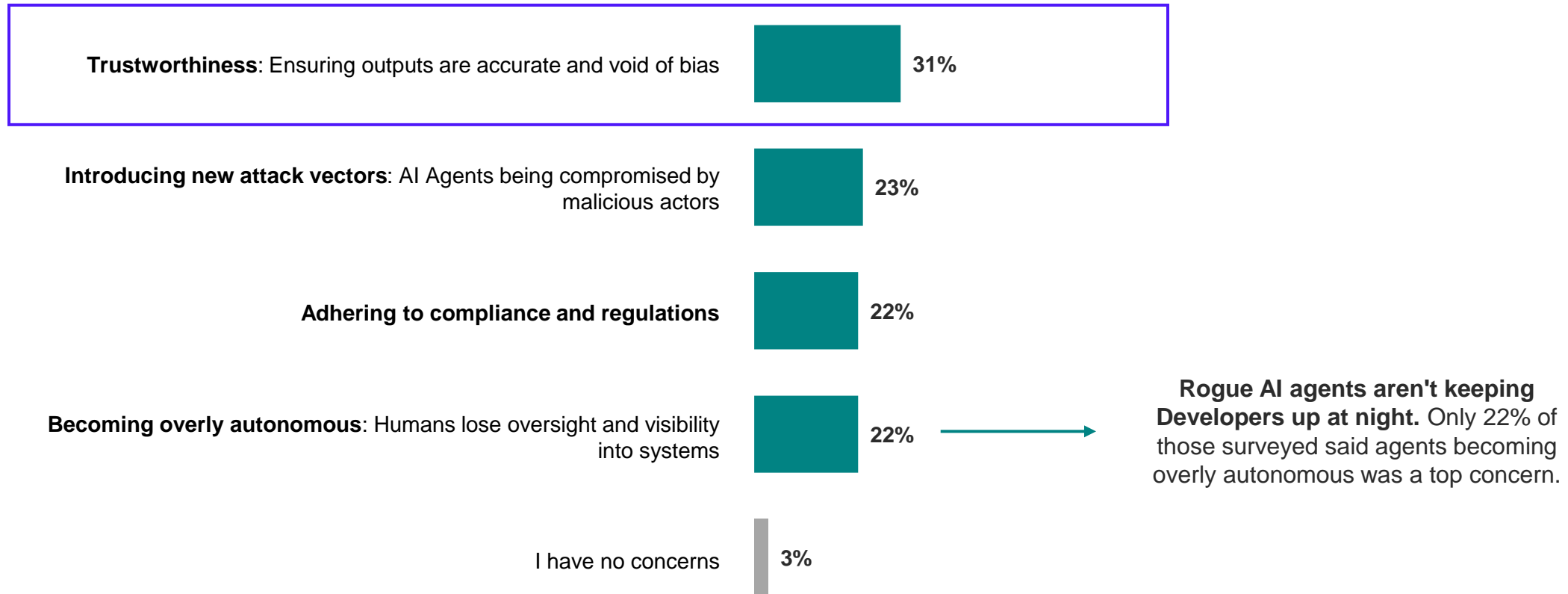


## AGENTS

# Trustworthiness emerges as the top concern when it comes to scaling agents

### Top Concerns for Scaling AI Agents in Enterprise

All Enterprise AI Developers, Showing % selected



## AGENTS

# Customer service, project management, and content creation are top use-cases currently being explored for agents

### AI Agent Use Cases Being Explored

All Enterprise AI Developers, Showing % selected

