



User & Developer Survey 2025

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Methodology

We conducted 721 interviews online among Julia users and developers June 18 – July 8, 2025

Margin of error is +/- 3.65 percentage points

We recruited respondents online using Slack, Discourse, X, LinkedIn, email, JuliaLang.org, JuliaCon.org and JuliaHub.com

The survey was administered in 6 languages: English, Chinese (Simplified and Traditional), Japanese, Korean and Spanish

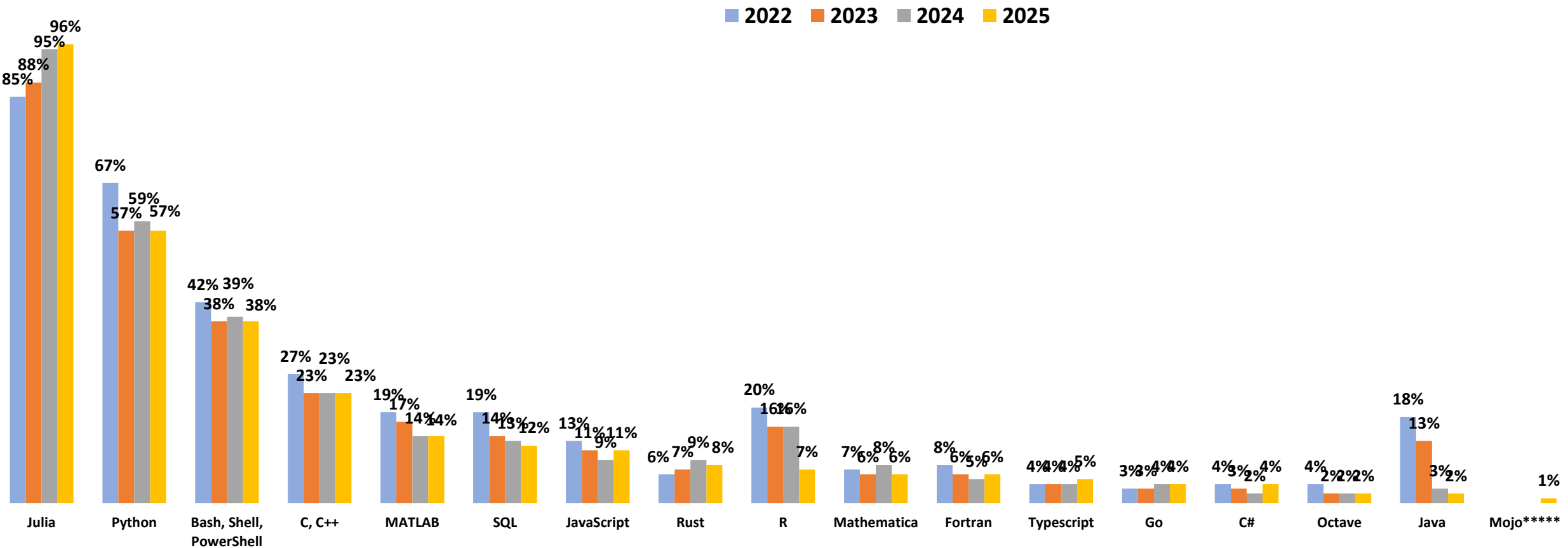
This is the seventh annual Julia User & Developer Survey we have conducted

Many of the questions and answer choices are the same from year-to-year so we have shown tracking data from previous years where that is the case.

Some of the questions and answer choices are new or updated based on new developments, previous results or feedback from the community. This is identified in the presentation.

Julia Use Continues to Increase Among Julia Users & Developers, Python and Most Others, Especially R, Continue to Decline

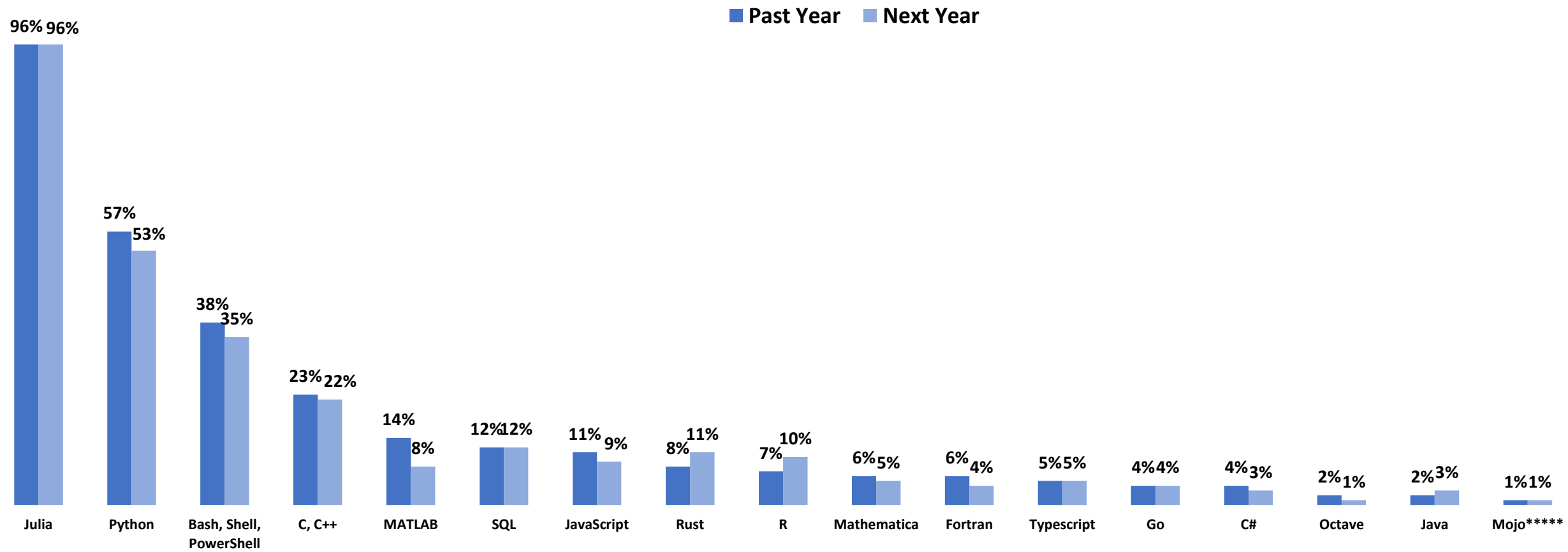
Which of the following languages have you used regularly or frequently during the past year?



**** Added in 2025

Julia Users Plan to Use More Rust and R Next Year and Less Python, MATLAB, Bash, Shell, PowerShell and Other Languages

*Which of the following languages have you used regularly or frequently during the past year?
Which of the following languages do you plan to use regularly or frequently during the next year?*



83% Say Julia Is ‘One of My Favorite Languages’

Python Has Been Declining Among Julia Users Since 2019

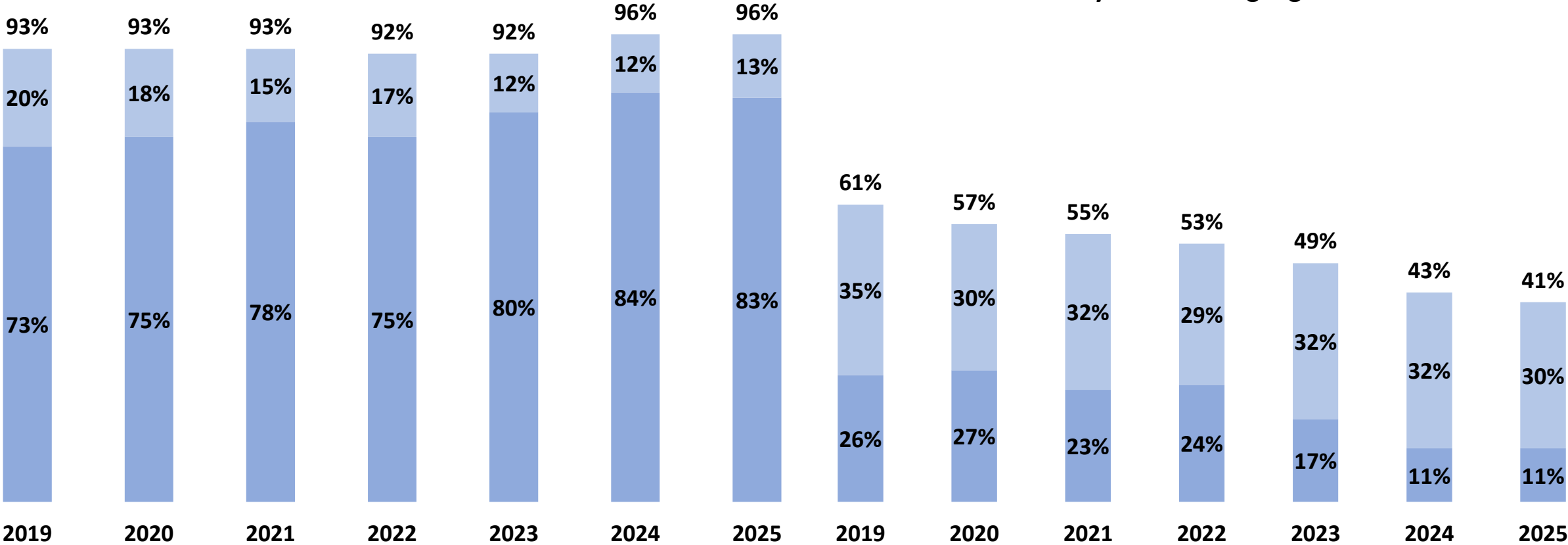
How much do you like each of the following languages?

Julia

Python

■ One of my favorite languages ■ Like

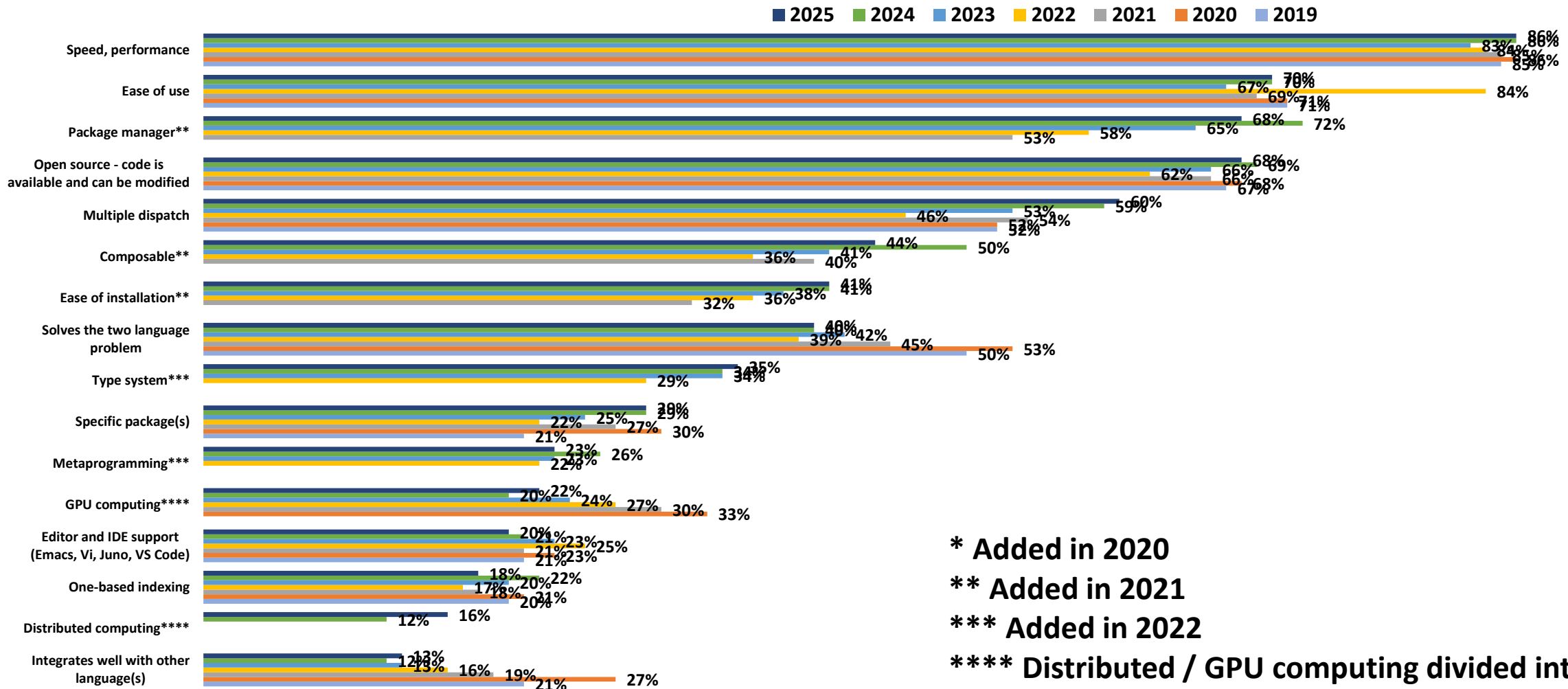
■ One of my favorite languages ■ Like



Other languages not shown include C/C++ (27% ‘one of my favorite languages’ + ‘like’), Rust (21% ‘one of my favorite languages’ + ‘like’), Bash/Shell/PowerShell (15% ‘one of my favorite languages’ + ‘like’), SQL (13% ‘one of my favorite languages’ + ‘like’), MATLAB (13% ‘one of my favorite languages’ + ‘like’), R (13% ‘one of my favorite languages’ + ‘like’), Mathematica (13% ‘one of my favorite languages’ + ‘like’), Fortran (12% ‘one of my favorite languages’ + ‘like’)

The MOST Popular TECHNICAL Features of Julia Are Speed/Performance, Ease of Use, Package Manager, Open Source, Multiple Dispatch and Composability

Thinking only about the TECHNICAL aspects or features of Julia, what are the TECHNICAL aspects or features you like MOST about Julia?



* Added in 2020

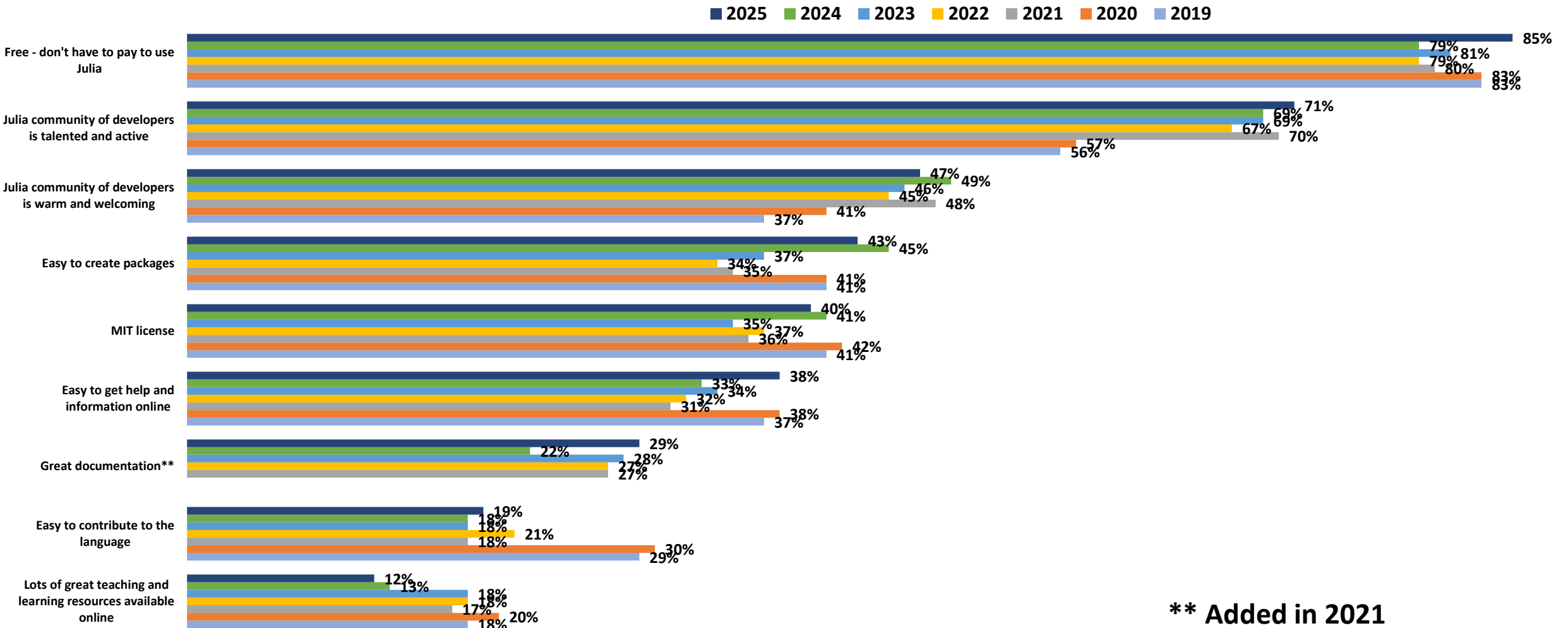
** Added in 2021

*** Added in 2022

**** Distributed / GPU computing divided into 2 separate responses in 2024

The MOST Popular NON-TECHNICAL Features of Julia Are Free (Don't Have to Pay) and the Julia Community

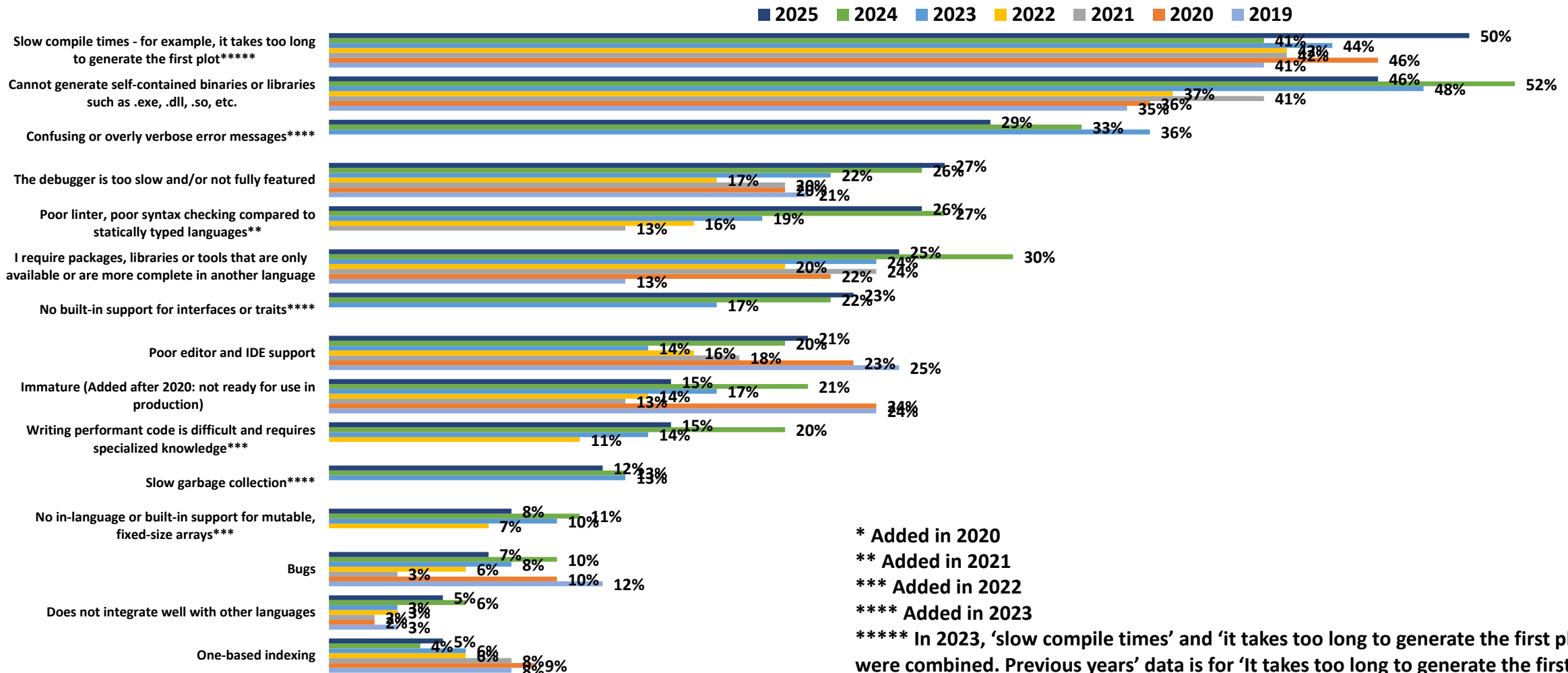
Thinking only about the NON-TECHNICAL aspects or features of Julia, what are the NON-TECHNICAL aspects or features you like MOST about Julia?



** Added in 2021

The Biggest TECHNICAL PROBLEMS with Julia Are Slow Compile Times – Too Long to Generate First Plot and Cannot Generate Self-Contained Binaries or Libraries

Thinking only about the TECHNICAL aspects or features of Julia, what are the TECHNICAL aspects or features you like LEAST about Julia?



* Added in 2020

** Added in 2021

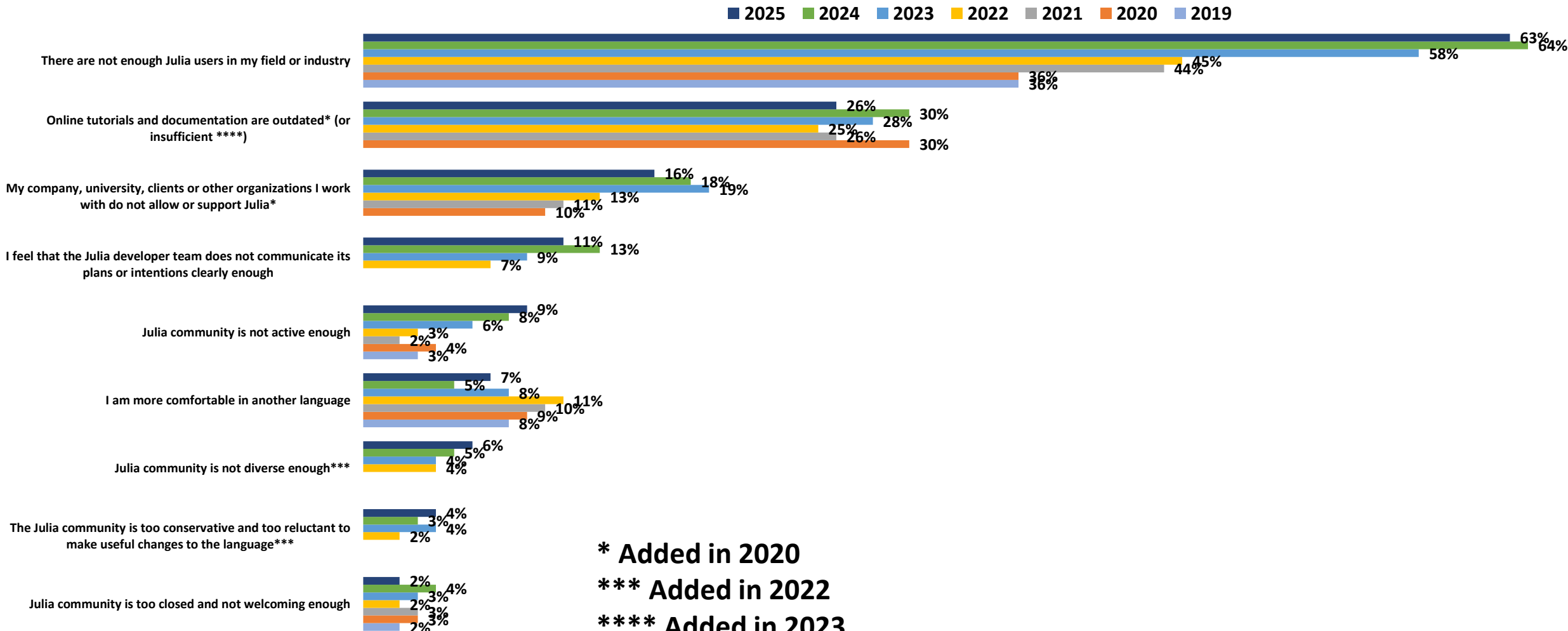
*** Added in 2022

**** Added in 2023

***** In 2023, 'slow compile times' and 'it takes too long to generate the first plot' were combined. Previous years' data is for 'It takes too long to generate the first plot'.
 Removed in 2023: Packages aren't as mature or as well-maintained as I need, doesn't have all the packages I need, not well-suited to certain tasks, not stable enough, package manager is confusing, difficult or doesn't do what I expect

The Biggest NON-TECHNICAL PROBLEM with Julia Is Related to Adoption: Not Enough Julia Users

Thinking only about the NON-TECHNICAL aspects or features of Julia, what are the NON-TECHNICAL aspects or features you like LEAST about Julia?



* Added in 2020

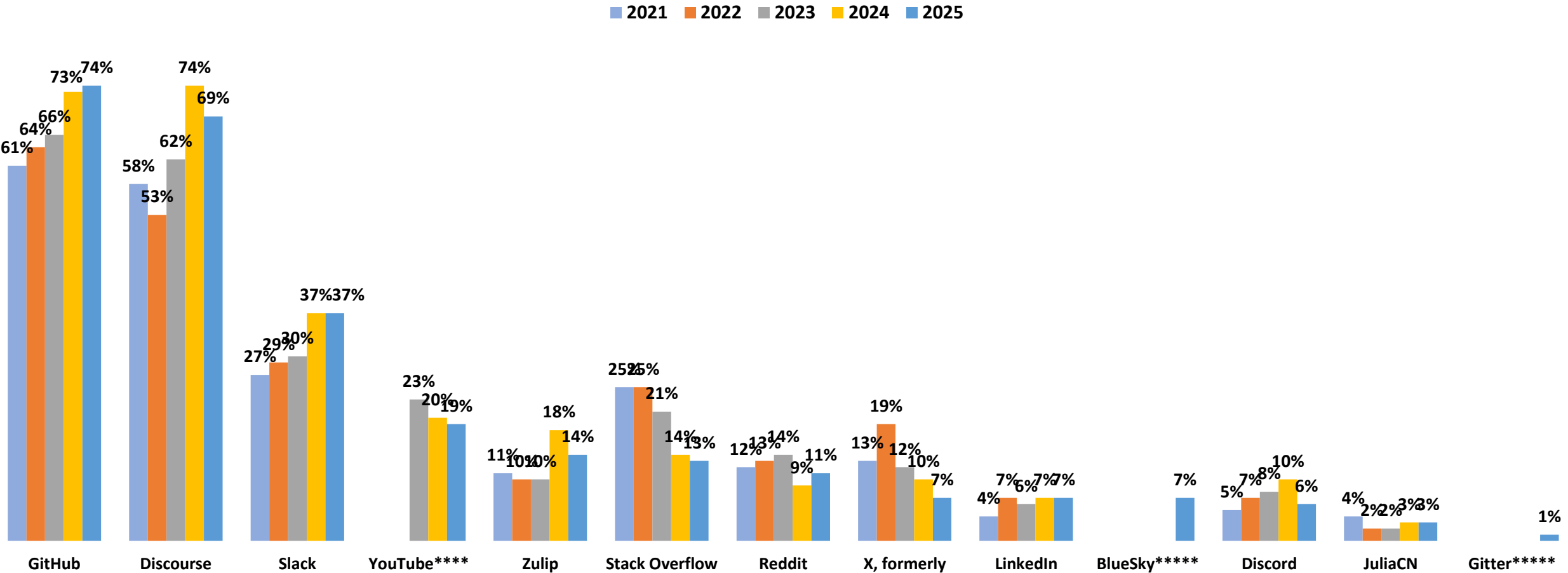
*** Added in 2022

**** Added in 2023

Removed in 2023: My colleagues, company or collaborators use other languages, there are not enough Julia users in general, insufficient documentation, there are not enough teaching and learning resources available online, there are too many things I don't know how to do in Julia

GitHub, Discourse and Slack Are the Leading Platforms Where Julia Users & Developers Interact

Where do you interact with the Julia community?



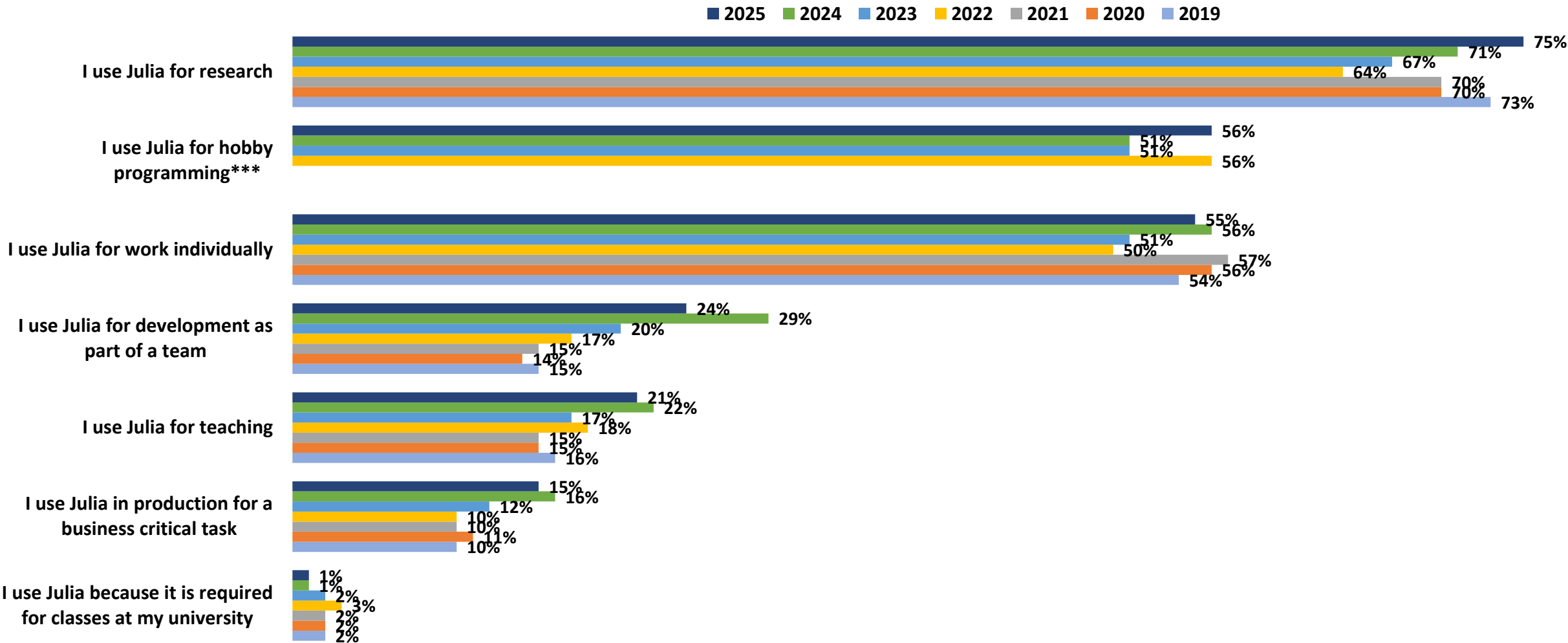
*** Added in 2022

**** Added in 2023

***** Added in 2025

Most Use Julia for Research, Hobby and Individual Work; Research and Hobby Programming Have Grown

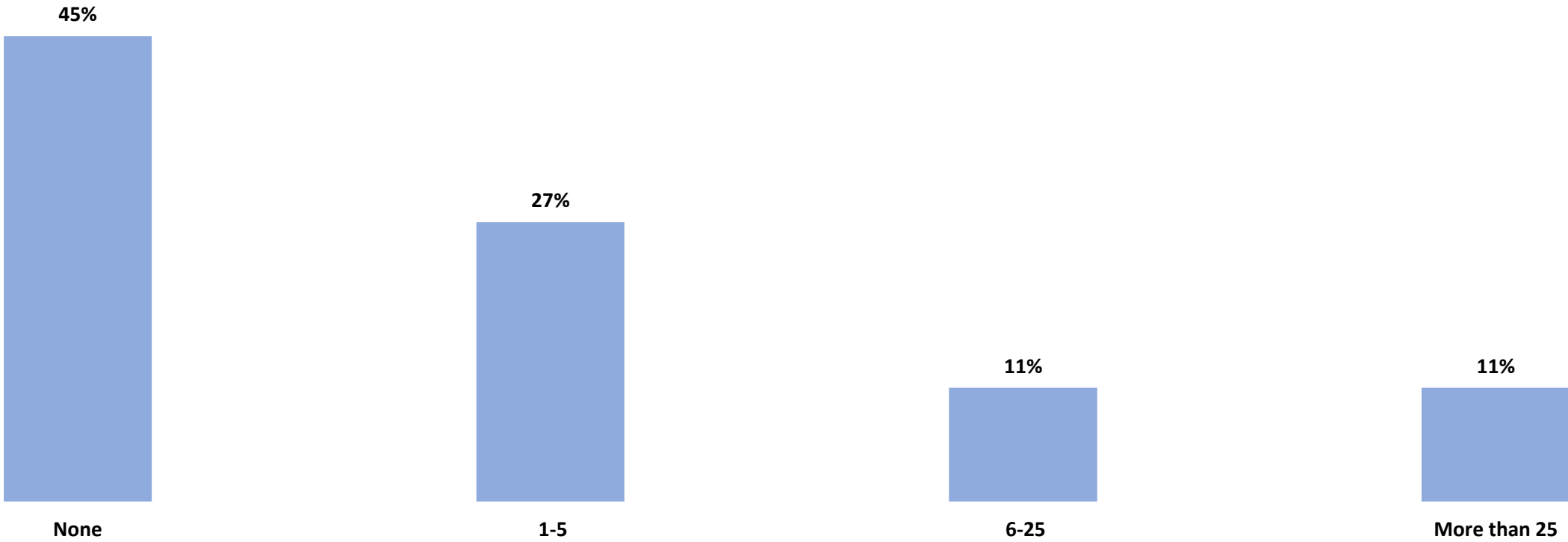
Which of the following best describe your use of Julia?



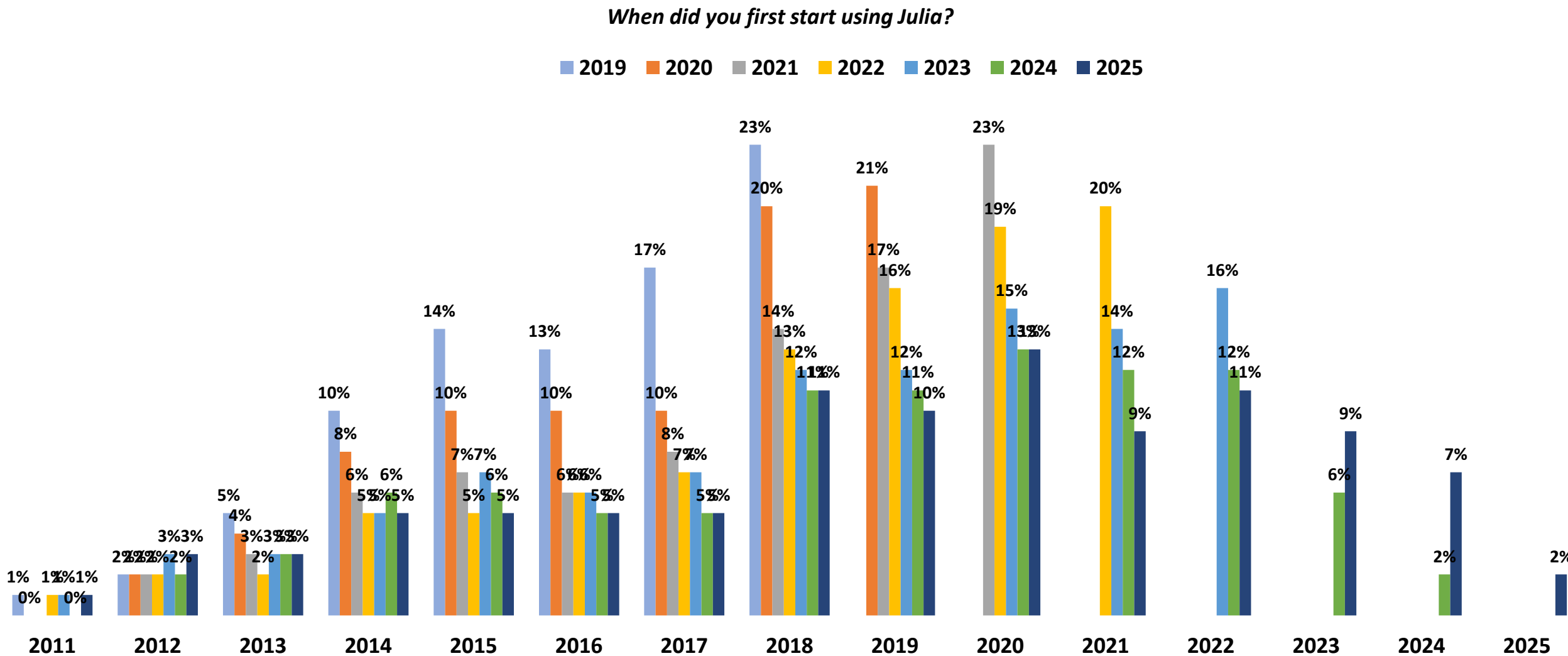
*** Added in 2022

About Half Have Submitted One or More PRs in the Past 12 Months

How many PRs did you submit to the Julia ecosystem in the past 12 months?



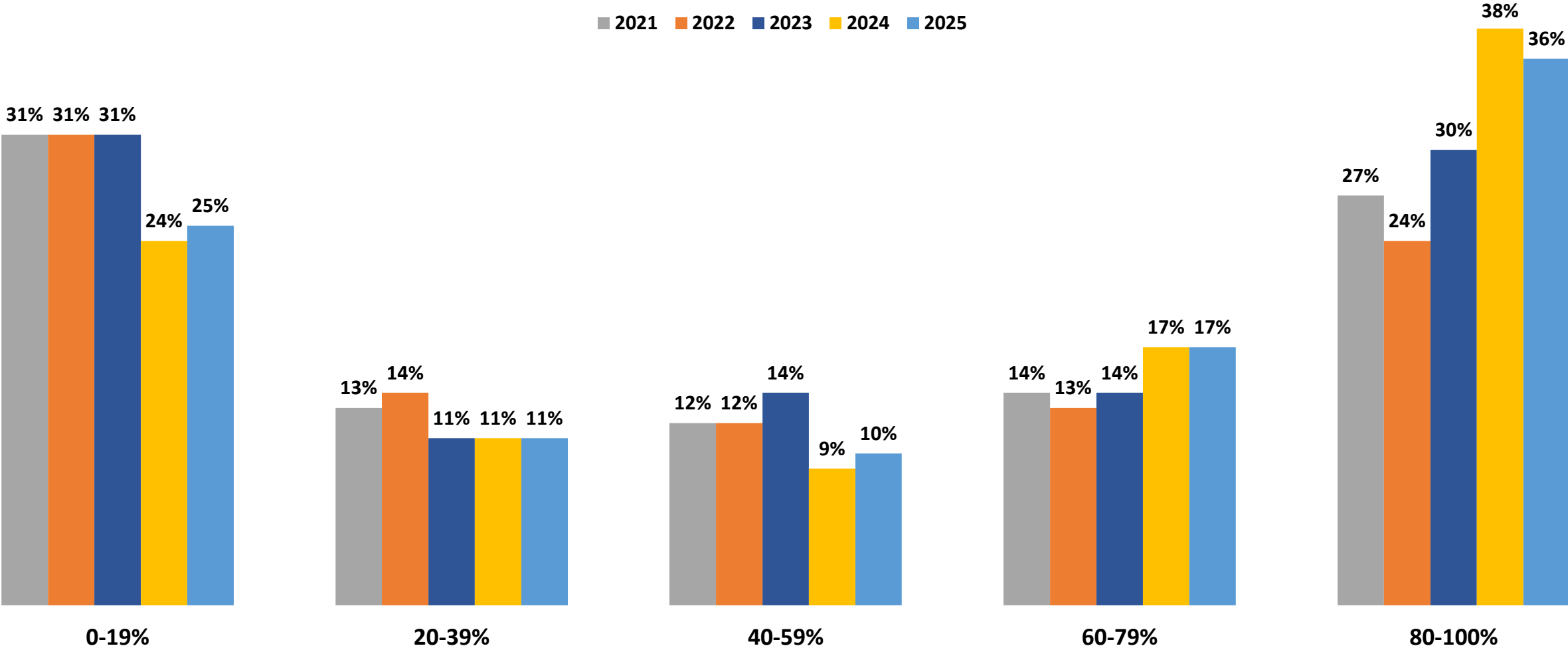
Most Users & Developers Started Using Julia Between 2018 and 2022



Most Julia Users & Developers Do More than 60% of Their Programming in Julia

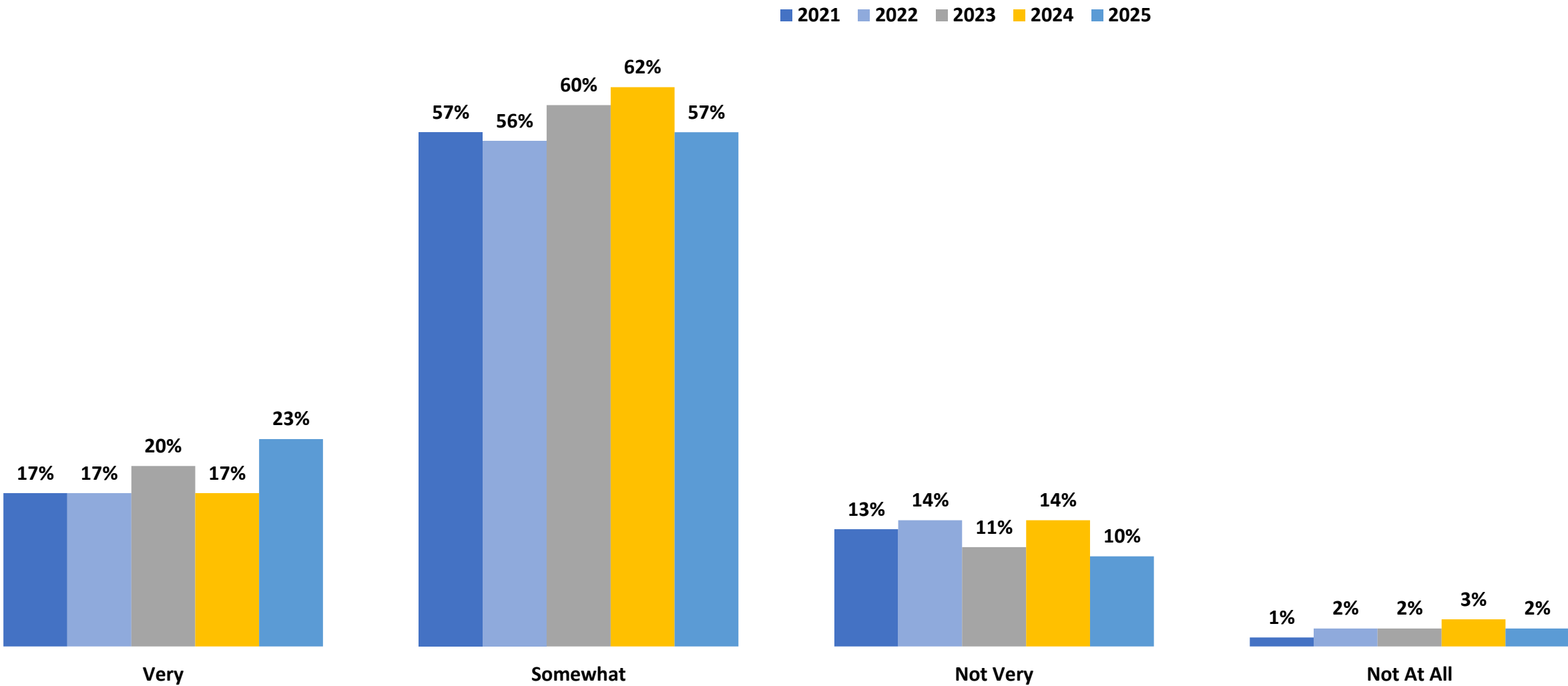
What percentage of the programming work you do is in Julia?

■ 2021 ■ 2022 ■ 2023 ■ 2024 ■ 2025



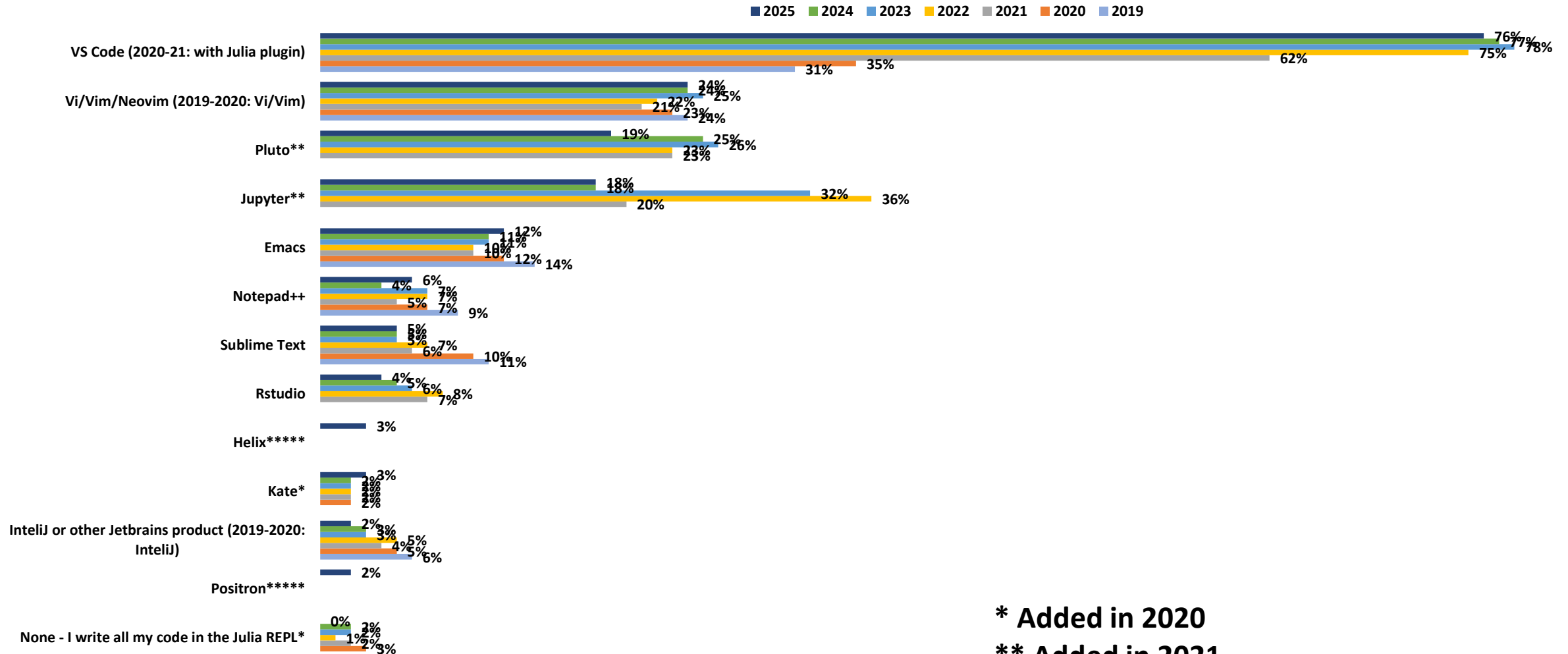
80% Say the Julia Package Ecosystem Is ‘Very’ or ‘Somewhat’ Robust

How robust is the current Julia package ecosystem?



VS Code, Vi/Vim/Neovim, Pluto and Jupyter Are the Leading Editors or IDEs for Julia Users & Developers

Which editors or IDEs do you use frequently?



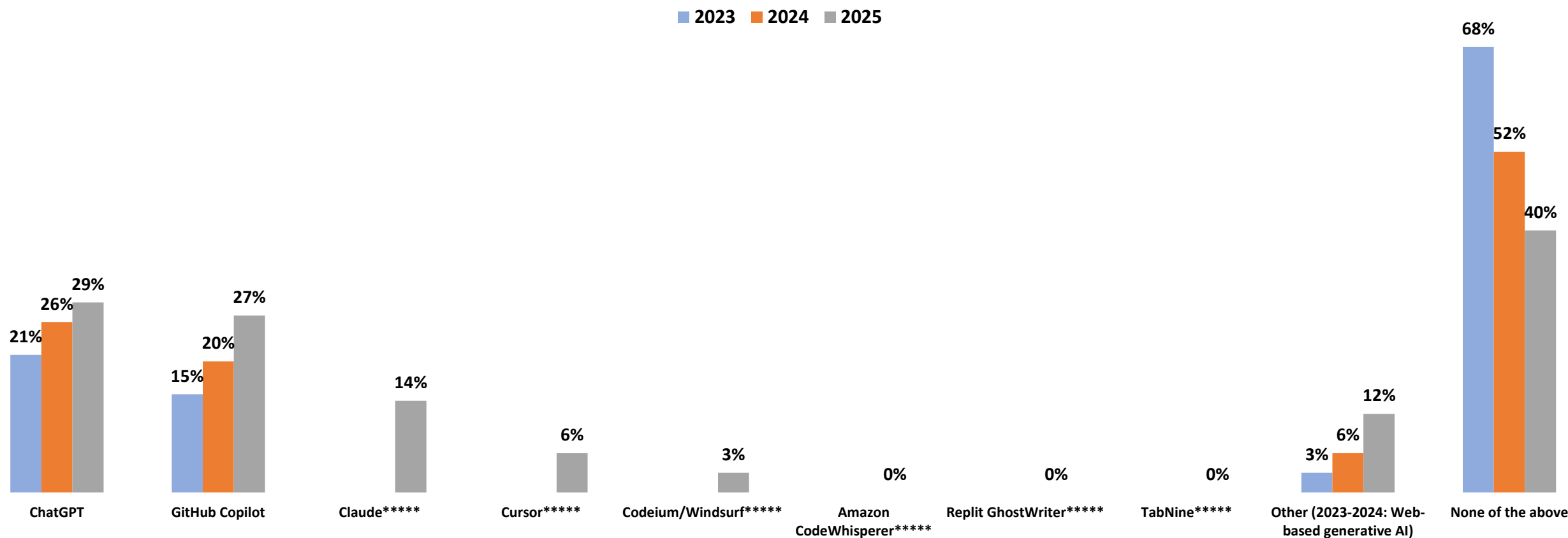
* Added in 2020

** Added in 2021

***** Added in 2025

More than Half of Users & Developers Now Use AI Assistance, Up from Just 32% Two Years Ago

What types of AI assistance do you use [2023-2024: frequently / 2025: for programming] with Julia?

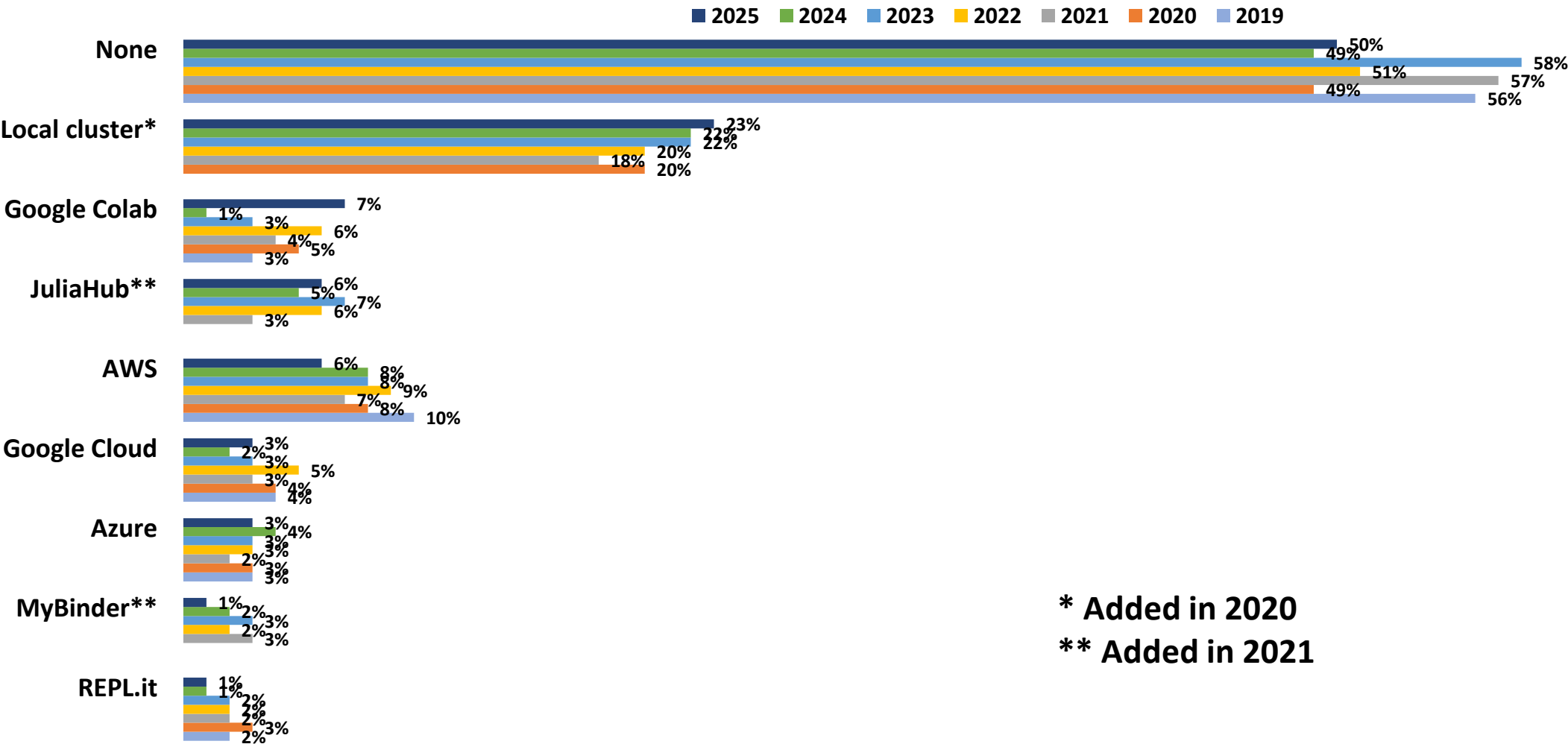


*****Added in 2025

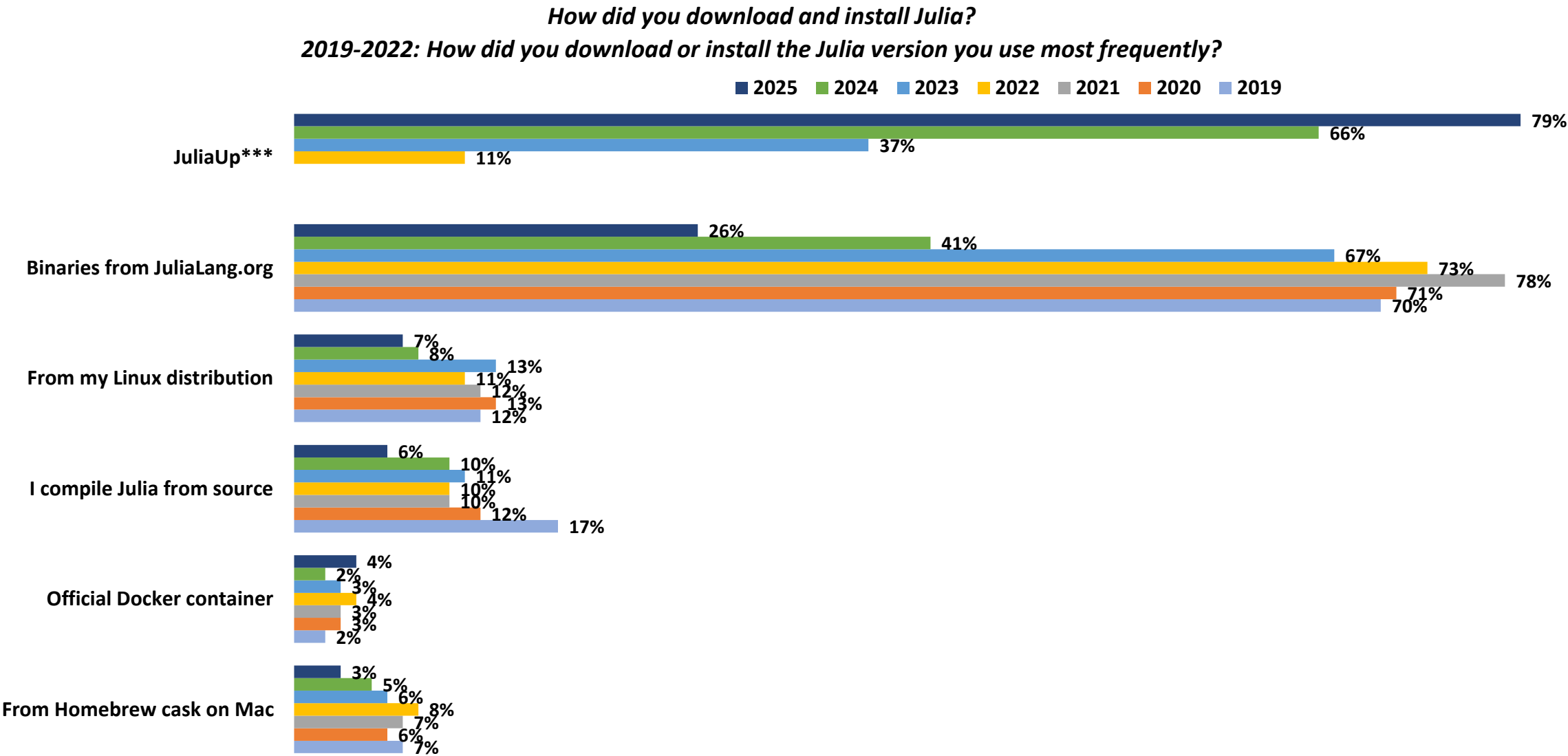
About Half Use One or More Cloud Solutions; Local Cluster Is Most Common

Google Colab Use Has Increased, AWS Use Has Declined

Which cloud solutions, if any, do you use together with Julia?



JuliaUp Is the #1 Way to Download and Install Julia

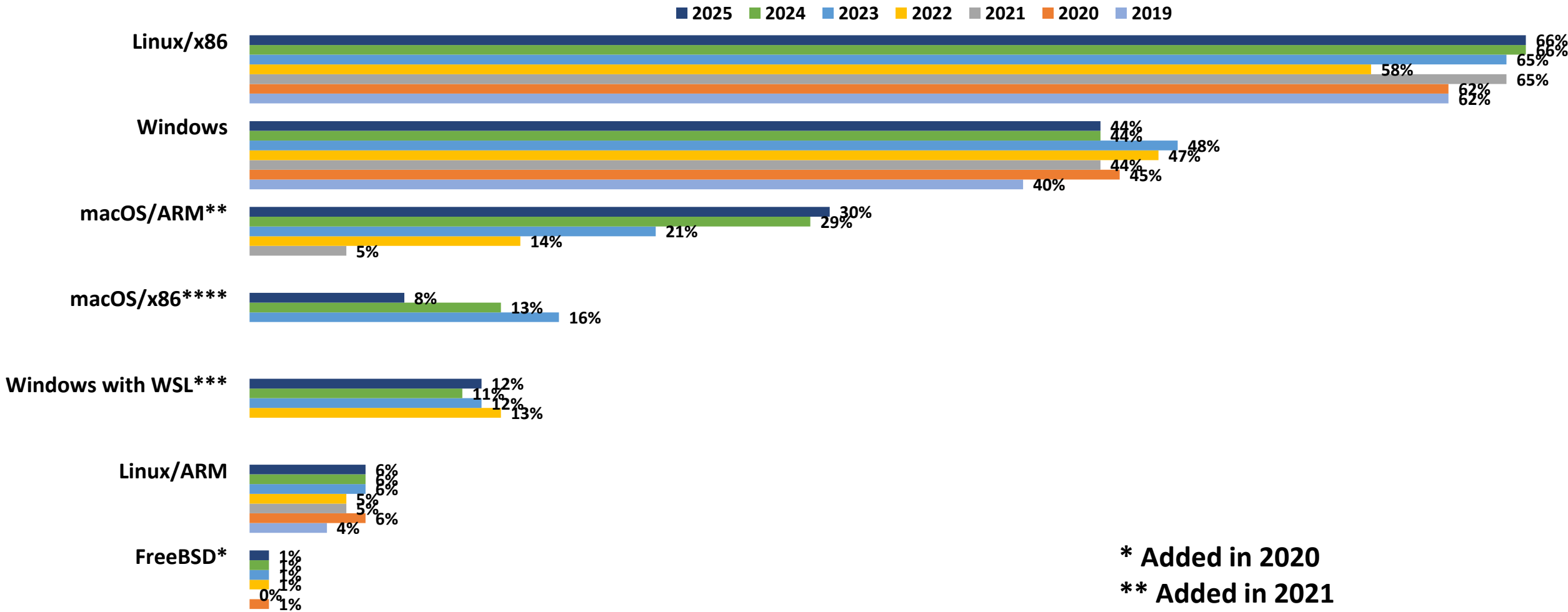


*** Added in 2022

Most Use Julia with Linux/x86, Windows or macOS/ARM

Fewer Use macOS/x86

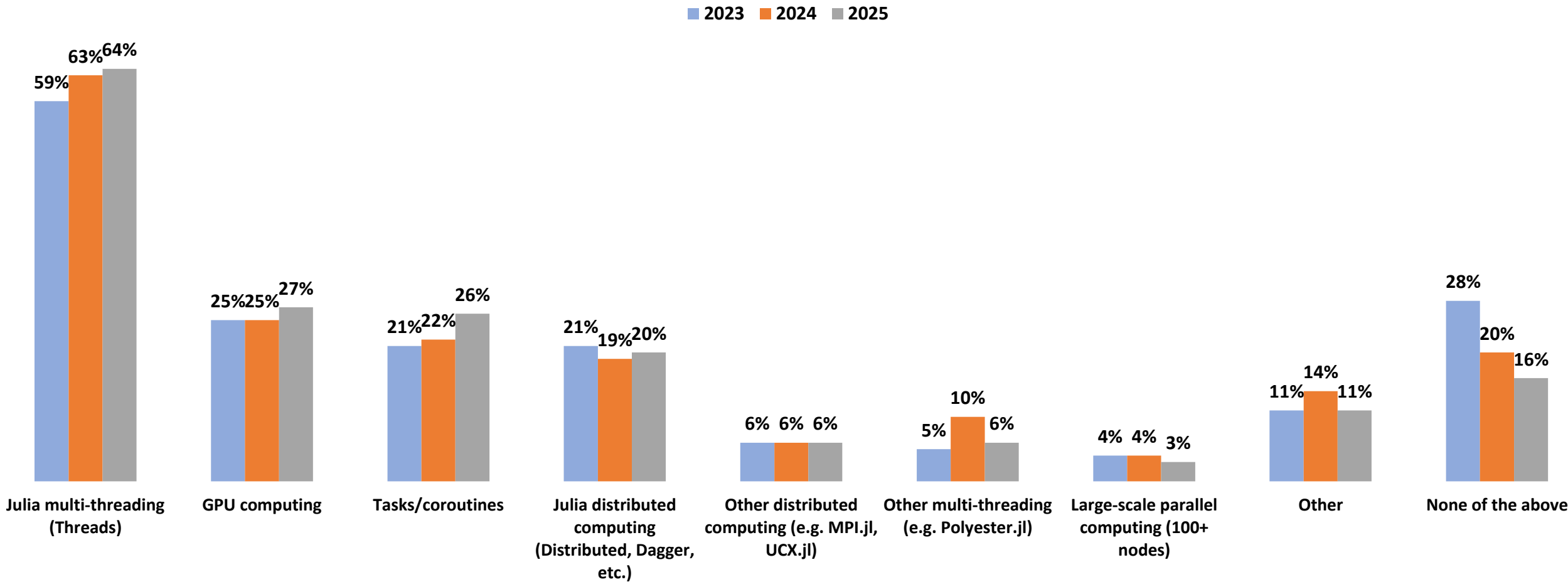
With which operating system(s) do you use Julia?



* Added in 2020
** Added in 2021
*** Added in 2022
**** Added in 2023

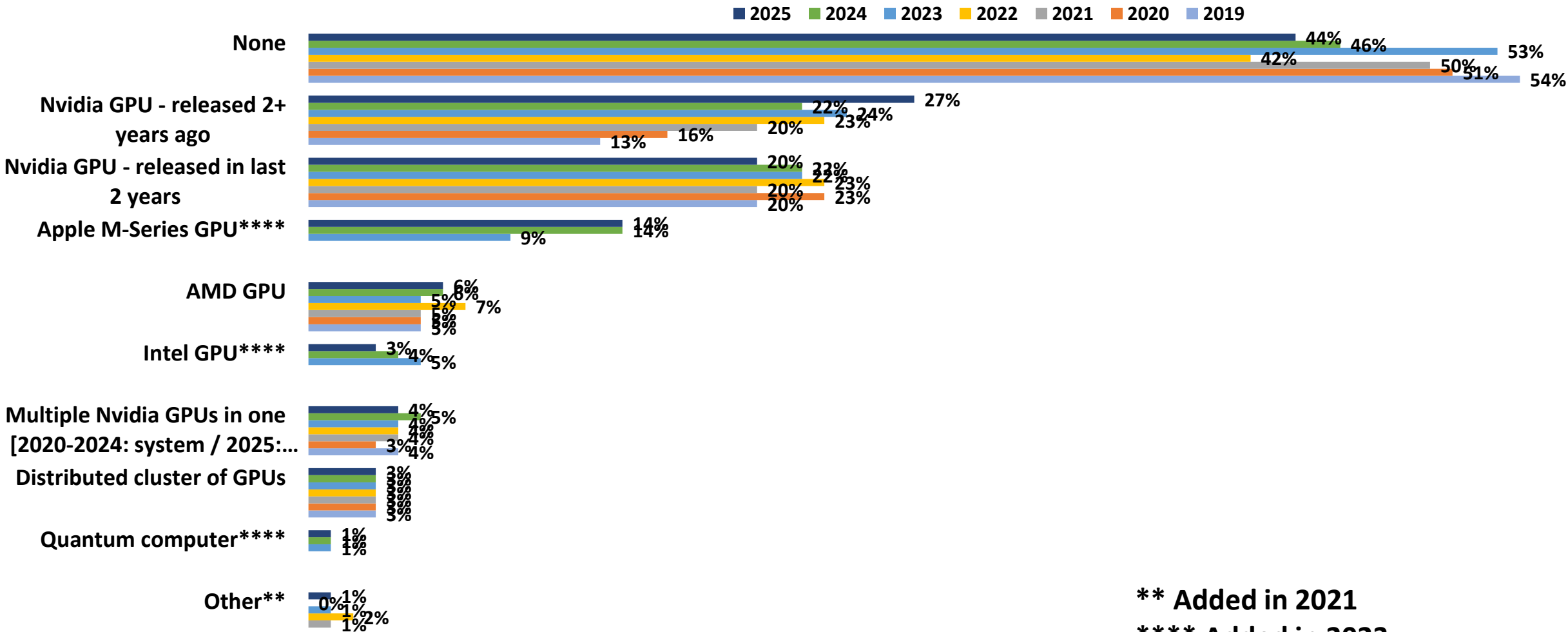
Most Use Julia Multi-Threading (Threads); Only 16% Do Not Use Any Parallelism

Which kind of parallelism, if any, do you use together with Julia?



Nvidia GPUs Are the Most Common Accelerators

Which hardware accelerators, if any, do you use together with Julia?

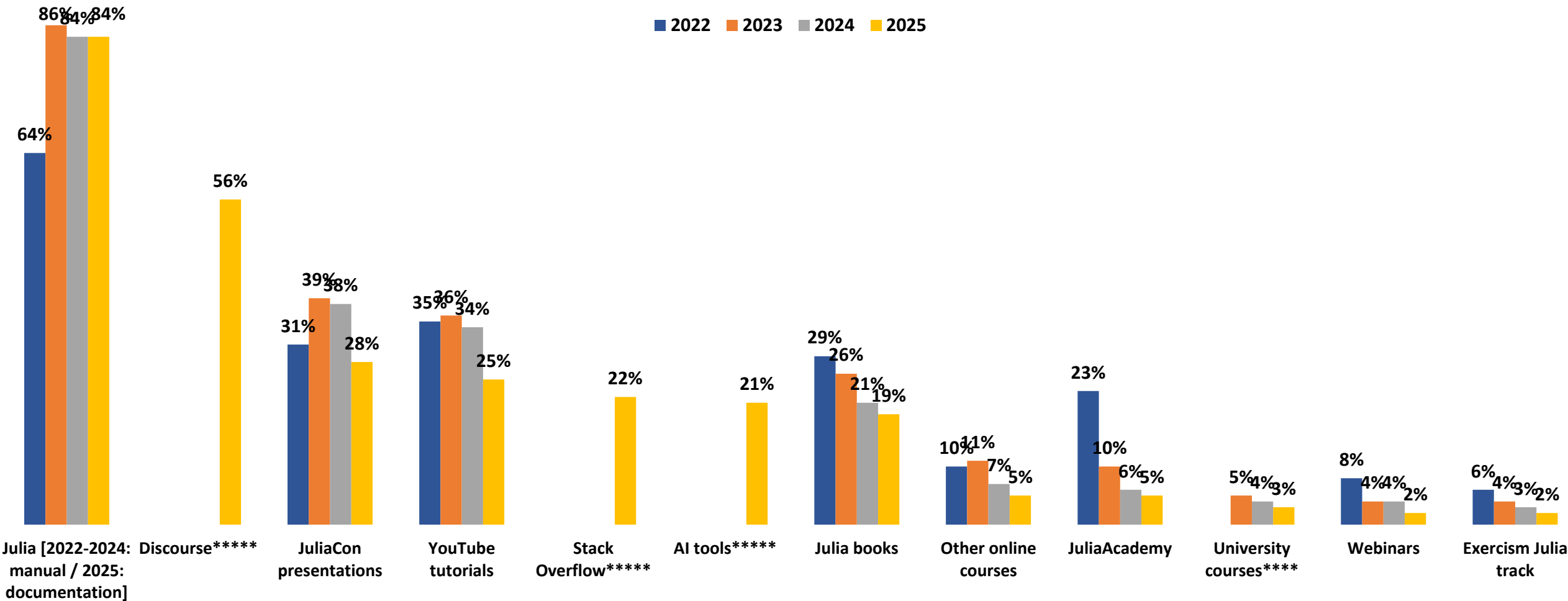


** Added in 2021

**** Added in 2023

Julia Documentation Is Most Useful for Learning Julia, Followed by Discourse, JuliaCon Presentations, YouTube Tutorials, Stack Overflow, AI Tools and Julia Books

What resources have you found most useful when learning Julia for the first time or when learning how to do something in Julia? Please select all that apply.



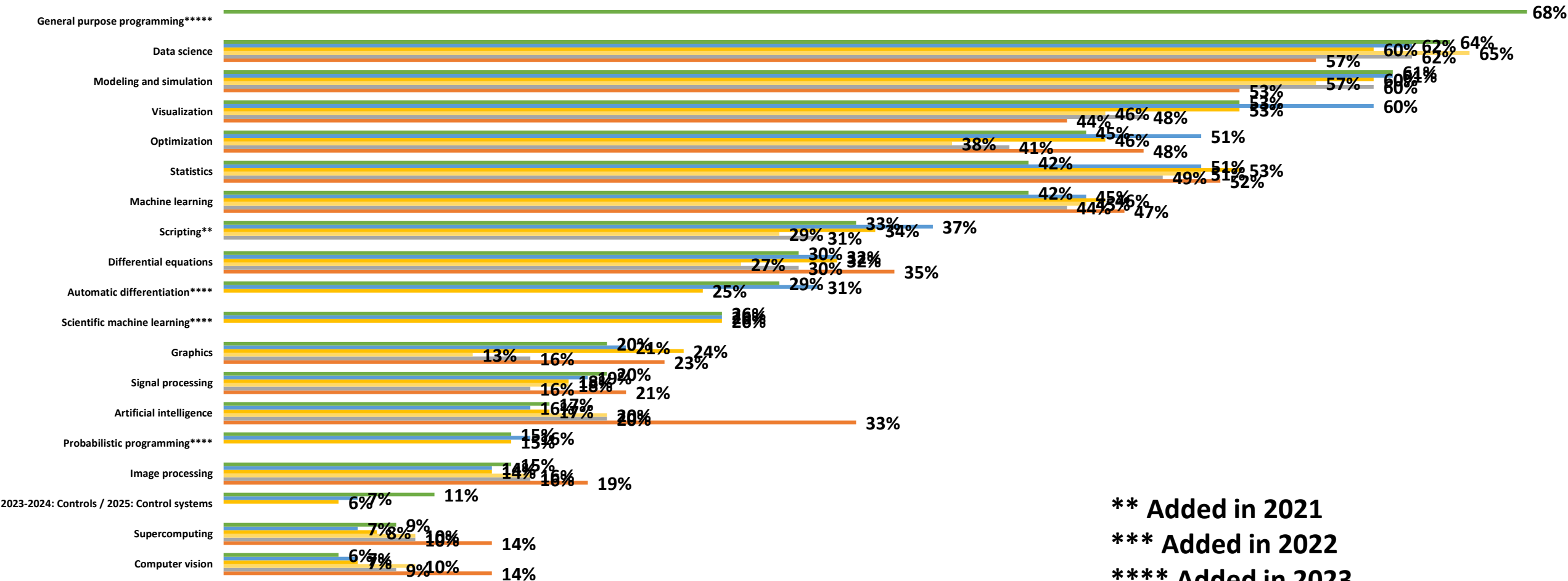
**** Online and in-person university courses combined in 2023

***** Added in 2025

Most Respondents Use Data Science, Modeling and Simulation

Which of the following do you use?

2025 2024 2023 2022 2021 2020

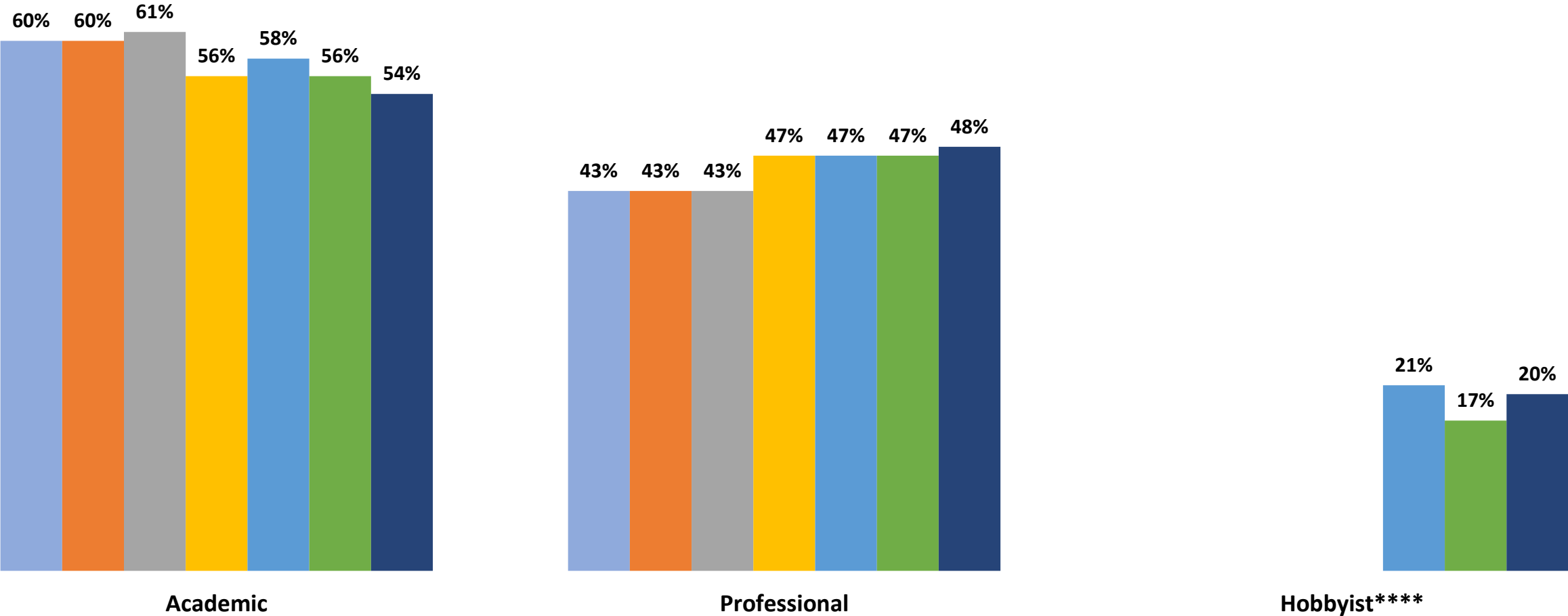


** Added in 2021
*** Added in 2022
**** Added in 2023
***** Added in 2025

Professionals Are Nearly Half of Survey Respondents

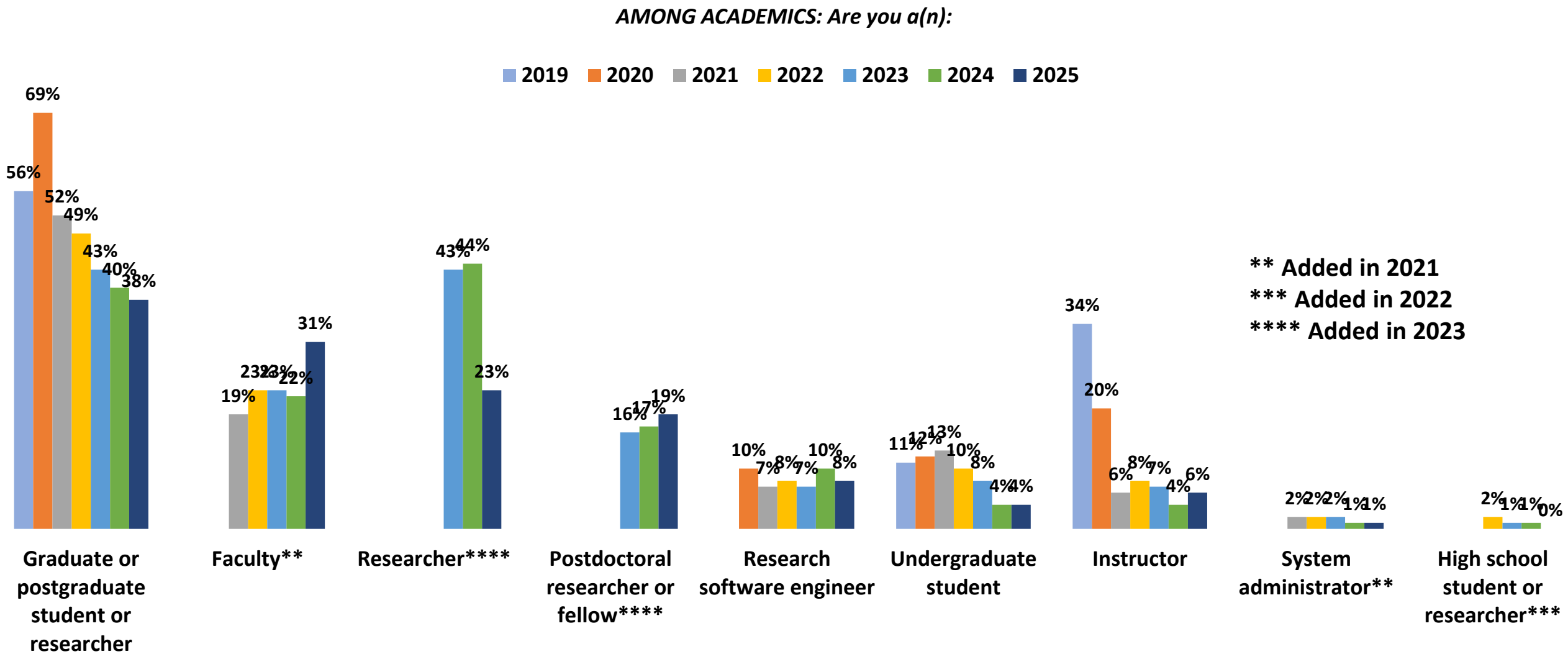
Which of the following best describes you? Please select all that apply.

2019 2020 2021 2022 2023 2024 2025



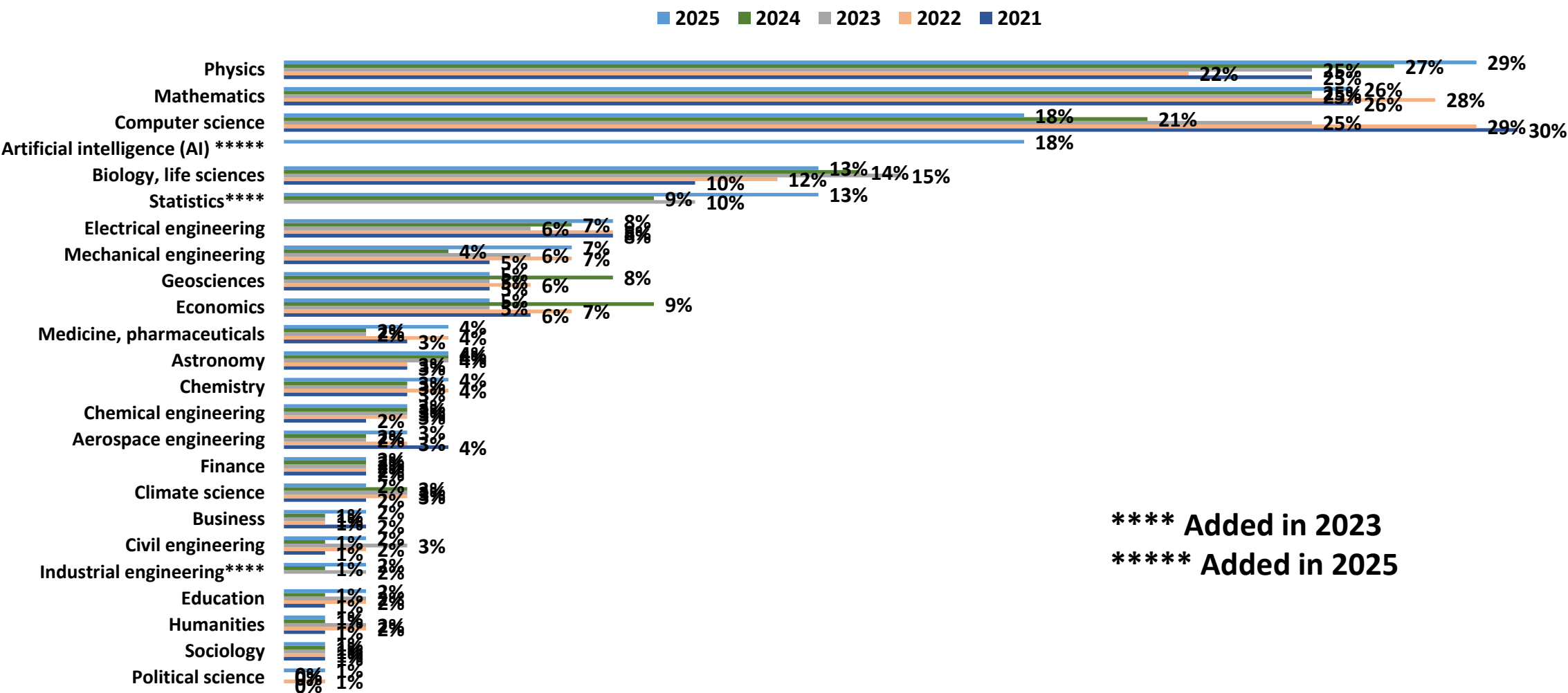
**** Added in 2023

Among Academics, Most Respondents Are Graduate or Postgraduate Students or Researchers, Faculty, Researchers or Postdocs



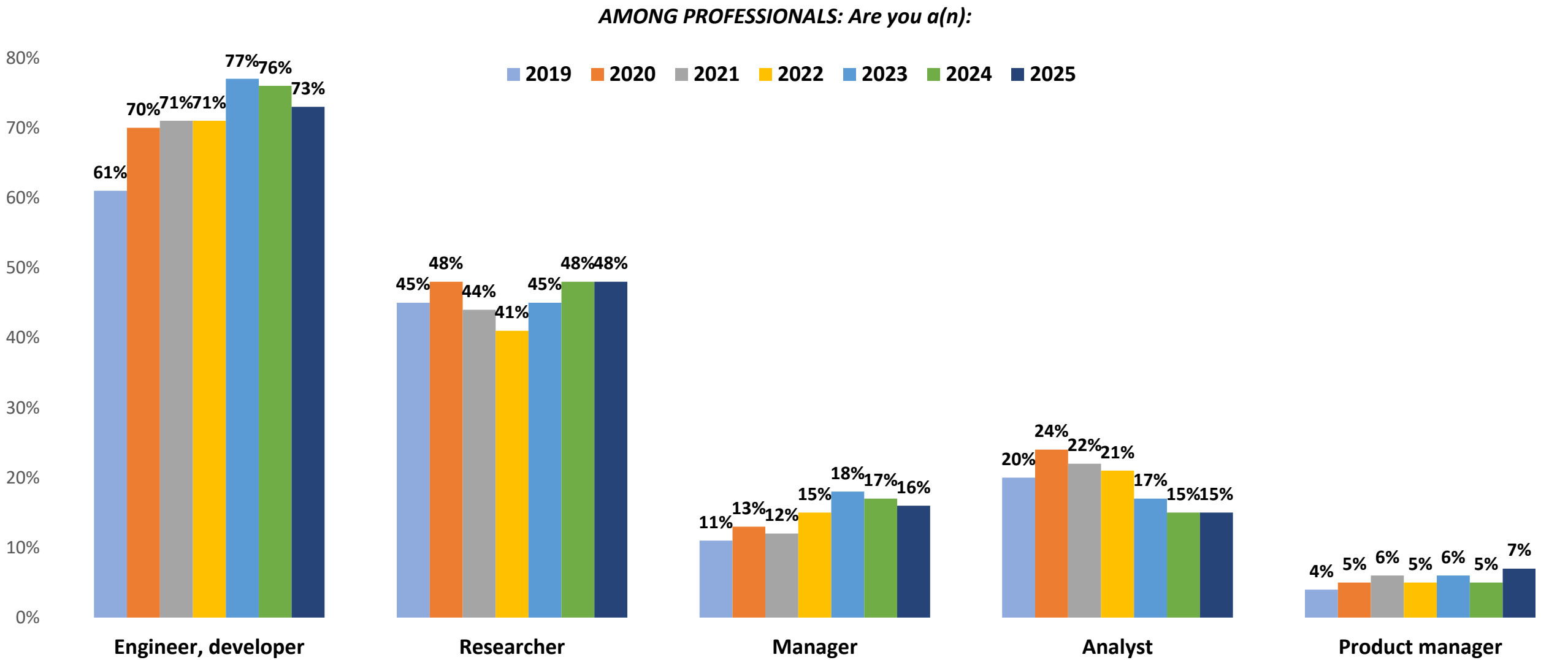
Among Academics, the Most Common Fields Are Physics, Mathematics, Computer Science and Artificial Intelligence (AI)

AMONG ACADEMICS: What is your primary field of study or research?

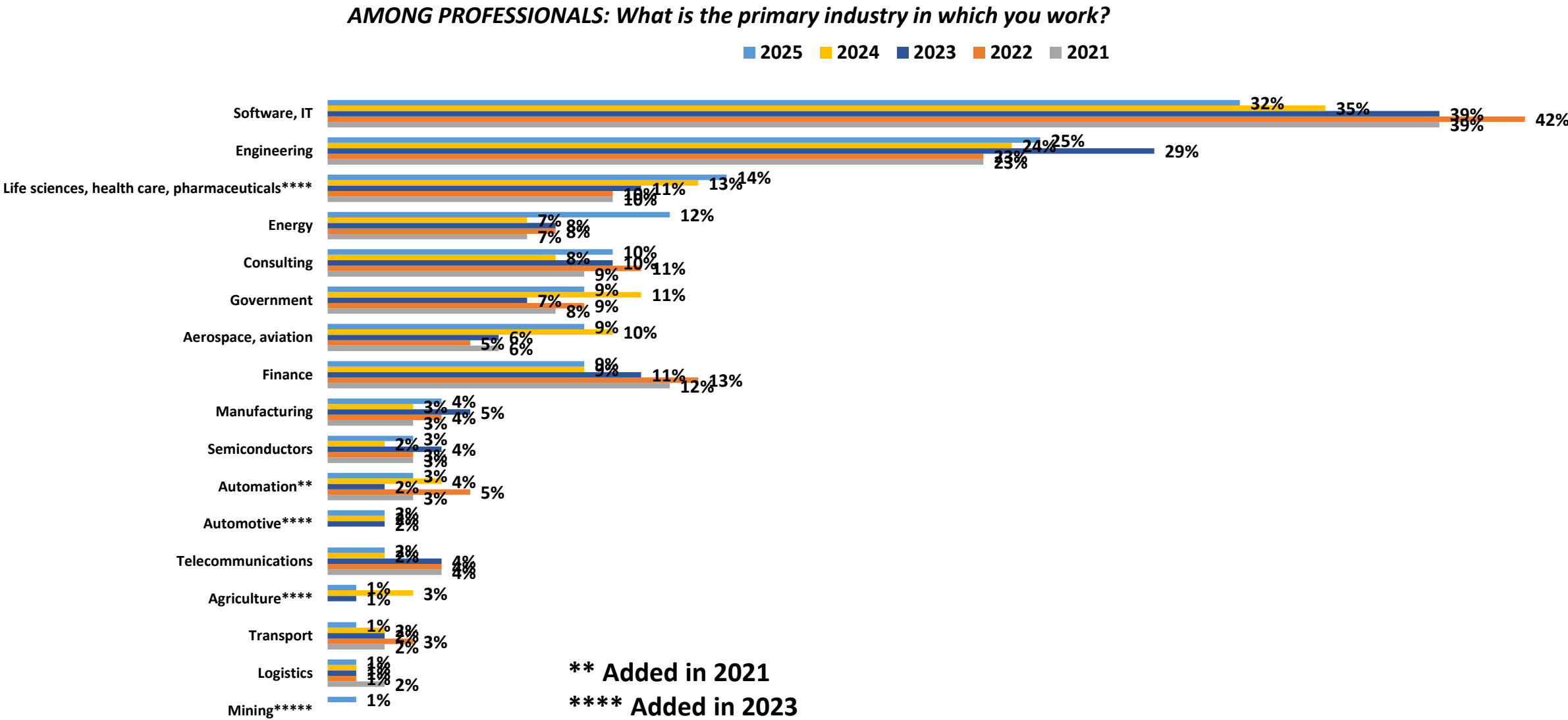


**** Added in 2023
***** Added in 2025

Among Professionals, Most Respondents Are Engineers or Developers



Among Professionals, the Most Common Industries Include Software, IT and Engineering



** Added in 2021

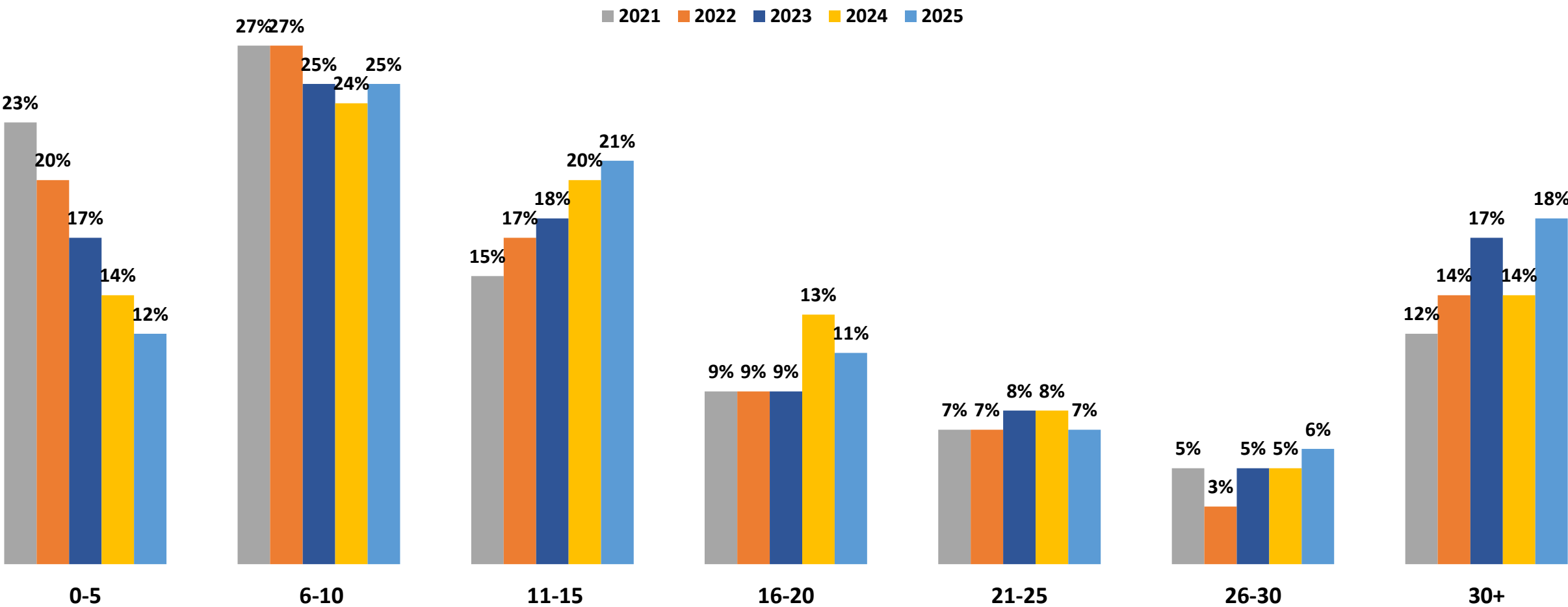
**** Added in 2023

**** Pharmaceuticals merged with life sciences/health care in 2023

***** Added in 2025

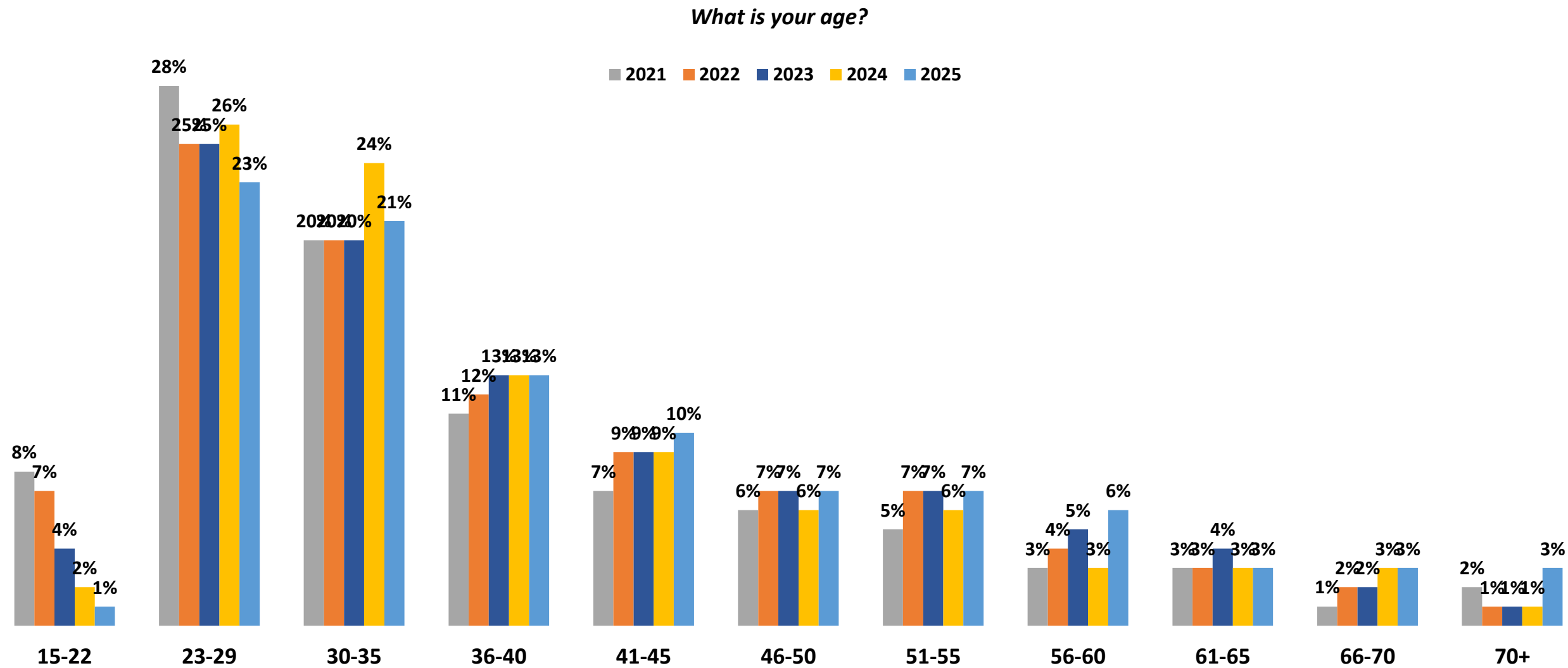
More Julia Users & Developers Have 6+ Years of Experience; Fewer Have 0-5 Years of Experience

How many years of coding experience do you have?



39% of Survey Respondents Are Age 41+, Up from 31% Last Year

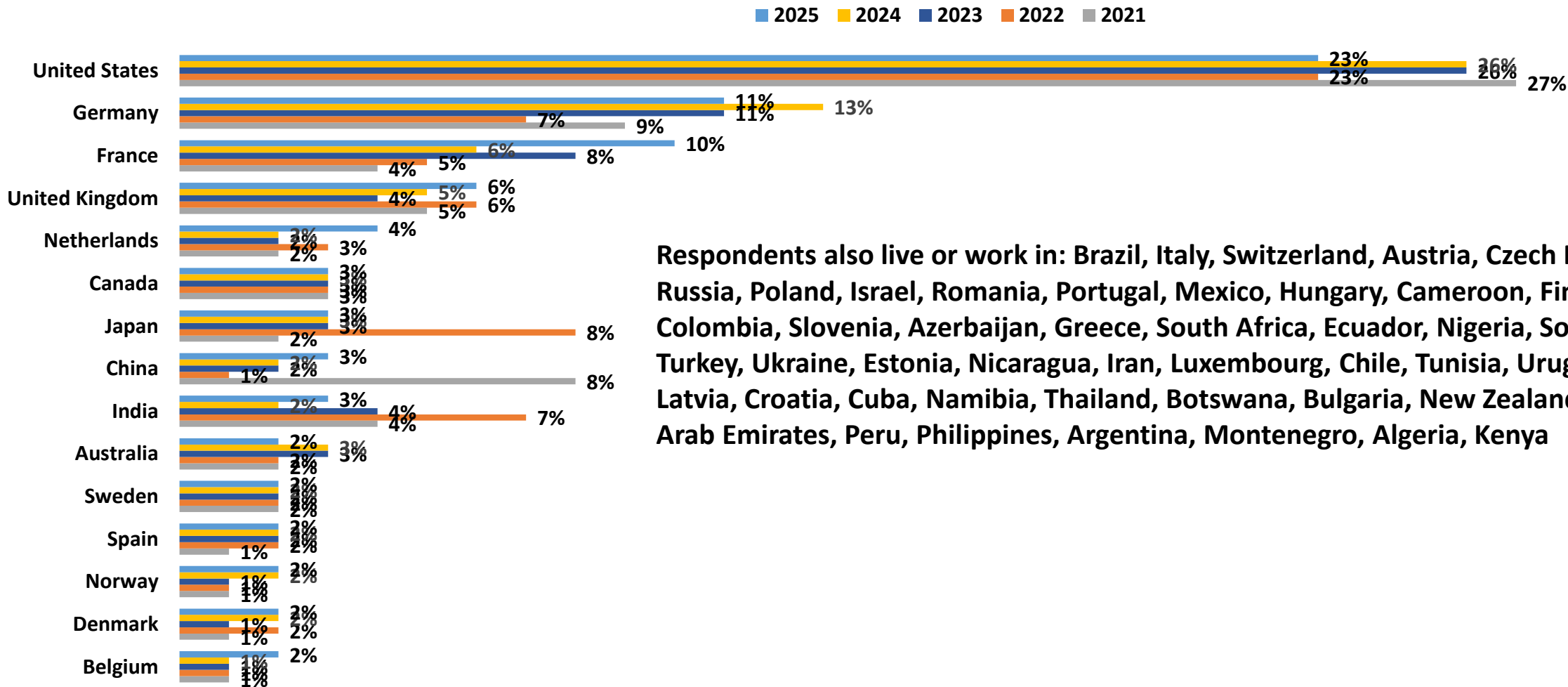
45% Are Under 35, Down From 52% Last Year



Respondents Live or Work in More than 60 Countries and Regions

The Largest Number Live or Work in North America, Western Europe and Asia

What is the country or region where you currently live or work?



Respondents also live or work in: Brazil, Italy, Switzerland, Austria, Czech Republic, Russia, Poland, Israel, Romania, Portugal, Mexico, Hungary, Cameroon, Finland, Colombia, Slovenia, Azerbaijan, Greece, South Africa, Ecuador, Nigeria, South Korea, Turkey, Ukraine, Estonia, Nicaragua, Iran, Luxembourg, Chile, Tunisia, Uruguay, Latvia, Croatia, Cuba, Namibia, Thailand, Botswana, Bulgaria, New Zealand, United Arab Emirates, Peru, Philippines, Argentina, Montenegro, Algeria, Kenya

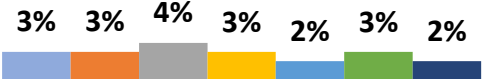
91% Identify as Men, 2% Identify as Women, 1% as Non-Binary and 7% Decline to Answer

Which of the following best describes how you identify?

2019 2020 2021 2022 2023 2024 2025



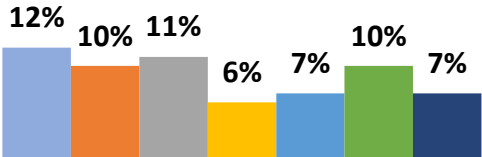
Man



Woman



Non-binary**

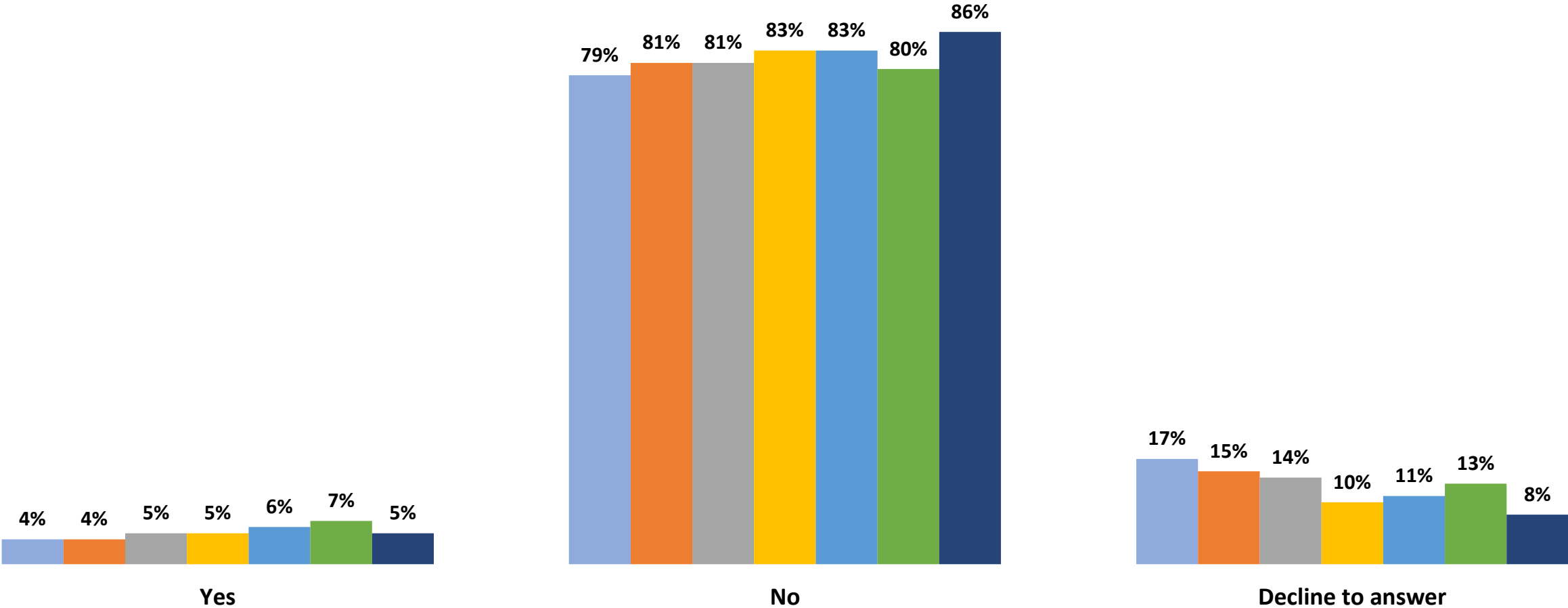


Decline to answer

5% Identify as LGBTQIA+

Do you identify as LGBTQIA+?

2019 2020 2021 2022 2023 2024 2025



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