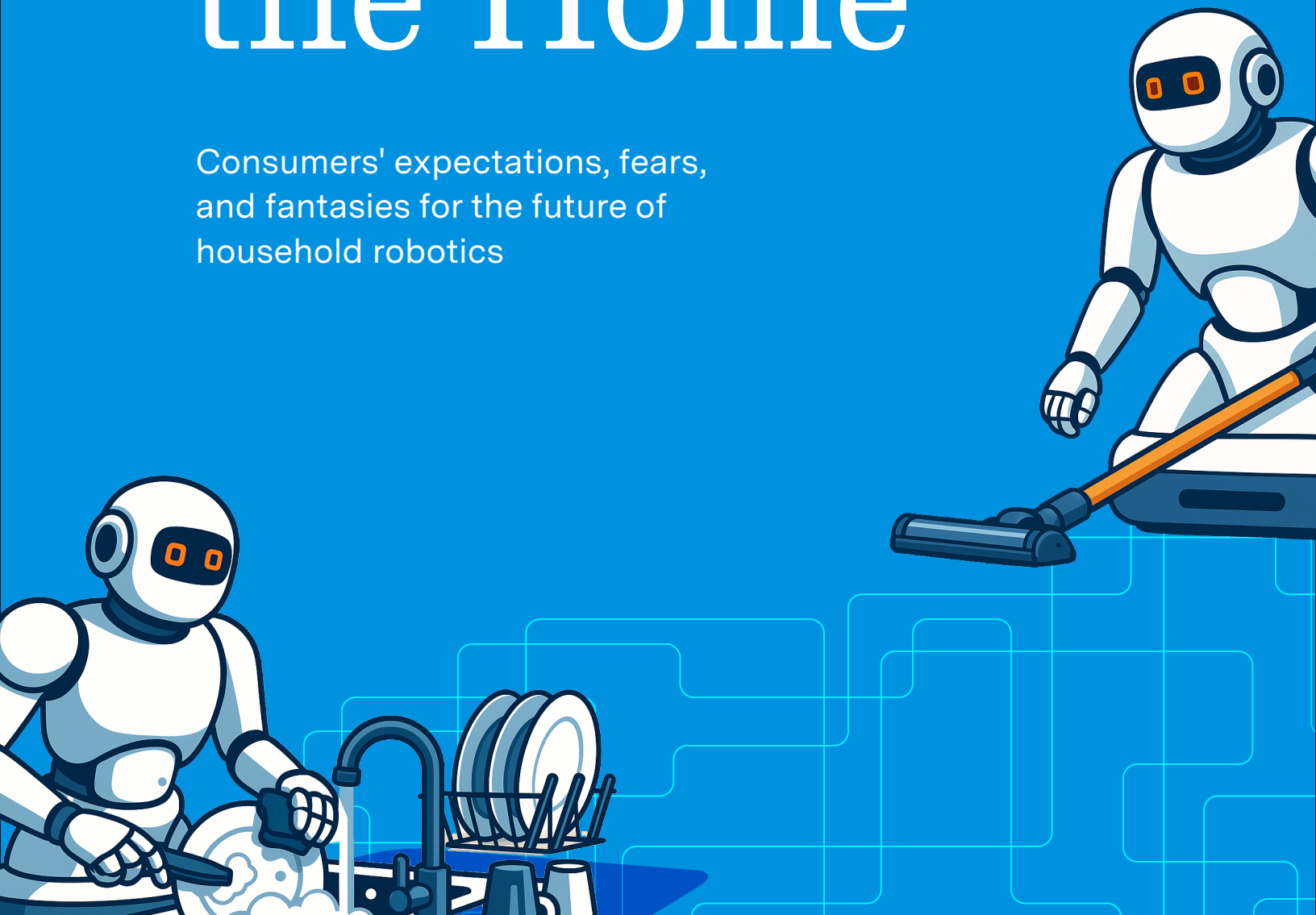


NOVEMBER 2025

Robots in the Home

Consumers' expectations, fears, and fantasies for the future of household robotics



IN THIS REPORT,
YOU'LL FIND...

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An overview of current consumer attitudes toward in-home robots, and their expectations for the future.

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The specific use cases most likely to drive adoption for in-home robots.

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Frameworks for understanding the possibility space for in-home robots and identifying use cases to prioritize.

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An exploration of key polarities in consumers' mental models of in-home robots.

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As robots move into our homes, tech companies have an opportunity to set expectations for the product category

Over the past several years, breakthroughs in artificial intelligence and related technologies have pushed the idea of personal robots out of the pages of science fiction and into the realm of genuine possibility.

Concepts that once felt fanciful—like a household assistant able to clean, cook, or even provide companionship and emotional support—are now the subject of serious research and extensive corporate investment. Companies are prototyping machines that promise to reshape everyday routines, while consumers increasingly wonder when robots might move from factory floors into their living rooms.

Until now, much of the public debate and media discourse around robotics has been dominated by industrial contexts: machines designed to assemble cars, sort packages, or perform specialized tasks at scale. These applications have been critical in driving economic efficiency and technical innovation, but they offer

only a partial view of the role robots could play in society. What's missing is a sustained focus on consumers—their expectations, their anxieties, and the value they see in inviting robots into the intimate space of the home. This report sets out to elevate the voice of the consumer and explore through their eyes what everyday life with robots might look like.

Defining this space is far from straightforward. Should we picture a highly mechanical tool optimized for a single repetitive task, like vacuuming or dishwashing—or should we imagine a humanoid assistant capable of moving fluidly through a household, multitasking across a variety of domestic domains? These kinds of tensions—between multifunctional vs. single-purpose, humanoid vs. mechanical, appliance vs. companion, among others—will define the boundaries of the category. But in the end, most in-home robots will live somewhere in the “messy middle” between these poles.

This ambiguity creates both challenges and opportunities for technology companies. Consumers lack a clear anchor point for what a home robot should be, leaving attitudes shaped by a jumble of influences: glimpses of industrial automation, existing consumer devices like robotic vacuums, science fiction archetypes, and splashy prototypes unveiled at tech conferences. Against this backdrop, companies entering the market must do more than simply build functional machines; they must decide where to position their products along these defining axes and communicate a compelling vision that resonates with consumer needs and desires.

By reframing the conversation from industrial efficiency to domestic life, this report seeks to map the possibility space for in-home robots, highlight the polarities that shape consumer perceptions, and identify the use cases most likely to drive adoption. In doing so, we hope to provide clarity in a category still struggling to define itself, and to offer a roadmap for companies looking to build trust and relevance in the next chapter of robotics.

Part 1 The role for robots in the home

What consumers currently know about in-home robots, and how this knowledge determines the use cases that will be most likely to drive purchase intent.

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Part 2 Imagining the ideal robot

Exploring consumer preferences along five key dimensions that will shape what in-home robots could look like:

- Specialist vs. Multifunctional
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- Companions vs. Appliances
- Mechanical vs. Humanoid
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Part 3 Building trust in robots

The long-term challenges facing tech companies in developing robots that can earn consumers' trust, and the wider social implications of the robotics revolution.

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METHODOLOGY

Quantitative: Unless otherwise specified, data in this report comes from a survey of 1,500 US consumers, ages 18 to 64, conducted online in June and July 2025. Participants for this study were selected and weighted to be representative of national US demographics, based on latest available census data, in respect to age, gender, ethnicity, household income, and geographic region.

Respondents were presented with a range of in-home and out-of-home use cases and scenarios for robots, and asked to evaluate these use cases and scenarios on a range of metrics, including utility and comfort. Additionally, respondents were asked questions about their preferences when purchasing a hypothetical household robot—including what they would like it to look and sound like, how they would like it to behave, and how they would prefer to interact with it—as well as the factors that would influence their decision to purchase one model of robot over another.

Qualitative: To further understand consumer expectations for in-home robots, NRG conducted in-depth interviews with 12 US consumers, representing a range of different domestic environments and living situations. Illustrative quotes from these interviews have been included throughout this report; these quotes have been lightly edited for clarity.

In addition to sharing their general views on in-home robots, participants evaluated three specific robotics use case categories, including an out-of-home use case for comparison purposes.

Interviewees were presented with one use case from each of the three categories listed to the right, selected based on the tasks they reported currently performing around the house.

Domestic category 1: Functional

- Cooking
- Cleaning

Domestic category 2: Caring or social

- Petcare
- Childcare
- Personal companionship

Out-of-home category

- Healthcare

Part 1

The role for robots in the home

Despite seeing potential benefits, consumers remain unsure of how to think and feel about in-home robots

There are few Americans whose daily routines are such that they wouldn't find at least some value in having a robotic assistant in their homes.

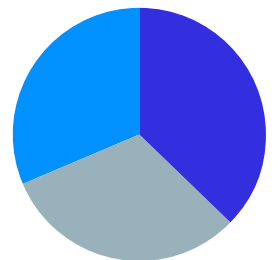
Two-thirds of those surveyed felt that having a robot to assist with tasks around the house would make their lives significantly easier; among parents, that figure increased to 74%. And all of the consumers interviewed by NRG—even those who were broadly skeptical of AI and automation—were able to identify specific activities where they would benefit from the help of a robotic assistant.

66%

of consumers believe that having a robot to help them around the house would make life significantly easier

Consequently, many consumers are willing to invite robots into their homes under the right circumstances. When asked to choose between hiring a human housekeeper or an equally competent robot at the same price point, 68% responded that they would either prefer a robot or have no preference between the two.

Q: Assuming equal cost and competency, would you prefer to hire a robot or human for help around the house?



Prefer to hire a robot

37%

No preference

31%

Prefer to hire a human

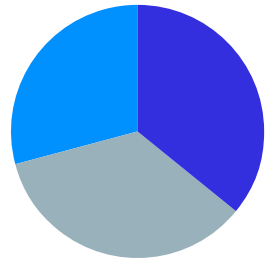
31%

However, hesitations persist; there are still many Americans who remain unsure of whether the potential personal benefits of home robots will ever be substantial enough to justify the potential risks.

In interviews, consumers expressed concern about both individualized risks, such as the potential for robots to malfunction or invade users' privacy, and the broader social implications of home robotics—e.g., the impact it might have on employment within specific industries, or the way in which it might create a culture of laziness and over-dependence on technology. (See [Part 3](#) of this report for more on these risks and potential mitigation strategies.)

As a result of these concerns, fewer than four in ten (36%) consumers say they're more excited than scared about the proliferation of household robots. For a majority of Americans, the prospect of mass automation of household chores prompts either ambivalence or active skepticism—whether due to fears about the wider societal impact, or concern that they personally are unlikely to benefit from the technology.

Q: Are you more excited or scared about the idea of a world in which ordinary consumers can buy robots to help with a wide variety of household tasks?



More excited	36%
Neutral / unsure	35%
More scared	29%



Moreover, excitement toward in-home robots appears to be strongly correlated with income. Among consumers from households with an annual income of \$75,000 or more, 43% say they're excited about in-home robots; among those earning below that line, the figure drops to just 31%. Many lower-income consumers are, it seems, concerned that people like them will be priced out of the market for in-home robots, leading to an entrenchment of social inequality and a widening of the lifestyle divide between the rich and the poor. Some of these consumers may even be worried about their own jobs being made obsolete by the rise of in-home robots.

There's also a stark gender divide in overall positivity toward household robots: 44% of American men say that they're more excited than scared about in-home robots, compared to just 28% of women. And that's despite the fact that women, in theory, have the most to gain from these robots; data from the Bureau of Labor Statistics shows that, even though the gender gap in household labor has narrowed over the past few decades, women continue to spend about 40% more of their time on chores around the home.¹

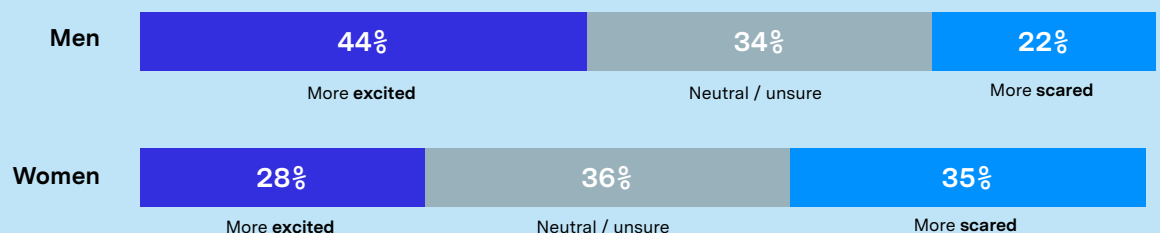
This divide reflects a wider social phenomenon in attitudes toward automation and artificial intelligence. NRG's own research on generative AI, for example, has consistently found that women are more skeptical toward AI tools and products than men, and are more likely to express concern about the social implications of the technology.² Moreover, recent reporting suggests that men make up the majority of users for many popular AI applications; one recent study estimated that as many as 85% of users of the ChatGPT mobile app were male.³

Ultimately, much of this uncertainty in consumer attitudes toward in-home robots can be attributed to just how new and ill-defined the product category still is. Most people still lack a clear mental model for how to think about the possibility space here; their views on the topic are defined by an amorphous mix of pop culture references, relatively simple existing home robots like Roombas, and recent news stories about companies like Tesla showing off prototypes for as-yet-unreleased personal robots.⁴

This lack of a clear anchor point, combined with the potential diversity of the category, meant that, in interviews, many consumers struggled to identify exactly how they felt about in-home robots. When the product category could encompass everything from marginally more sophisticated versions of existing appliances through to sophisticated and multifunctional humanoid robots that might as well have walked out of the pages of a sci-fi novel, it's easy to understand why consumers would have difficulty articulating their own feelings toward it. That's also why it's critical for tech companies looking to make inroads in this space to understand the polarities that define it in the minds of consumers—and to have a clear view of how their own robots will be positioned relative to these extremes.

1. Jocelyn Shek, "U.S. men are contributing to household work more than ever," NBC News, July 3rd, 2025
2. "Are smart devices getting smarter?," NRG, October 4th, 2024
3. Amanda Silberling, "ChatGPT's mobile users are 85% male, report says," TechCrunch, January 29th, 2025
4. Lauren Edmonds and Lakshmi Varanasi, "The story of Optimus, the humanoid robot at the heart of Elon Musk's growth plans for Tesla," Business Insider, September 8th, 2025

Gender divides in attitudes toward household robots



Among the general public, expectations for home robots outpace current technological capabilities

To build consumer trust and confidence in in-home robots, tech companies will need to carefully select the right use cases to prioritize while deftly navigating consumers' personal and social anxieties about the technology. But there's another challenge compounding all of this: [the difficulty of keeping pace with consumer expectations for technological progress](#).

Spurred on by both science fiction portrayals of in-home robots and media coverage of recent tech breakthroughs, consumers—even those who are currently distrustful of existing robots and AI chatbots—generally have high expectations for the future. Over half (56%) believe that, by 2030, robots will be able to match or outperform humans when it comes to carrying out most household chores. Fifteen percent believe we're already at that point.

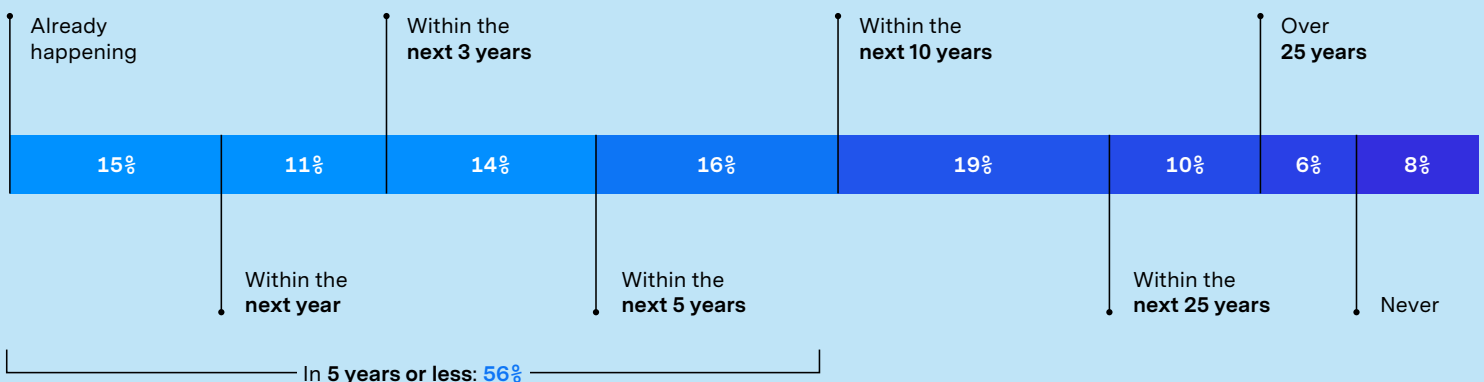
Experts, however, tend to be more cautious in their expectations for the future. Even with recent developments in AI, there are certain challenges—particularly around the manipulation of small,

delicate, or irregularly shaped objects—that still need to be solved before those AIs can be fully embodied and given physical, robotic form. And that's before you even factor in the challenges of commercialization, or the need to develop robust safety protocols. It's one thing to have a robot that can perform a variety of household tasks; it's quite another to get that robot to a point where it's affordable to a non-trivial amount of people and can respond safely to the inherent unpredictability of a domestic environment.

For all of these reasons, the World Economic Forum estimates that it will take closer to 15 years before sophisticated humanoid robots are truly commonplace in professional and domestic settings.⁵ While more specialized home robots are likely to come to market sooner than that—indeed, they can already be purchased for specific tasks—consumers may find themselves disappointed by the rate of progress when it comes to realizing the dream of a true all-purpose home robot.

5. Clas Neumann, "Humanoid robots offer both disruption and promise. [Here's why](#)," World Economic Forum, June 16th, 2025

Q: When do you think robots will be able to consistently perform household chores as well as or better than humans?



INTERVIEW



Jeannette Bohg

To better understand how consumers' expectations for home robots matched up against expert consensus in the field, NRG sat down with robotics researcher Jeannette Bohg, **Assistant Professor of Computer Science at Stanford University and Director of the Interactive Perception and Robot Learning Lab.**

Q: Are we at a point yet where in-home robots could add significant value to the average consumer?

To identify promising use cases for robots, we have to think about the very personal things that people hate to do—the things they just want someone else to come and carry out for them. But the problem is that, for most of those tasks, it's still easier and cheaper to hire a real person to do it than get a robot.

Right now, robots are just not there. They're not cheap enough, they're not fast enough, they're not functional enough to replace humans for most of the use cases where people would actually benefit from them.

Q: What do you think are the in-home use cases where we're most likely to see robots start creating value for users?

Manipulation in home environments is still a big challenge for robots. So I think the first products that actually bring value to people will be ones that don't require that manipulation component.

For example, there have been some really interesting prototypes of robotic dogs—robots that could act as a companion and encourage you to go out for a walk, for example. Alternatively, I think there are ways that very specialized robots could speed up

common tasks in the kitchen without requiring a lot of manipulation. Like helping with weighing out ingredients, those sorts of tedious and repetitive activities.

But anything that requires generalized manipulation, that's going to be really hard to make work in home environments.

Q: What are the barriers to solving those manipulation challenges?

With robotics and automation, the first 80% is often very easy; the real difficulty is that last 20%, or even the last 5%. Look at autonomous vehicles, for example. That started in the mid-2000s with the DARPA Grand Challenge. Now, it's twenty years later and we've only just gotten to the point where robots are driving around San Francisco and a few other cities. They had to spend decades just working on corner cases to make sure that autonomous vehicles were safe enough to deploy in the real world.

It's the same for manipulation; those corner cases are what's really going to bite you. And in many ways, navigating the home is an even harder challenge than navigating on the roads. Homes are messy, they're unstructured—they don't have consistent traffic rules.

While potential use cases are diverse, consumers see the most potential for robots to support with areas where they're already comfortable with automation: low-stakes, high-frequency tasks

To provide study participants with more concrete examples of how robots could slot into their day-to-day routines, NRG presented them with specific examples of activities that an in-home robot might be able to perform. Through both our survey and one-on-one interviews, we used these examples to probe both consumers' **level of comfort and perceived utility**: how comfortable were consumers with the idea of robots helping with these tasks? And how much value did they think a robot performing this task would create for them?

In selecting examples to show to consumers, we were also conscious of the need to represent a full spectrum of use cases—ranging from activities that some commercial robots can already reliably perform, through to more speculative use cases that may soon be enabled through recent technological breakthroughs.

To achieve this, we selected use cases that varied along two key axes:

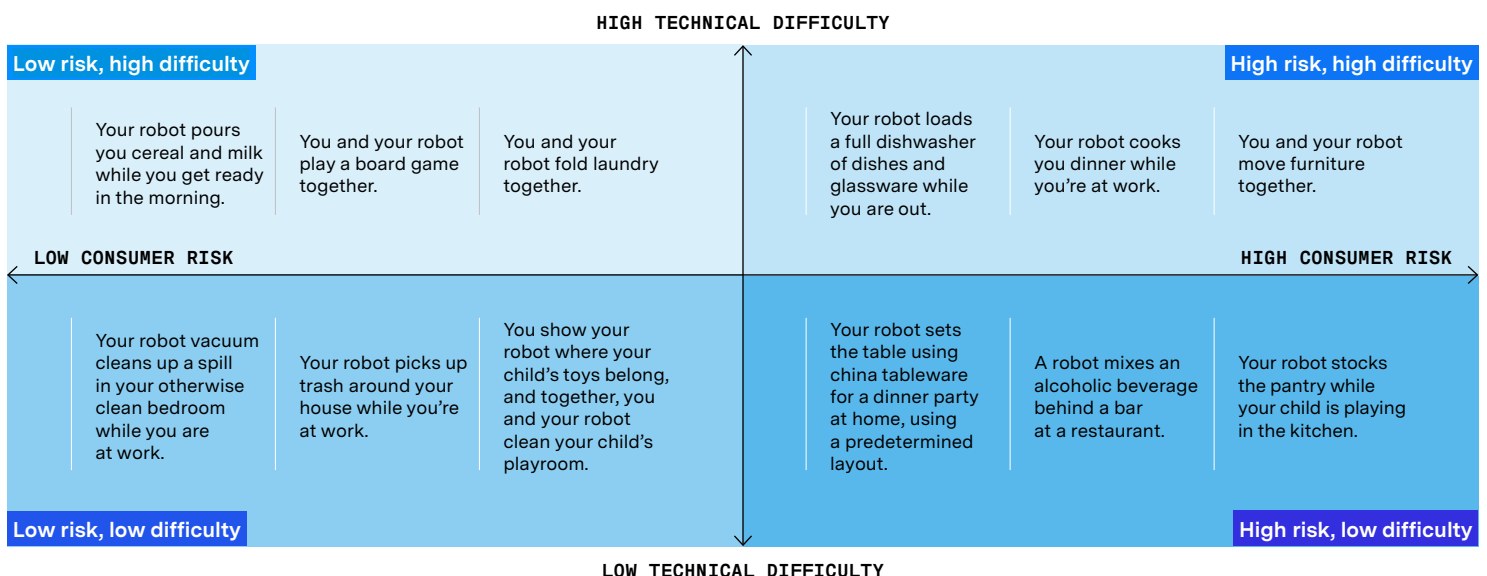
Difficulty: How easy or difficult would it be for a robot to reliably perform this task? Broadly speaking, tasks that require many different steps, as well as those that necessitate manipulation of small, soft, or irregularly shaped objects or the navigation of unpredictable environments, tend to be more challenging for existing robots to perform.⁶

Risk: What happens if something goes wrong when a robot tries to perform this task? In some cases, a robot failing to perform a task correctly may simply mean that the task fails to be completed. In other cases, robotic malfunction could result in damage to property or, worse, serious injury to the human user or their pets, children, or other loved ones.

6. Gaofeng Li, Ruize Wang, Peisen Xu, Qi Ye, and Jiming Chen, "The Developments and Challenges towards Dexterous and Embodied Robotic Manipulation: A Survey," arXiv, July 16th, 2025

Example use cases for in-home robots

Sample of use cases tested with consumers



“

I have a lot of allergies, so I'm **constantly vacuuming**. If I could get a robot to do that for me, that would be very, very helpful.

—MUSIC TEACHER, ♂

I'm a working mom with a busy life, and cooking is definitely not my favorite activity. So that's the first thing I'd want my robot to help me with. **It would be great if it could determine recipes**, and figure out what the vibe is for the evening.

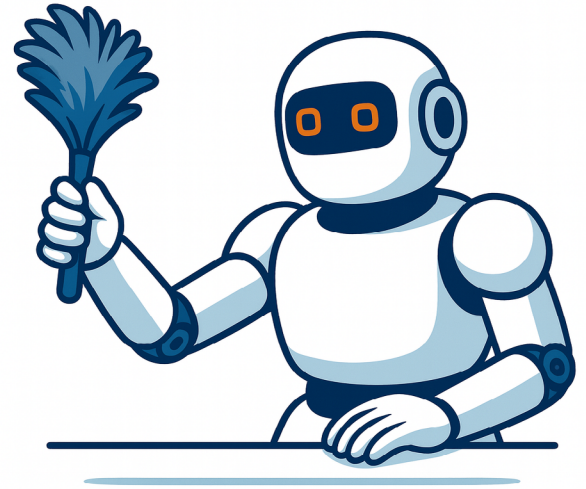
—EDUCATION ADMINISTRATOR, ♀

The first thing I'd want a robot to help with in the kitchen would be the chopping. **I feel like that's the most labor-intensive part**—and also the part where I'm most likely to get distracted and accidentally cut myself or something like that.

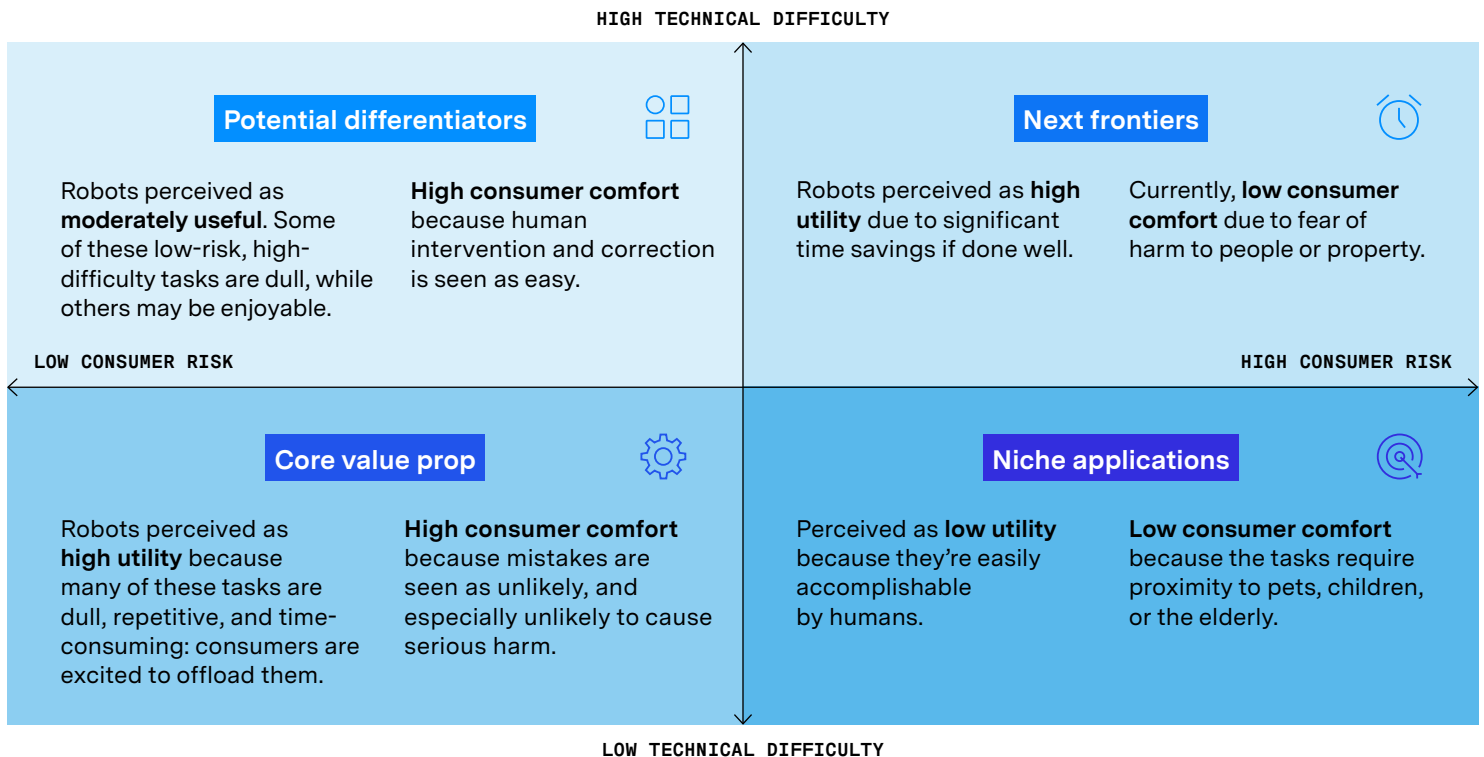
—CUSTOMER SERVICE MANAGER, ♀

Consumers' responses to these different use cases were as varied as their lives and daily routines themselves. But in general, **interviewees and survey respondents seemed most interested in using robots to support them with highly repetitive, uncreative, and unpleasant tasks**—especially those that needed to be performed on a regular basis.

Of course, many of these tasks—such as cleaning surfaces, washing up dishes, or doing the laundry—often already involve some form of mechanical assistance. For most people, it seems, it's easier to imagine handing over a task to a robot when that task has already been partially mechanized; a robot that functions as an enhanced and more autonomous dishwasher or vacuum cleaner is an easier sell, to many, than a robot that seeks to introduce automation into new areas of consumers' daily lives.



Assessing the opportunity space for in-home robots



“

I'd be worried about safety if a robot was trying to pet my cat or trim its nails or something. I **don't think a robot would have the empathy to know when the cat was in pain**; it wouldn't know when to pull back and get out of the way.

—WAREHOUSE
MANAGER, ♂

I like to do the prep in the kitchen. Not because I don't trust anybody else to do it, but because **it's kind of meditative for me**. So I wouldn't necessarily use a robot to help with any of that.

—CONSUMER INSIGHTS
SPECIALIST, ♀

I wouldn't want a robot to do my laundry. Not because I like doing it; I'd just worry that **it wouldn't have all the background knowledge it would need**. It wouldn't know whose stuff is whose.

—SUBSTITUTE
TEACHER, ♀

I wouldn't let a robot have control of the ingredients in the kitchen. Like spices, for example. I'm Mexican, I'm not afraid of spice; **I know what I can handle and what my kids can handle**. So that's something I'd always want to do myself.

—CUSTOMER SERVICE
MANAGER, ♀

Many of the tasks where consumers seemed most comfortable with the idea of robotic assistance were also those that clearly fell into the “low-risk, low-difficulty” category. Understandably, consumers were highly reluctant to entrust robots to perform any activity where failure could result in serious injury to a living being—including most use cases that involved assuming responsibility for a child, pet, or elderly relative.

In industrial contexts, researchers often use the “dull, dirty, or dangerous” framework to identify jobs that are good candidates for robotic automation.⁷ When it comes to incorporating robots into consumers' daily lives, the first two elements of this framework certainly apply; the third, it seems, does not.

Similarly, few consumers seemed interested in leveraging robots to help with tasks that required the exercise of creativity, or which allowed them to express themselves in some way. For example, consumers who were passionate about cooking and saw it as a creative outlet were reluctant to entertain the possibility of using robots in the kitchen except in highly limited contexts—whereas those who saw it as a necessary but unpleasant chore were far more interested in handing over the entire process to a robot.

7. Leila Takayama, Wendy Ju, Clifford Nass, “Beyond dirty, dangerous and dull: what everyday people think robots should do,” HRI '08: Proceedings of the 3rd ACM/IEEE international conference on Human robot interaction, March 12th, 2008

Factors that influence consumer attitudes toward using robots around the house



Consumers are **more likely** to want to use robots for...



Consumers are **less likely** to want to use robots for...

High-frequency tasks	Low-frequency tasks
Predictable or repetitive tasks	Irregular or unpredictable tasks
Tasks that are boring or unpleasant	Tasks that are emotionally fulfilling
Rote or uncreative tasks	Tasks that require expressions of creativity and personal taste
Asocial tasks	Tasks that have a social or emotional element
Low-risk tasks	High-risk tasks, especially those that involve nurturing and caregiving
Context-independent tasks	Tasks requiring extensive contextual knowledge
Tasks that already involve some element of mechanical support	Tasks that are currently performed exclusively by humans

“Dull and dirty” use cases around the home will be crucial for encouraging consumers to accept robotic support in other areas



I hate dusting. If a robot could dust for me, I'd love that. Picking everything up, moving it all back, that's my least favorite thing.

—SUBSTITUTE TEACHER, ♀

My son is on the autism spectrum. So having a robot that could talk to him and communicate with him—I could see that being a really positive thing. Just someone who could keep an eye on him when I'm not around.

—IT TECHNICIAN, ♂

I'm an able-bodied person, so I don't think I'd pay that much money to have a robot help me with chores. But when I'm older, maybe 10, 15 years from now, I think it would be more useful. I'd rather ask a robot to do the dishes for me than call my daughter and burden her with it.

—CUSTOMER SERVICE REPRESENTATIVE, ♀

None of this is to say that consumers will only ever want to use robots for repetitive, unpleasant, and low-stakes tasks. It seems likely that there are plenty of household tasks where robots could create significant value for people—even if they themselves don't realize it yet. It's a classic example of the (probably apocryphal) Henry Ford quote: “If I'd asked people what they wanted, they would have said faster horses.”

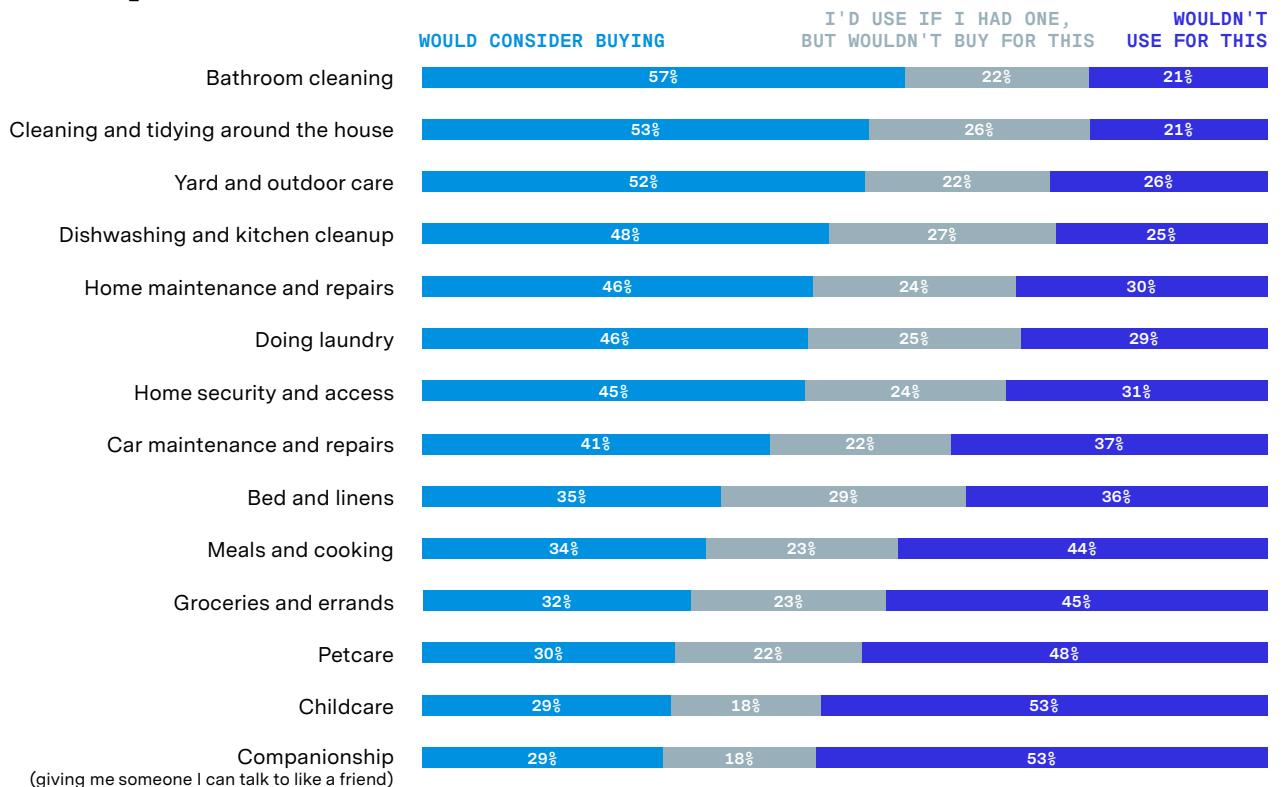
It does mean, however, that **lower-risk, low-difficulty use cases need to be seen as the tip of the spear for in-home robots**. These kinds of use cases—vacuuming around the house, wiping down surfaces, and tidying away simple objects, for example—will be central to the value proposition for early generations of mass-market home robots. A robot's ability to reliably perform these tasks will dictate consumers' overall level of interest; and

only by demonstrating capability in these areas will robots earn permission to support in other areas of consumers' lives.

Activities within the “low risk, high difficulty” category, by contrast, can best be understood as potential opportunities for differentiation: not core to the value proposition for home robots, but a comparatively safe opportunity for vendors to make their products stand out from the competition.

While some of these tasks involve a creative or social dimension, there are plenty of tasks in this category—such as folding laundry—that still fall squarely into the category of boring and unfulfilling activities that most consumers would be relieved to offload to a robot. And mistakes when carrying out these kinds of tasks can generally be rectified fairly easily, meaning that few consumers will actively object to robots trying to help out in these areas.

Q: Would you consider purchasing a robot to help with these tasks around the house?⁸



8. Childcare and petcare options only shown to consumers with children and pets, respectively

Tasks that are both high risk and highly difficult for a robot to complete, meanwhile, should be understood as representing long-term frontiers for home robotics. Tasks in this category are often time-consuming (e.g., cooking an entire meal from scratch) or physically demanding (e.g., carrying a heavy sofa up a flight of stairs). And they're often the tasks where people would be most likely to hire professional help—meaning that robots could offer substantial long-term cost savings for many consumers.

However, the stakes here are too high for consumers to comfortably hand most of these tasks over to a robot any time soon. Failure here can often mean serious personal injury or substantial property damage. And many of these tasks would likely require a robot to operate for prolonged periods of time unsupervised, further heightening consumers' anxieties. **One day, there may be a market for robots that can help in these areas; but that market is unlikely to exist until in-home robots have first demonstrated the ability to safely and reliably perform simpler tasks.**

Finally, there are the tasks in the “high risk, low difficulty” category. For the most part, automation of these tasks would offer little utility to consumers; they tend to be ones that most people can easily accomplish for themselves. Moreover, many of these tasks involve operating in close proximity to children, pets, or elderly relatives. Right now, relatively few consumers are willing to put that kind of trust in a robot—even if the tasks themselves are straightforward and the theoretical error rate is extremely low.

These tasks are probably the ones that tech companies should deprioritize when identifying candidates for robotic automation. There may, however, be niche markets for robots that can perform these tasks. Consumers with limited mobility, for example, as well as those who have particularly complex childcare or petcare needs, could find value in robots that could help with these tasks—provided, that is, that those robots operate within strict guardrails.

We can see further evidence of the need to prioritize lower-stakes “dull and dirty” use cases when we ask consumers about the domains of daily life that would play the biggest role in driving their decision to purchase an in-home robot. Areas such as bathroom cleaning, general house cleaning and tidying, and yard care ranked highly—all categories replete with tasks that fit cleanly into the lower-left quadrant of the risk/difficulty matrix.

Conversely, consumers said they were less interested in purchasing robots to support more complex tasks like running errands, as well as those that involved a creative dimension (e.g., cooking a meal) or necessitated interacting with pets or children. **To make consumers comfortable with the idea of spending money on in-home robots, tech companies will need to get the basics right first;** they'll need to build machines that can reliably perform simple indoor and outdoor cleaning and maintenance tasks, bridging the gap between existing home appliances and truly general-purpose domestic robotics.

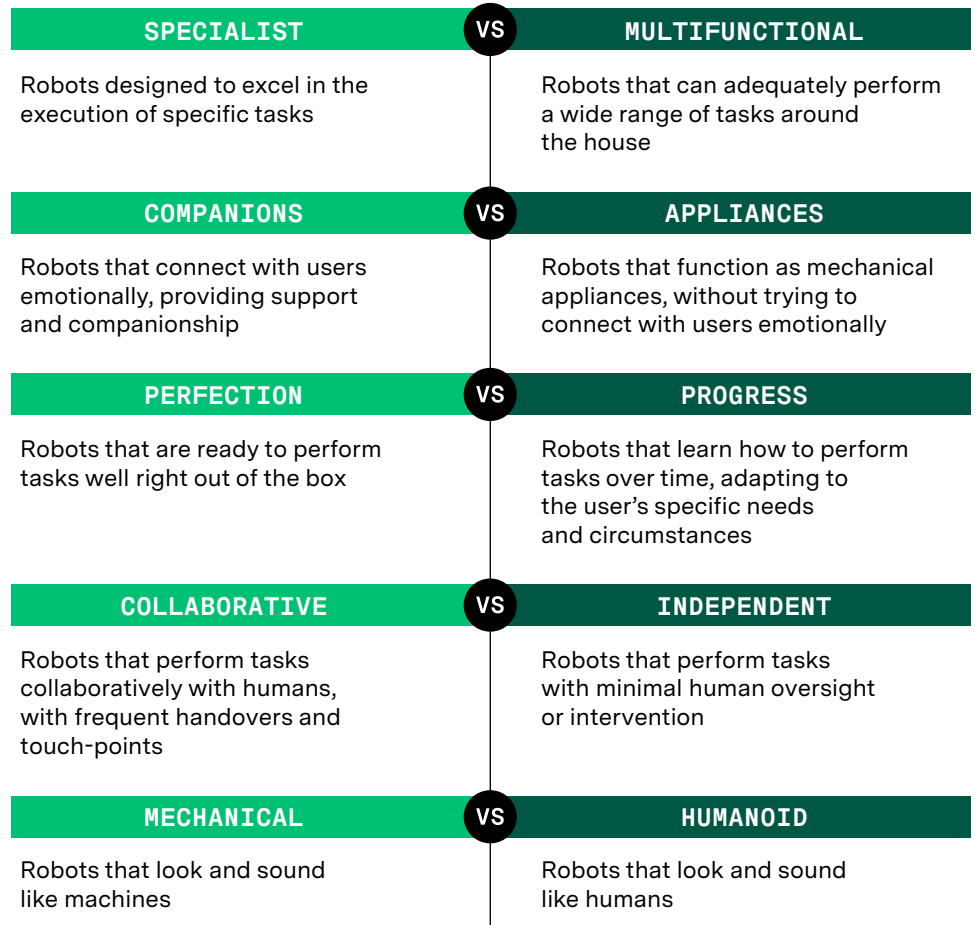


Part 2

Imagining the ideal robot

Given the degree of uncertainty that defines public attitudes toward and expectations for in-home robots, anyone thinking about bringing such robots to market will need to think carefully about how those robots reinforce or subvert consumers' mental models.

NRG's research suggests that there are five key dimensions that tech companies should keep in mind when it comes to understanding how consumers are likely to react to their robots. There is no one "correct" answer for where a robot ought to sit between these different extremes—but the positioning of a robot along these spectra will play a key role in determining the types of consumers it is likely to appeal to, the role that they can imagine for it in their lives, and the price they're willing to pay for it.



SPECIALIST

VS

MULTIFUNCTIONAL

Consumers show a strong preference for multifunctional, or general-purpose, robots

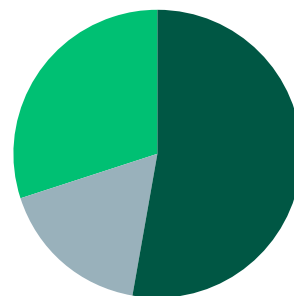
Amid the current crop of prototypes and flashy concept videos for in-home robots, there's already a clear divide emerging between those designed with one or two specific use cases in mind, and those that pitch themselves as truly multifunctional mechanical assistants.

Robotics start-up Syncere, for example, recently made waves on social media with a computer rendered video showing off their concept for a laundry-folding robot: two mechanical arms positioned on either side of the user's bed, doubling up as lamps when not in use.⁹ It's certainly a far cry from the more versatile—and, typically, more humanoid—robots that have often been at the center of media attention and public hype, such as Tesla's Optimus or the NEO Gamma from 1X Technologies.¹⁰

In interviews with consumers, it was clear that they understood the trade-offs inherent in these different approaches—that the more tasks a robot is able to complete, the less likely it is to truly excel at any one of them. But despite those trade-offs, **most people saw significantly more value in a multifunctional robot than in one designed for specialization.**

When surveyed, consumers were 23 percentage points more likely to opt for a general-purpose robot over a single-purpose one. That preference was particularly strong among parents, who showed a +29 pt. preference for multifunctional robots—compared to just +19 pt. among consumers without children. And it's easy to see why having kids running around the house would increase the variety of tasks consumers would like to be able to hand over to their robot.

Consumer preferences for in-home robots



A robot designed for **flexibility**, able to perform many different tasks adequately

53%

No preference

17%

A robot designed for **specialization**, able to perform a small number of tasks very well

30%

9. Jared Newman, "This laundry-folding robot startup swears it's for real," Fast Company, September 16th, 2025

10. Brian Heater, "Norway's 1X is building a humanoid robot for the home," TechCrunch, February 21st, 2025

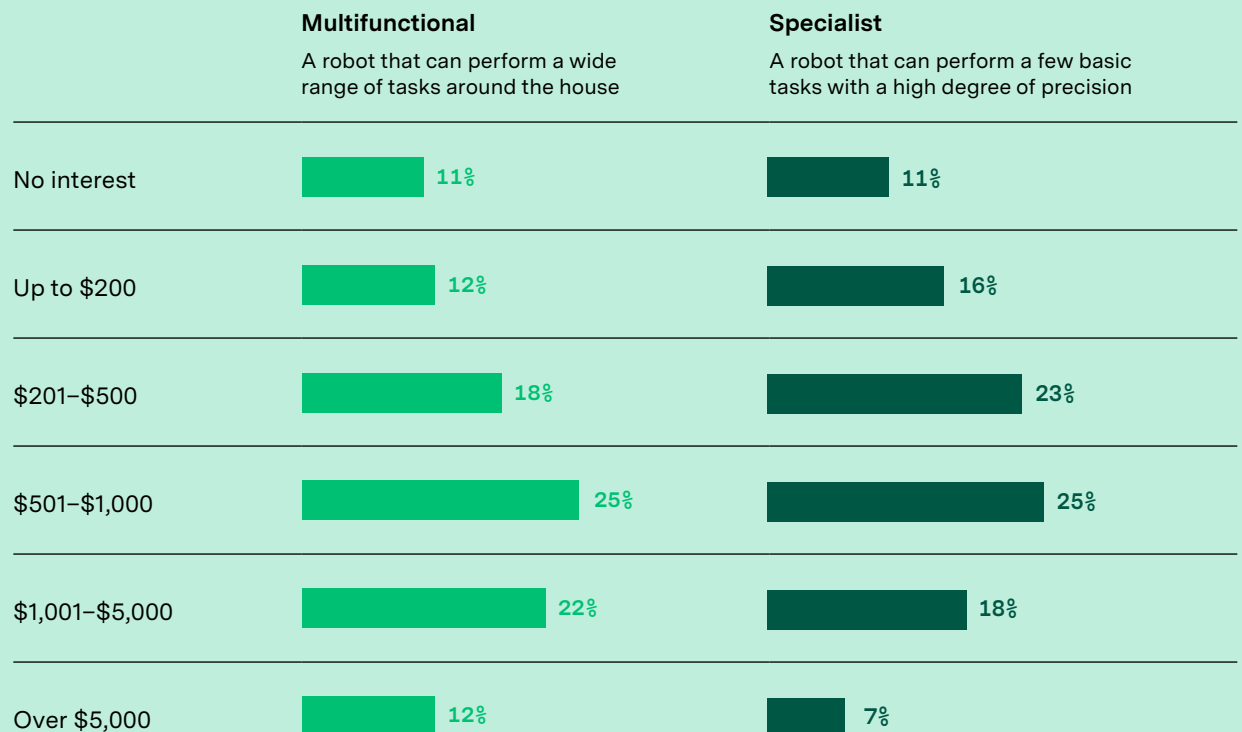
When determining price expectations, consumers benchmark single-purpose robots against appliances—but general-purpose robots against people

Given that Americans generally feel multifunctional robots would add more value to their lives than single-purpose ones, it's not surprising that versatility plays a major role in setting price expectations.

Most consumers say they'd be willing to pay more money for a truly multifunctional robot: over a third (34%) would be prepared to spend over \$1,000 on a general-purpose robot, while just a quarter (25%) would be willing to spend that same amount on a more specialized one.

In speaking directly to consumers, it became clear that this difference in price expectations and willingness to pay was not only a function of the increased value of a general-purpose robot. Rather, shifting the conversation from specialist to multifunctional robots fundamentally changes the frame of reference consumers have when thinking about price point.

Q: How much would you be willing to pay for these types of personal robots?



“

Anything around a thousand dollars would be a steal. If you think about how much a private chef costs, how much a housekeeper costs on a weekly basis, a robot in that price range would work out so much cheaper in the long-run.

—EDUCATION ADMINISTRATOR, ♀

The price, for me, would depend on all the bells and whistles. But I could definitely see spending around \$700 on a robot.

—CUSTOMER SERVICE MANAGER, ♀

For a robot that could do a whole bunch of tasks around the house? I'd be surprised if that cost anything less than \$10,000. People spend a lot more than that on a new car, and I think I'd get much more use of that robot than I do out of my car.

—MUSIC TEACHER, ♂

For specialist robots, consumers' price expectations are largely defined in reference to existing machines within their homes. In deciding how much they'd expect to pay for a laundry-folding robot, for example, they'll typically start by thinking about the amount of money they spent on the machines that wash and dry the clothes that robot will be folding.

But when it comes to multifunctional robots, that frame of reference goes out of the window. When the potential range of use cases for a robot is so much broader than it is for any other machine within their homes, consumers are forced to weigh other factors. They might, for example, start thinking about the mechanical complexity of the robot—leading them to a price expectation informed by other complex mechanical and electronic products, such as cars or high-end computers.

Alternatively, they may start to think about price point in terms of what they'd be willing to pay human workers to complete the same tasks. In interviews, many consumers took this approach: when asked how much they'd be willing to pay for a multifunctional robot, they used human workers as their frame of reference, asking themselves how much they'd expect to pay a nanny, a private chef, or a cleaner, for example.

This means that even highly expensive multifunctional robots could still seem like a good deal to many consumers, given that they'd be comparing them to the annualized cost of hiring multiple different human service providers. It also opens up the door to alternative payment models: subscription programs, for example, start to become an easier sell when the point of comparison is another human who you'd already be paying on a weekly or monthly basis, rather than an appliance you'd buy upfront.

In summary

SPECIALIST VS MULTIFUNCTIONAL

- Consumers gravitate toward multifunctional robots, even while acknowledging that versatility comes at the cost of performance in specific domains.
- This preference for versatility is particularly strong among consumers with more complex daily routines, such as parents.
- The shift from specialist to multifunctional robots fundamentally changes the frame of reference for consumers' price expectations, opening the door for higher price points and alternative payment models.

COMPANIONS

VS

APPLIANCES

For now, consumers still see robots as utilitarian appliances, rather than social companions

“

If I have a robot in my life, I **don't need it to fulfill a social obligation**. I'm not expecting it to be, like, joking around with me or giving advice.

—CONSUMER INSIGHTS SPECIALIST, ♀

Since the launch of ChatGPT in late 2022, there has been a gradual shift in how general users think about and interact with AI-driven applications. Analysis published earlier this year by *Harvard Business Review*, based on data scraped from conversations about chatbots on platforms such as Reddit and Quora, suggests that the balance has now shifted away from purely functional use cases—such as looking up information or drafting emails—in favor of using LLMs to provide emotional support and fulfill social needs.¹¹

In fact, “companionship & therapy” has now become, according to *HBR*, the single most common use case for chatbots. Ordinary Americans are increasingly turning to ChatGPT, Gemini, and similar services for life advice and casual conversation. In the process, many have now developed intense emotional bonds with their favorite chatbots, with some even going as far as entering into simulated romantic relationships with them.¹²

So it's somewhat surprising that **consumers generally say they don't want in-home robots that act as true social companions**. By a margin of more than two-to-one, consumers surveyed by

NRG said they would prefer robots that serve as functional tools over those that attempt to fulfill more emotional needs.

Similarly, a majority of consumers would prefer their robots to perform tasks silently around the house, rather than attempt to make small talk. In general, it seems consumers gravitate toward robots that are positioned as more sophisticated, multifunctional home appliances over those that attempt to demonstrate a personality and form an emotional connection with their owners.

Further evidence of this preference can be seen in how people respond to specific use cases for home robots. In a MaxDiff analysis of potential use cases, consumers rated use cases that required some degree of emotional intelligence—such as playing games with a robot or having a robot read a bedtime story to their children—poorly on both comfort and utility. Conversely, consumers said they were more comfortable with the idea of robots performing chores such as taking out the trash or clearing up spills—and that robots which could complete these tasks would add more value to their lives.

11. Marc Zao-Sanders, “How People Are Really Using Gen AI in 2025,” *Harvard Business Review*, April 9th, 2025

12. Rhiannon Williams, “It's surprisingly easy to stumble into a relationship with an AI chatbot,” *MIT Technology Review*, September 24th, 2025

Consumer preferences for in-home robots

A robot that **talks to me** as it's performing tasks

29%

18%

53%

No preference

A robot that **performs tasks silently** around the house

A robot that I treat as a **companion**

23%

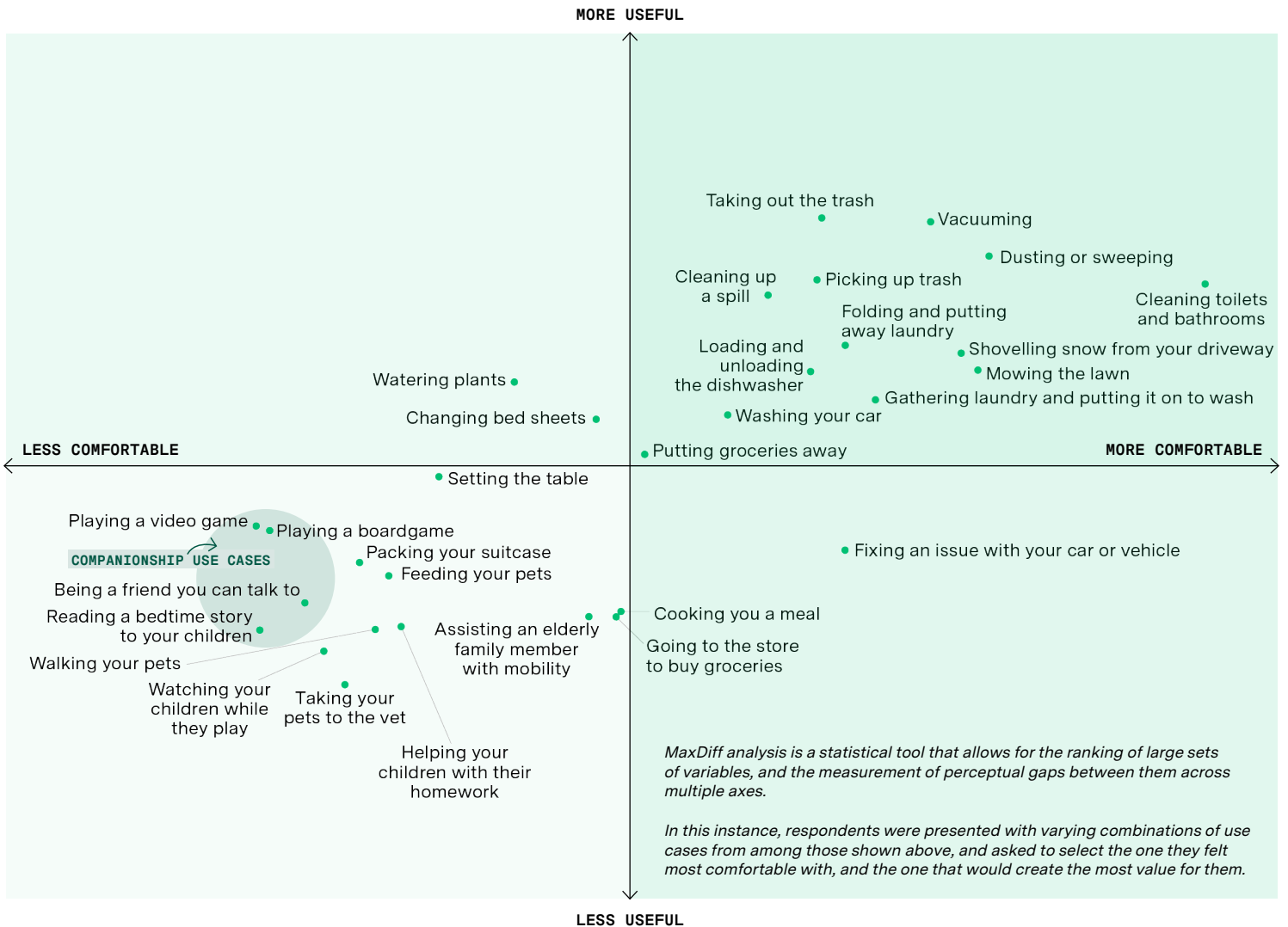
16%

61%

No preference

A robot that I treat as a **functional tool**

MaxDiff analysis of use cases for in-home robots: comfort vs. utility



A few factors explain this disconnect between how consumers are currently using AI chatbots, and how they would like to interact with AI-powered robots in the future. Price is certainly a big one; if users are going to be paying thousands or potentially even tens of thousands of dollars for in-home robots, they will want to see tangible value from that investment. And it's easier to quantify the value-add of a robot that saves you time and effort every day by taking out the trash than it is for one that provides you a shoulder to cry on during moments of distress.

At the same time, there may also be a psychological component at play here. In interviews, many consumers seemed more

skeptical about the idea of sharing their thoughts and feelings with a robot than doing so with a disembodied chatbot like ChatGPT.

When speaking to a chatbot, you don't always feel as if you're talking to a machine; you can imagine whoever you want on the other side of the conversation. But when having a conversation with a robot, it's a lot harder to ignore the inherent artificiality of the situation; you know, both consciously and subconsciously, that you're talking to a hunk of metal and plastic rather than a living, breathing human. For many people, it seems, that means **there's a greater sense of shame and social stigma associated with the idea of confiding emotionally in a robot.**

While companionship is unlikely to drive sales, there may still be space for robots to form emotional bonds with users over time

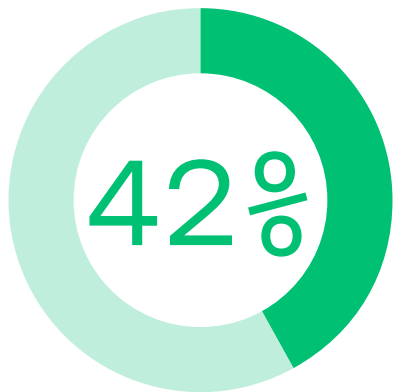
That doesn't mean that we should fully discount the possibility that in-home robots could one day act as social companions for their users—or that tech companies should disregard emotional intelligence when designing and evaluating such robots.

While consumers generally showed little interest in companionship use cases for in-home robots, many acknowledged that they would likely form some kind of emotional bond with their robot given enough time.

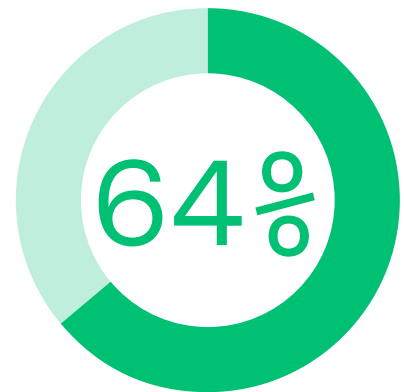
Some interviewees compared owning a robot to having a cat or dog in the house; **regardless of whether you think of your robot as a conscious or sentient being, it would be difficult to avoid**

mentally anthropomorphizing it to some extent if you interact with it every day. Almost two-thirds of consumers said that they would say “please” and “thank you” when asking a robot to perform tasks around their home, demonstrating at least some level of emotional connection and empathy.

Moreover, it became clear in speaking to consumers that there are many different forms that companionship can take—and that robots may be better-suited to some of those scenarios than others. Yes, there are cases where “companionship” requires a deep emotional connection. But equally, there are times when consumers' need for companionship is really just a need for an additional physical body.



of consumers believe that, over time, they could form an **emotional bond** with a robot



would say “**please**” and “**thank you**” to their household robot

“

I don't really like the idea of hanging out with a robot. **But there are some activities where you just need a second person.**

I'm very into fighting games; if I could teach my robot how to play games with me on the PlayStation, that would be pretty fun.

—MUSIC TEACHER, ♂

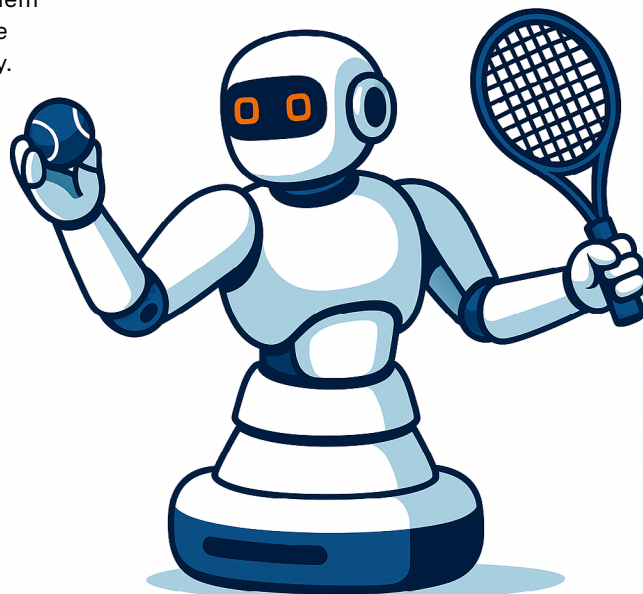
I could imagine playing cards or something with a robot. **But I'd feel odd having a real conversation with it.** Because it's not human, you know?

—SUBSTITUTE TEACHER, ♀

Think, for example, about someone who enjoys playing tennis but doesn't have anyone nearby that they can play with regularly. Or a group of friends hosting a board game night who need one extra person for a particular game. **In these types of situations, even consumers who are vehemently opposed to the idea of forging an emotional connection with an AI could still benefit from a robot that was able to play the role of “companion” on a temporary basis.**

After all, consumers, for the most part, didn't start out confiding in chatbots like friends or asking them for life advice; those use cases only started to take off in popularity after they had started using them for more prosaic purposes. It's possible that we may see embodied AI follow a similar trajectory.

Companionship use cases are unlikely to be an important factor in driving adoption of in-home robots—but many users may eventually find themselves turning to robots for emotional support and companionship, in spite of their own expectations.



In summary

COMPANIONS VS APPLIANCES

- Consumers currently see robots as functional appliances first, valuing silent, utilitarian performance over attempts at forging emotional connection.
- While few actively want robots as companions, many expect to form some bond over time, with a majority saying they'd treat their robots courteously.
- Companionship may emerge gradually, but it is unlikely to be a primary driver of adoption—practical utility will set the baseline for trust and purchase intent.
- Consumers already show openness to use cases where companionship simply requires an extra physical body; use cases necessitating a true socioemotional connection are somewhat further out.

PERFECTION

VS

PROGRESS

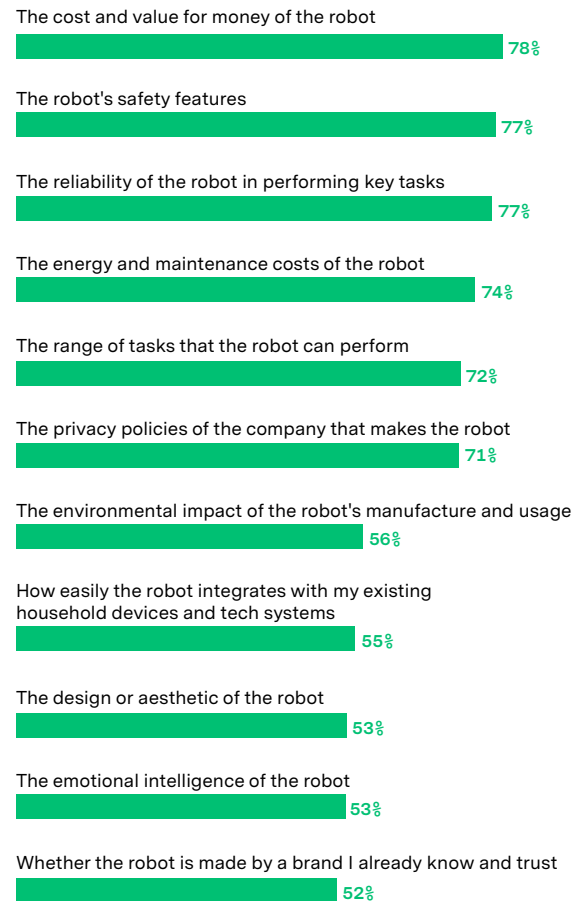
Although consumers have tolerance for initial errors, they expect robots to learn from their mistakes and get better over time

Certainly, the error rate of robots—and the severity of those errors—will play a major role in determining consumers' interest in purchasing them, and how much they're willing to pay. When consumers were asked to think about different factors that would lead them to purchase one robot over another, "safety features" and "reliability in performing key tasks" both ranked among the top three factors—only marginally behind value for money.

It's important to understand, however, what "reliability" actually means to consumers in the context of in-home robots. Consumers interviewed for this report showed a high degree of tolerance for initial errors on the part of their hypothetical robots, with the exception of those that could cause physical harm to them or their loved ones. It's not necessarily a dealbreaker if a robot, say, fails to notice a mess that it should have cleaned up—or even if it drops a plate or spills some sauce while cooking a meal.

Q: If you were choosing a robot to purchase, how important would these factors be in guiding your decision?

% "extremely" or "very" important



“

If a robot can't deal with all the intricacies you have to think about to stay safe in the kitchen, that's a dealbreaker for me. If I'm having to constantly be on guard about that stuff, I might as well be doing it myself.

—CONSUMER INSIGHTS SPECIALIST, ♀

I wouldn't care if a robot made a few mistakes early on. There's going to be a learning process, right? If it's still making the same mistakes after a few weeks, that's a different story.

—MUSIC TEACHER, ♂

A dealbreaker for me would be if the robot was putting my health in danger by serving me food that's gone bad. I'd expect it to be able to scan expiration dates and make intelligent decisions about whether to use an ingredient, not just throwing it in because it's in the fridge.

—EDUCATION ADMINISTRATOR, ♀

What does matter, however, is whether the robot learns from those mistakes. **Early missteps are acceptable—provided the robot demonstrates a clear capacity to improve.** Users want to see progress, not perfection from day one; if a robot continues to make the same mistakes again and again, that's when consumers are likely to start seriously questioning the value it offers.

A capacity for growth and improvement over time is also important because it creates space for robots to adjust their behavior in response to the unique needs and preferences of the individual user. Our lives are, after all, messy and complex; what works in one household may be a catastrophic faux pas in another. One person may want their robot to recite the nutritional values of the food it prepares for them; for someone recovering from an eating disorder, that kind of behavior could be the opposite of helpful.

Given how much our daily household needs can vary from one person to another, consumers expect a high degree of personalization from in-home robots. They want robots that adapt to their routines, pick up on their preferences, and gradually tailor their way of performing tasks to their specific household environment—even if it means accepting a higher initial error rate.

In this respect, consumers' expectations for robots have likely been shaped by their experiences with other forms of adaptive technology. **Just as smartphones become more useful the longer they learn about a user's habits, or recommendation algorithms on streaming sites like Netflix and Spotify refine themselves with more data, consumers believe robots should get “smarter” through ongoing use.** What matters most is not flawless performance from day one, but evidence of a learning curve that reduces frustration and builds trust over time.

Consumer preferences for in-home robots



A robot that I can train to perform household tasks in the way I prefer **55%**

No preference **16%**

A robot that can perform household tasks in a pre-configured way, with no training required **28%**



It's important, therefore, that robots offer a frictionless training experience

“

Ideally, I'd teach a robot to do a task the same way I'd teach a person. The easiest thing to do would be to just talk them through it while letting them see how it's done; have it watch me a few times and train itself based on that.

—CONSUMER INSIGHTS SPECIALIST, ♀

I'd want to say, like, “Oh, don't do that yet. Leave that to the side, we're going to put it in the oven later.” So basically, how I'd talk to a human in the same situation.

—WAREHOUSE MANAGER, ♂

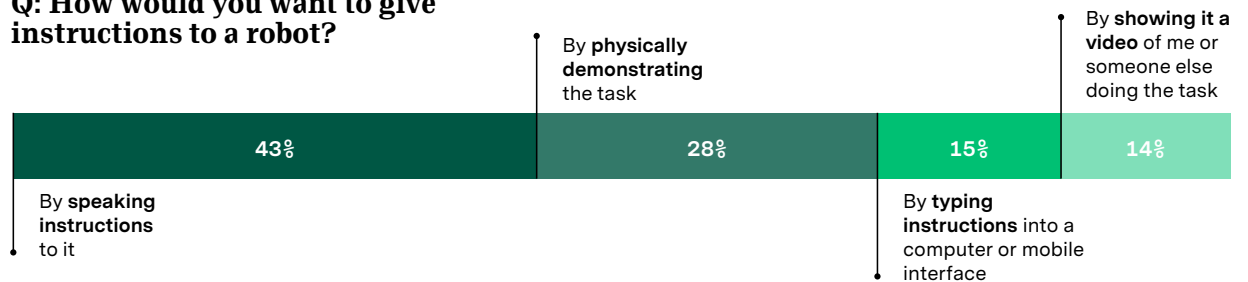
Moreover, consumers generally accept the idea that, to achieve the level of personalization and tailoring they're looking for from their robots, they'll need to invest time and effort into teaching them how to perform tasks around the house. This training process, however, needs to be simple, seamless, and intuitive—something that feels less like programming a machine and more like showing another person how they prefer things to be done.

For most consumers, **spoken interaction is the preferred mode of training**. Talking to a robot allows them to explain tasks naturally, give feedback in real time, and correct mistakes on the fly. In interviews, participants described wanting to “walk the robot through” a process in the same way they might instruct a child, an employee, or a new

roommate. That conversational approach offers both efficiency and reassurance: it ensures that the robot is adapting to the household's specific needs, rather than relying on rigid, pre-configured defaults.

The willingness to put in this initial effort reflects a clear trade-off: a short-term investment of time in exchange for long-term convenience and control. But tolerance is not unlimited. If training feels repetitive, frustrating, or ineffective, consumers will quickly question the value of the robot itself. To succeed, therefore, tech companies must design training experiences that are not only effective, but also feel frictionless—turning teaching moments into a natural part of everyday interaction, rather than a burdensome extra step.

Q: How would you want to give instructions to a robot?



In summary

- Consumers are tolerant of early mistakes, but only if robots demonstrate clear improvement and learn from errors over time.
- Personalization is key: most want robots they can train to match their household routines, rather than pre-configured defaults.
- Voice commands are the preferred mode of training, since talking feels natural, allows real-time corrections, and mirrors how people teach other humans.

COLLABORATIVE

VS

INDEPENDENT

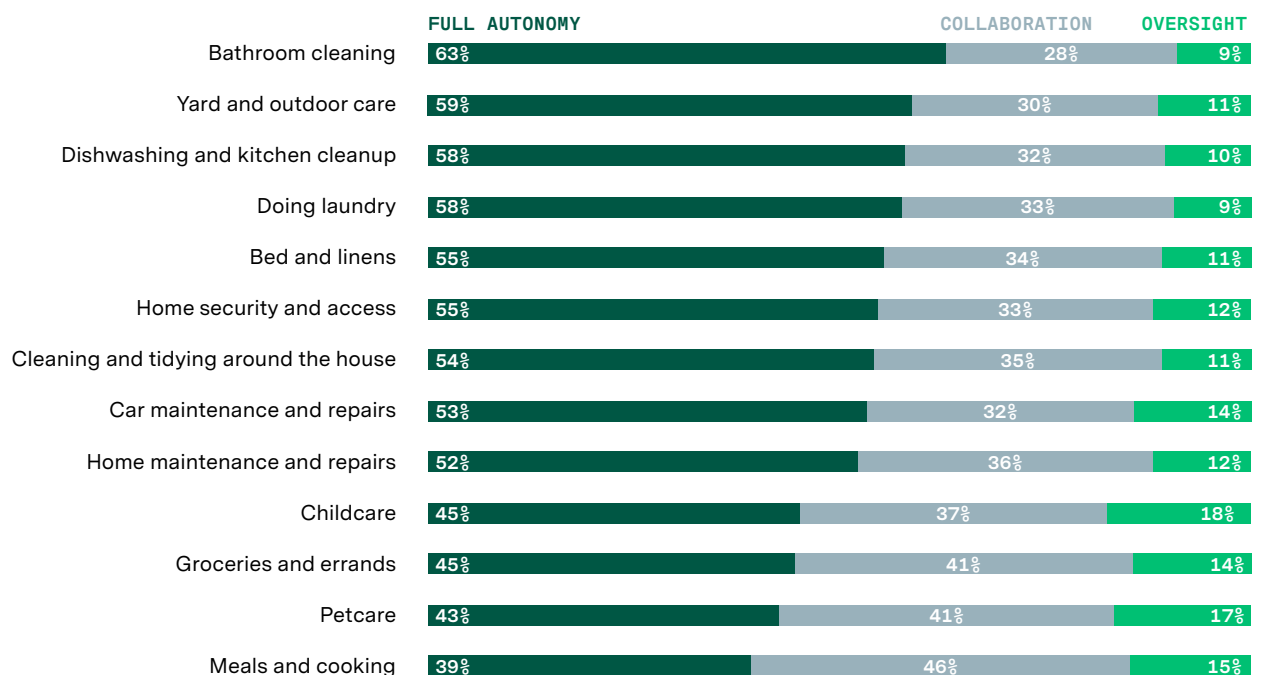
For most robotics use cases, consumers expect operational independence; they don't want to be tethered to the same physical space as their robots

Within the field of robotics research, “cobotics” has been one of the biggest buzzwords of the 2020s.¹³ Put simply, it's the idea of developing robots to function within the context of complex systems of human-machine interaction. Humans and robots, the theory goes, both have unique strengths and limitations; by working alongside each other in close proximity, therefore, they can cover each other's weaknesses and achieve things that wouldn't have been possible for either one individually.

Consumers, however, remain unconvinced of the benefits of cobotics—at least in the context of their own homes. For most categories of tasks, a majority of consumers said they would prefer their robot to complete them in a fully autonomous manner—rather than work collaboratively with them or operate under their direct supervision.

13. Josh Constine, “Ex-Googleers meld humans & machines at new cobotics startup Formant,” TechCrunch, December 18th, 2018

Q: To what extent would you want to interact with a robot while it performs tasks around the house?



“

I'd love it if a robot could be my sous chef while I'm cooking. It could do all the repetitive tasks while I'm off doing the more fun bits of the cooking.

—WAREHOUSE MANAGER, ♂

Doing the dishes would be something that I'd either want to do with the robot, or at least be in the room observing. Just because there's so many things that could go wrong—dropping dishes, breaking things, spilling water all over the place.

—IT TECHNICIAN, ♂

I'd want a robot to be able to do stuff on its own, with no supervision. Because that frees up my time, and lets me do more of the things I really enjoy. For example, if I could get a robot to make my kids' packed lunches in the morning, then I could spend that time playing with them—instead of just sticking them in front of the TV.

—STAY-AT-HOME PARENT, ♂

That isn't to say there are no circumstances where collaboration could be valuable. Some interviewees described scenarios where having a “robotic sous chef” or a partner in heavy lifting could be highly beneficial; and there are certainly contexts in which most consumers would be wary about ceding full control to a robot. But these were exceptions rather than the rule. For most households, the ideal robot is one that can be trusted to get on with chores autonomously and independently, with as little oversight or intervention as possible.

Much of this attitude can be attributed to how consumers understand the value proposition of domestic robots. For many, the appeal of in-home robots lies in the opportunity to reclaim their own time and redirect their energies to more personally rewarding and fulfilling activities. One interviewee, for example, talked about how a robot could allow them to spend more time playing with their kids;

others felt that owning a domestic robot would give them the opportunity to spend more time dedicated to their hobbies and creative passions. In all of these cases, consumers want to physically separate themselves from the robot while it does its work around the house, leaving it to quietly and independently complete the tasks assigned to it.

The implication for tech companies is clear: while cobotics may remain an important concept in industrial or medical settings, consumer adoption in the home will, at least at first, be driven by autonomy. Early-generation robots that require constant oversight or handholding risk undermining their own value proposition. By contrast, robots that demonstrate reliable independence will be best positioned to win consumer trust and pave the way for broader adoption.

In summary

COLLABORATIVE vs INDEPENDENT

- Consumers see the value of collaboration in select scenarios, but overall they prefer robots that can complete tasks independently.
- Time savings are central to the appeal of in-home robots: autonomy frees people to focus on family, hobbies, and more fulfilling activities.
- Early robots that require constant oversight risk undermining their value proposition, while those that demonstrate reliable independence will build trust and adoption.

MECHANICAL

VS

HUMANOID

Users are looking for robots that occupy an aesthetic middle ground: possessing human capabilities, but still mechanical enough to avoid the uncanny valley

“

I don't love the idea of humanoid robots; **the uncanny valley is so real**. I want something that looks more like a machine. Anything that looks like a person would scare the crap out of me.

—CONSUMER INSIGHTS SPECIALIST, ♀

My ideal robot would be a cross between Rosie from *The Jetsons* and EVA from *Wall-E*. **I'd want it to look somewhat friendly**. Not have a lot of sharp edges or anything like that—just because of my kid.

—IT TECHNICIAN, ♂

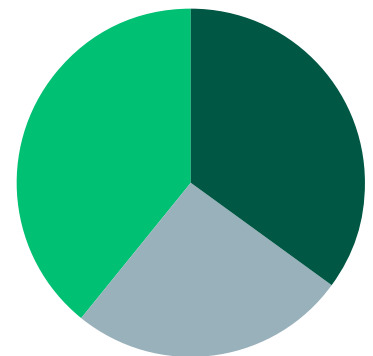
The preceding four polarities focused on the functionality of in-home robots: the range of tasks they will be able to accomplish, and how they will approach those tasks. But form factor will matter just as much as functionality for building consumer acceptance and trust; what robots look, sound, feel, and even smell like will be crucial in determining how comfortable people feel having them in their homes.

Consumers surveyed by NRG were divided when it came to the question of whether they'd prefer their robot to have a broadly humanoid body plan or not. In interviews, many consumers acknowledged the potential benefits of a more humanoid robot—recognizing that such a body plan may be necessary for a robot to perform the broad range of tasks around the home that they'd like to delegate to it—but also expressed unease about the idea of robots that felt too human.

14. Rina Diane Caballar, "What Is the Uncanny Valley?" IEEE Spectrum, November 6th, 2019

Several interviewees, unprompted, brought up the concept of the “uncanny valley,” saying they had concerns about robots that blurred the boundary between human and machine.¹⁴ At the same time, few wanted robots that were purely mechanical, with hard edges, exposed wiring, or overly industrial aesthetics. **Instead, the sweet spot lies in robots that are recognizably artificial but softened in their presentation**—machines with rounded edges, friendly voices, and approachable designs that signal both capability and safety.

Consumer preferences for in-home robots



A robot **shaped like a human** 35%

No preference 26%

A robot that **isn't shaped like a human** 39%

“

The idea of a humanoid robot freaks me out. I've seen too many science fiction movies, I don't like the idea of robots taking over. And honestly, I think I'd start to feel really guilty if it looked like a human and I was treating it like a slave.

—STUDENT, ♀

I'd want my robot to look like a robot, but I don't want it to have hard edges and sharp corners. I'd want it to be softer, rounder, more welcoming. Like the robot from *Big Hero 6*.

—IT TECHNICIAN, ♂

I'm trying to imagine a robot that doesn't look like a person helping me with medical tasks, and I don't like it at all. So I guess it would have to look like a person. Because that's who I'm used to seeing when I go to see my doctor.

—WAREHOUSE MANAGER, ♂

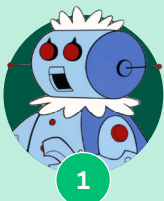
For many consumers, science fiction plays a key role in anchoring their expectations for the aesthetics of domestic robots. When we asked them to name the fictional robot they'd most like their in-home robot to look like, many gravitated toward characters that clearly fell into that middle ground: broadly humanoid in their overall body plan, but not attempting to pass themselves off as humans.

Characters like Rosie the Robot from *The Jetsons*, Sonny from *I, Robot*, and C-3PO from *Star Wars* were frequently cited. These figures share a balance that resonates with consumers: human-like enough to suggest dexterity and expressiveness, but mechanical enough to avoid the discomfort of mistaking them for people. Others mentioned softer, more approachable designs such as Baymax from *Big Hero 6*, underscoring the importance of friendliness and warmth in a domestic setting.

Overall, the examples cited by consumers point to an appetite for designs that are functional yet endearing, mechanical yet personable. They're looking for robots that feel safe, approachable, and well-suited to the intimacy of the home environment.

Q: What fictional robot would you like your robot to look like?

Most common responses



1
Rosie the Robot
The Jetsons



2
Sonny
I, Robot



3
Wall-E
Wall-E



4
R2-D2
Star Wars



5
C-3PO
Star Wars



6
M3GAN
M3GAN



7
The Terminator
The Terminator



8
Baymax
Big Hero 6



9
Data
Star Trek



10
RoboCop
RoboCop

Perceptions of safety and comfort shape consumer bias toward female or androgynous robots

Debates within academia and the media have long questioned whether the dominance of female-coded AI assistants such as Siri and Alexa risks reinforcing gender stereotypes—positioning women, even in digital form, as subservient helpers. These concerns extend naturally into the realm of robotics, where voice, tone, and presentation choices may carry implicit cultural meanings. Designing robots that “sound female” when performing domestic labor risks playing into traditional associations of women as housekeepers or caregivers, even if unintentionally.¹⁵

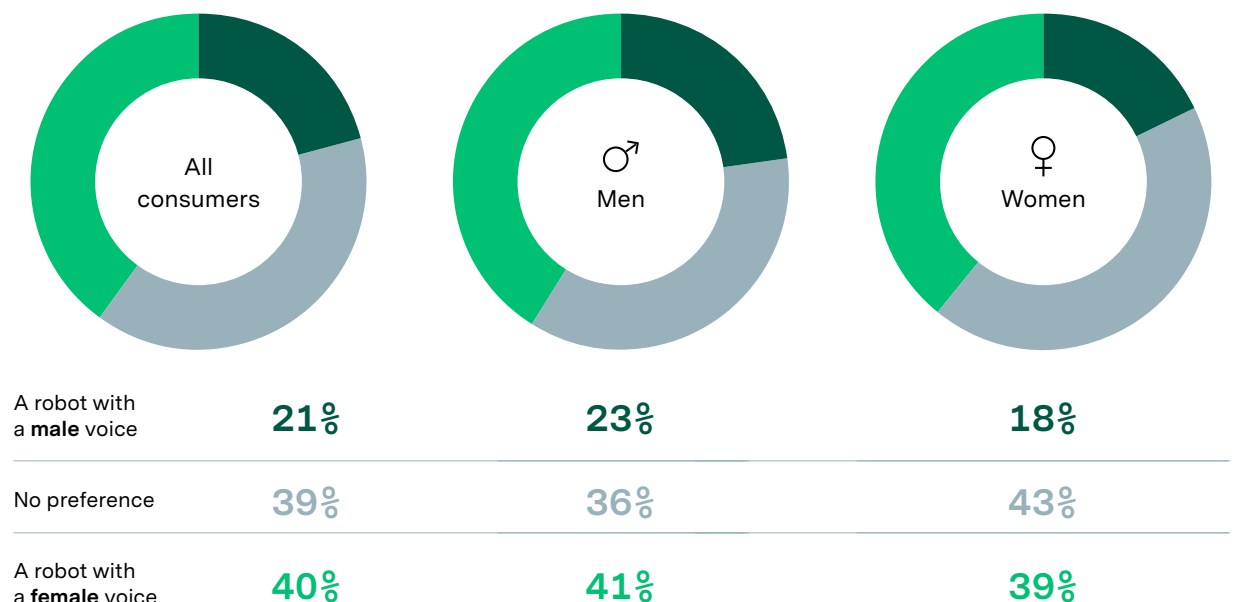
But it isn't just men who are driving the preference for female-coded robots and AI assistants. Our survey found that **both men and women were more likely to prefer household robots with recognizably female voices over male ones**. Many interviewees described female-coded voices as

“softer,” “friendlier,” and “more comforting” in a domestic context—qualities they valued when imagining robots present in their everyday routines. And several mentioned that they would be actively uncomfortable with a male-voiced robot; they didn't want “a strange man in the house,” as one respondent put it.

Consumers themselves often feel conflicted on this question. More than one of the women interviewed for this research started by telling us that their preference was for a female-coded robot—before backtracking once they started thinking more deeply about the implications of that preference, and how female-coded domestic robots could reinforce traditional patriarchal social norms and train men to think of women as inherently submissive.

15. Jaimie Patterson, “[Alexa, Should Voice Assistants Have a Gender?](#),” Johns Hopkins University, January 16th, 2025

Consumer preferences for in-home robots



“

I'd prefer a robot with a female voice. **It's more comforting, you know?** I don't want some dude talking at me when I walk in the house.

—OPERATIONS SPECIALIST, ♂

I think **it's really dangerous to have household cleaning robots perceived as female.** If we just replace the fifties housewife with a robot, I feel like we'd just be playing into the whole trad wife trend, reinforcing the role of women as housekeepers.

—STUDENT, ♀

They should give robots programmable voices. Like with Siri on your phone, **you should be able to switch between male and female voices** to pick whichever works best for you.

—CUSTOMER SERVICE REPRESENTATIVE, ♀

These mixed views suggest that consumers want flexibility and control in how their robots present themselves. Several respondents suggested that companies should allow programmable or customizable voices, much as smartphone assistants already do. This approach offers users the comfort and relatability they associate with familiar voice types, while avoiding the trap of reinforcing stereotypes through a single, default identity.

This level of customization would be particularly relevant for consumers who need to consider how their robots will interact with pets, children, or other members of their household. One interviewee, for example, mentioned that their dog was more comfortable around women, so a robot with a female voice would have an easier time taking it on walks.

Some parents might prefer a softer, more feminine voice for robots that will be interacting with their kids; others might want a robot with a masculine voice to teach their children that men should take on their fair share of domestic labor. Still others may prefer a more mechanical or androgynous voice, to prevent their children—and themselves—from anthropomorphizing their robot and forgetting that, at the end of the day, it's just a machine.

Ultimately, the preference for female or androgynous robots underscores a broader truth about in-home robotics: design choices are never neutral. **Voice, gender coding, and personality cues will play an important role in shaping how consumers feel about the machines they invite into their most intimate spaces**—and will carry broader cultural implications that companies will need to anticipate and navigate carefully.

In summary

MECHANICAL VS HUMANOID

- Consumers are wary about blurring the boundaries between human and machine. The sweet spot lies in robots that are recognizably artificial but softened in appearance: rounded edges, friendly voices, and approachable designs.
- Both men and women tend to prefer female-coded robots over male ones, valuing warmth and comfort even while acknowledging concerns about perpetuating gender biases.
- Customization options—such as programmable voices or adjustable design features—can help consumers feel more comfortable while reducing the risk of cultural or social backlash.

Part 3

Building trust in robots

For many everyday tasks, a majority of consumers already trust robots as much as or more than human service providers

“

For a lot of repetitive tasks, I'd probably trust a robot more than a human. **Humans get lazy if they have to do the same thing every day.** Like, if you're cleaning and sanitizing rooms in a hospital—a human might decide, oh, the patient was only in there for two seconds, I won't bother sanitizing it. But if you've programmed a robot to do it, you don't have to worry about that.

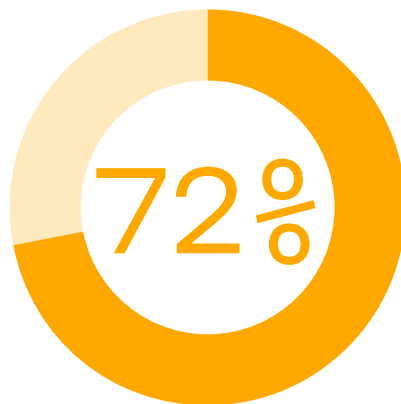
—EDUCATION ADMINISTRATOR, ♀

I had a really bad experience with our last nanny. She was stealing from us, showing up late, lying to us about what she'd been doing with the kids. **With a robot, I wouldn't have to worry about any of that.**

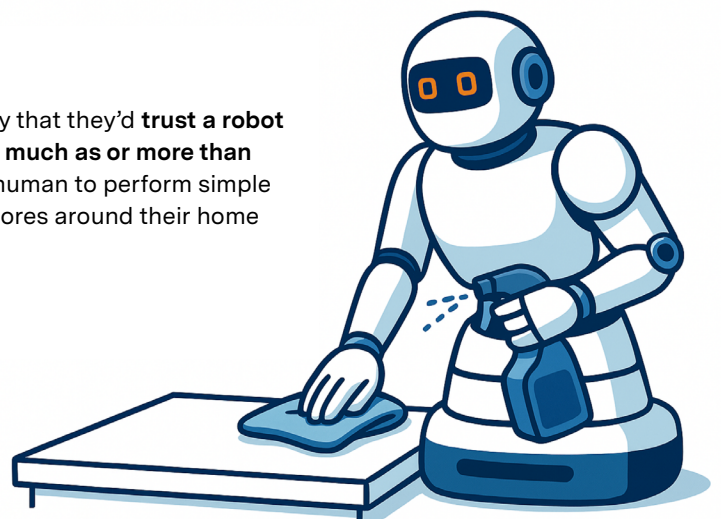
—STAY-AT-HOME PARENT, ♂

Once they understand how to navigate between the five key polarities outlined in the previous section of this report, tech companies can begin the task of building long-term trust in their domestic robots. Fortunately, that data suggests that there are plenty of contexts in which consumers are already predisposed to grant robots a level of trust equal to—or in some cases greater than—that afforded to human service providers.

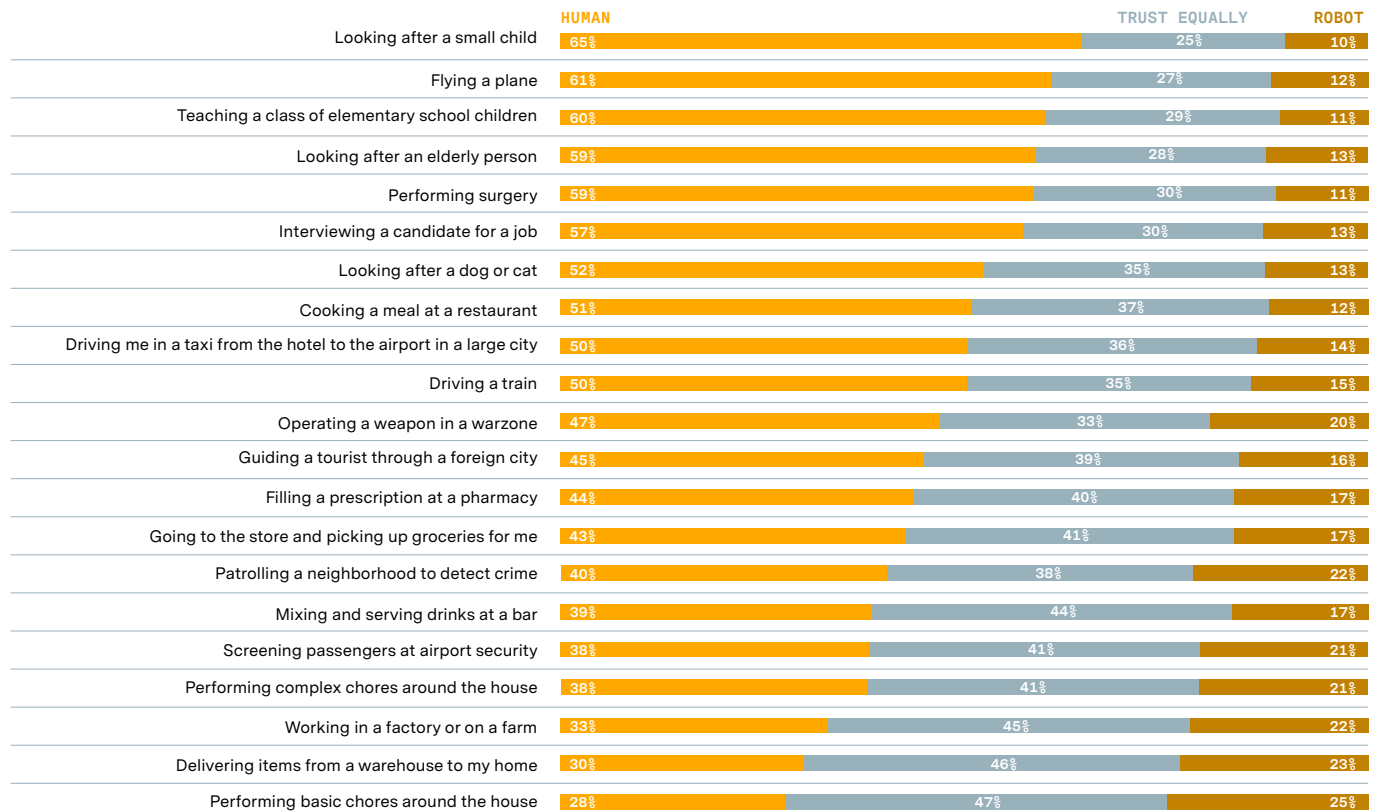
In situations that involve taking direct responsibility for the lives of human beings or caring for children, the elderly, other vulnerable populations, most consumers express clear reservations about putting their faith in robots. But for lower-stakes situations, consumers are surprisingly trusting of robots; 72% of consumers, for example, say that they'd trust a robot as much as or more than a human to perform simple chores around their home.



say that they'd **trust a robot as much as or more than** a human to perform simple chores around their home



Q: Would you trust a robot or a human more to complete these tasks?



Interviews with consumers helped shed light on their thought processes here. When deciding whether to trust a human or a robot more for a specific task, people aren't generally comparing a hypothetical robot to an idealized human service provider; rather, they're comparing it to their actual experiences interacting with service workers in the past. And within that comparative framework, the assumed reliability and consistency of robotic assistants often stands out as a key differentiator.

For example, consumers who have had bad experiences with housekeepers or professional cleaners may see in domestic robots an opportunity to eliminate some of the frustrations associated with human labor. Anyone who's ever had a parcel accidentally damaged by a delivery driver, or noticed a gardener cutting corners at the end of a long shift, can easily imagine how a robot—programmed to repeat tasks consistently—might avoid these same pitfalls.

In this sense, robots aren't being held to a theoretical standard of perfection, but are being measured against the very human imperfections that people have already experienced in their daily

lives. While consumers remain wary about robots assuming responsibility in high-stakes situations or those that require empathy and emotional intelligence, they are broadly welcoming toward them in contexts in which impartiality, diligence, and predictability are paramount.

Consumers are more likely to trust robots over humans for tasks that are...



Impersonal: Consumers are more trusting of robots in contexts that don't require empathy or emotional intelligence.



Exploitable: When a task creates space for humans to overcharge, lie about outcomes, or otherwise take advantage of the end customer, consumers see clear benefits for robotic automation.



Quantifiable: Tasks with measurable and easily observable outcomes make people more confident that robots can perform them reliably.



Tiring: Consumers value robots' immunity to fatigue or distraction; they're more likely to trust robots to carry out tasks where a human worker's performance could fluctuate over time.

In-home use cases may pave the way for greater trust in out-of-home contexts

“

I don't like the idea of a robot doing surgery or giving medical advice on its own. But if it was more like an enhancement for human surgeons or doctors, I'd definitely be in favor of that.

—MUSIC TEACHER, ♂

If you're in a lot of pain, I imagine it would be frustrating to have to talk to a robot first. When you're in the middle of a medical emergency, that's when **you really need to be able to speak to a human**—someone who understands what you're going through.

—CONSUMER INSIGHTS SPECIALIST, ♀

Maybe a robot surgeon would be more exact in what it's cutting, more methodical. But there's still that mechanical element that makes me nervous. Like, if something goes wrong, **I don't trust a robot to respond as quickly as a human would.**

—IT TECHNICIAN, ♂

If a nurse tells me to go to room one, and I accidentally go to room two, would a robot doctor be able to figure that out? Would it realize that it's talking to the wrong patient? **So I probably wouldn't want a robot performing any kind of medical exam on me.**

—EDUCATION ADMINISTRATOR, ♀

To provide a point of comparison for domestic contexts, NRG also asked interviewees to imagine how they might interact with robots in a healthcare setting: at a doctor's office or in a hospital or pharmacy, for example. These scenarios produced far more cautious reactions. While many—though not all—household chores were viewed as safe tasks to delegate to machines, medical contexts raised concerns about empathy, judgment, and adaptability in moments of crisis.

Even when acknowledging the potential benefits of mechanical precision and consistency, people were uneasy about robots acting autonomously in a medical environment. There was a clear expectation that robots in these contexts should remain subservient to humans: augmenting the skills of doctors, nurses, and pharmacists, but not usurping their authority or stepping into any kind of decision-making role. People were comfortable with the idea of robots assisting in a surgery or running diagnostic tests, but only if a human professional was ultimately in charge.

This instinct reflects a deeper issue of accountability.¹⁶ **Especially in high-stakes contexts like healthcare, consumers want to know that a human being—not a machine—will make the final judgment call,** and that a human will be

accountable for the outcome. In their eyes, robots can provide support, but they cannot shoulder the moral and ethical responsibilities that come with patient care.

Consequently, **domestic settings represent a key opportunity for tech companies to build trust in consumer-facing robots**—not only because domestic robots are unlikely to be dealing with the kind of life or death situations that might crop up for, say, robot police officers or robot doctors, but also because they provide ordinary consumers themselves the chance to assume that position of accountability.

Within the safety of their own homes, consumers can experiment with delegating tasks to robots without relinquishing control over outcomes. Each successful interaction reinforces the idea that robots can be trusted to take on more responsibility, while failures remain tolerable because accountability never fully shifts away from the human user. In effect, the domestic sphere becomes a proving ground for trust in automation: a place where robots can build credibility task by task, before consumers are ready to see them embedded in more sensitive or consequential contexts outside of their own homes.

16. "The Accountable AI Playbook," National Research Group, September 12th, 2023

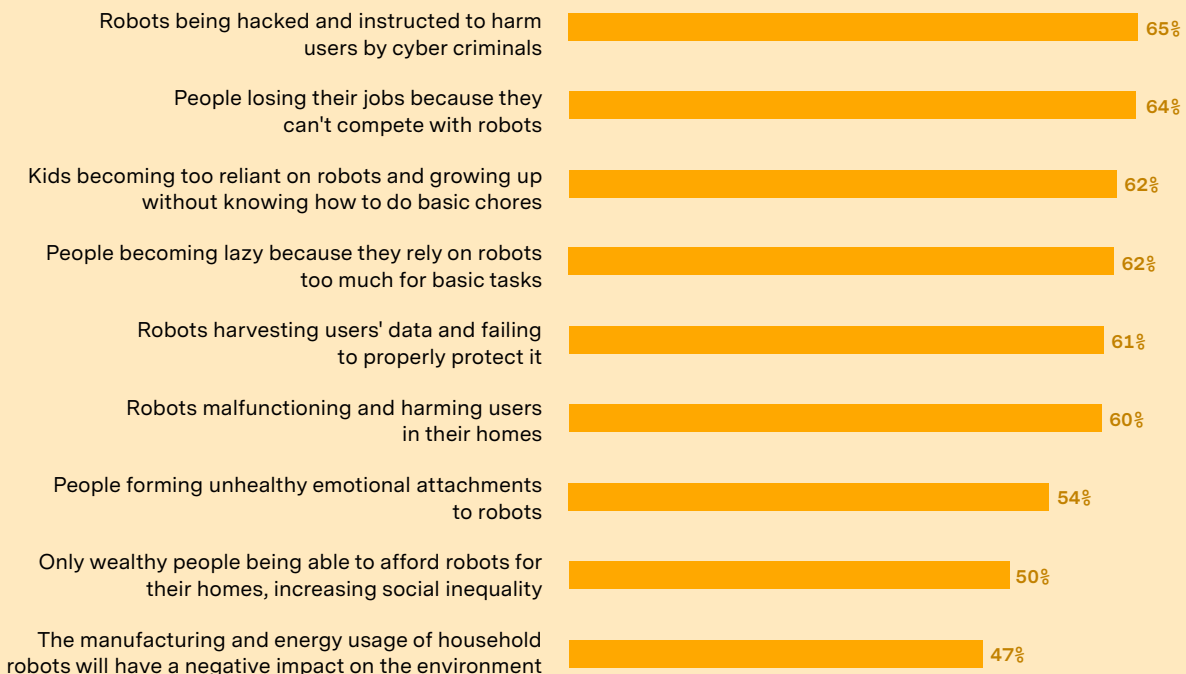
Broader social concerns about jobs, privacy, and psychological dependency shape consumers' anxieties about domestic robots

For companies developing domestic robots, the question of trust cannot be confined to individual households. As these machines move from niche novelties toward mainstream adoption, they have the potential to reshape the fabric of society in profound and far-reaching ways.

Indeed, when consumers talk about the “safety” of domestic robots, many are not just thinking about accidents or malfunctions in the home; they’re thinking about the safety of society itself. If these broader social concerns are left unaddressed, the risk is not only individual hesitation but a collective backlash against the category as a whole.

Q: What concerns, if any, do you have about in-home robots?

% “very” or “extremely” concerned



Consumers' broader social anxieties about the proliferation of domestic robots can be grouped into a few key themes:



Employment and economic disruption

One of the most commonly cited anxieties relates to employment. Many consumers worry that large-scale adoption of domestic robots could displace human workers in roles such as cleaners, delivery drivers, gardeners, or even, eventually, caregivers.

This anxiety goes beyond abstract economics; it reflects real concern for how communities will absorb the shock if so many familiar jobs are made obsolete. For robots to gain legitimacy, companies and policymakers alike will need to explore how affected workers can be supported—whether by equipping them to work alongside robots, or by creating pathways into new roles where uniquely human skills remain essential.



Behavioral and psychological shifts

Consumers also voice unease about how reliance on robots could reshape everyday behaviors and, eventually, even our ways of thinking. There are worries, for example, that adults may become overly dependent on machines, neglecting tasks they once took responsibility for.

More pointedly, many fear a generation of children growing up without learning basic household skills. If robots take over cooking, cleaning, and other daily chores, what will it mean for children's sense of responsibility, independence, and competence?



Data protection and personal privacy

Alongside employment and behavioral changes, privacy looms as perhaps the single greatest consumer concern. By design, domestic robots will need to collect large volumes of data—about routines, preferences, voices, faces, and even sensitive health information—to operate effectively. But in a world where many consumers already believe they don't have enough control over their personal data,¹⁷ this may leave many feeling vulnerable and exposed.

This tension creates a paradox at the heart of in-home robotics. On the one hand, consumers want robots that can anticipate their needs, personalize interactions, and adapt seamlessly to the household environment. On the other, they are wary of granting the level of access required to make that possible.

The stakes here are heightened by the specter of malicious use. In this respect, privacy concerns relating to domestic robots are more acute and more visceral than those relating to other tech categories; a hacked robot would not only compromise sensitive data, but could pose a physical risk to users by manipulating objects in the home.

17. Gary Drenik, "Data Privacy Tops Concerns For Americans — Who Is Responsible For Better Data Protections?", *Forbes*, December 8th, 2023

Robust regulatory frameworks could help alleviate many of these concerns

“

I don't want a robot to know anything more than my name and date of birth. Anything beyond that—psychiatric stuff, my medical history—I'd feel weird about. I guess it's already in a computer somewhere, but it **feels different** having a robot have access to all of that.

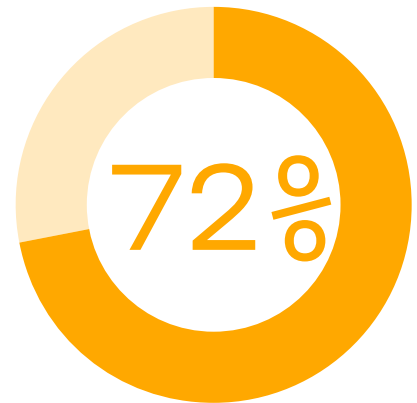
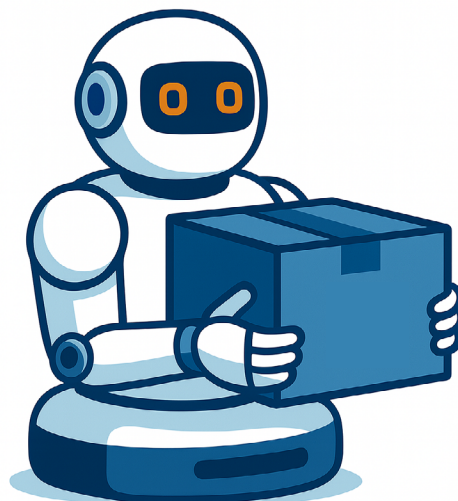
—STUDENT, ♀

Technical safeguards alone will not be enough to address these concerns; clear regulatory frameworks will be essential. Governments will need to proactively support workers who will find themselves competing directly against cheap mechanical labor, while also creating safeguards for consumers' personal data and setting clear safety standards for in-home robots—especially those that may interact with young children. Tech companies, meanwhile, should engage proactively in shaping and contributing to those standards.

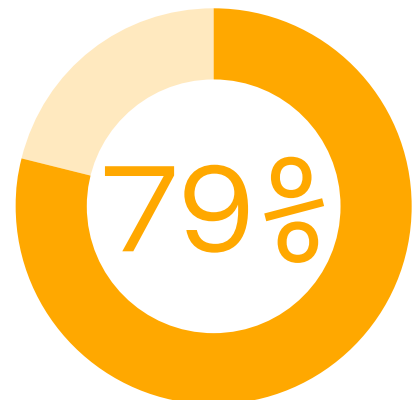
Far from being a hindrance to innovation, **strong governance could help unlock adoption**: if consumers know that there are enforceable protections around how their data is handled, they will be more willing to share it—allowing robots to perform better and deliver more value in return.

In the case of generative AI, the lack of a clear regulatory framework has become a major roadblock to investment.¹⁸ If the robotics industry is to avoid the same challenges, tech companies and policymakers need to start laying the regulatory groundwork now, before general-purpose domestic robots start entering the market.

18. Amanda Barraza, Jimmy Barlupo, Chad Rahn, "Impact of Legal and Regulatory Uncertainty in the AI Venture Capital Market," Santa Clara Business Law Chronicle, October 9th, 2024



of consumers believe that the government should pass laws to ensure robots meet **minimum safety standards**



believe there should be an **age limit** preventing young children from interacting with robots unsupervised

Through listening to consumers, robotics companies can build trust in the “messy middle”



There are plenty of technical challenges that still need to be solved before the sci-fi vision of a general-purpose, AI-driven robot in every home becomes a reality. But given the pace of change in today's technology landscape, it would be premature to conclude that such a future lies only in the distant horizon.

After all, few would have predicted prior to the launch of ChatGPT that the service would go on to become the fastest growing consumer app of all time.¹⁹ The trajectory of domestic robotics could easily follow a similar pattern: rapid advances, sudden cultural tipping points,

and widespread adoption well before experts anticipate it.

Indeed, consumers themselves are already forming assumptions about what household robots will look like, how they will behave, and what it will mean to live alongside them. These assumptions, however, are very much a work-in-progress—an amorphous and constantly shifting mixture of ideas drawn from news stories, science fiction, and consumers' personal experiences with chatbots and other existing AI-driven products.

19. Krystal Hu, "[ChatGPT sets record for fastest-growing user base - analyst note](#)," Reuters, February 2nd, 2023

For companies entering this space, the central challenge is not to race toward a pre-defined vision of robotics, but to navigate the “messy middle” that defines consumer expectations for the product category. People want robots that are multifunctional without overpromising, mechanical but approachable, autonomous but accountable, adaptive but safe.

Ultimately, trust in domestic robots will be established through understanding the various polarities that, in the eyes of consumers, define the possibility space for the product category—and by navigating between those extremes with care and intention. Consumers are prepared to grant robots

a role in their daily lives, but only if those machines can prove their value in low-risk, high-frequency tasks while respecting critical boundaries around privacy, safety, and accountability.

By embracing that messy middle and carefully balancing the competing expectations that consumers bring to this emerging category, tech companies have the opportunity to transform domestic robots from a speculative novelty into an everyday reality. In success, such robots will not only reshape household routines, but redefine the relationship between people and machines, opening the door for new possibilities both within and beyond the confines of the home.

Key recommendations for building trust in domestic robots

01

Start with use cases where robots are already seen to have the edge over humans.

Focus on tasks that require accuracy, precision, and fairness, as well as those where humans might tire over time or find exploits and workarounds.

02

Emphasize adaptability over perfection. Highlight robots’ ability to learn, improve, and adapt to users’ unique home environments and routines over time, rather than promising flawless performance from day one.

03

Design for comfort and approachability. Create machines that feel safe and friendly without straying into either cold machinery or unsettling human mimicry.

04

Safeguard privacy through transparency. Build and communicate strong data protections to resolve consumer fears about surveillance and hacking.

05

Address societal concerns proactively. Work with policymakers, workers, and communities to mitigate fears around job loss, dependency, and social disruption, securing a wider social license.

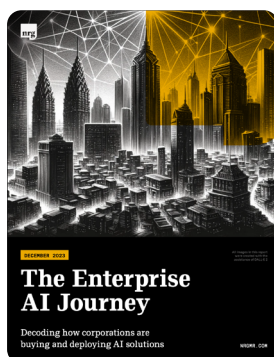
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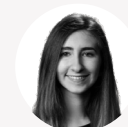
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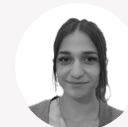
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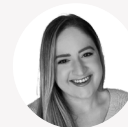
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