



IDMind

Citizen Survey Results



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Introduction

This report presents the results of a collaboration between IDMind (PT) and the EU-funded project Robotics4EU under grant agreement No 101017283. The collaboration is part of a European wide citizen consultation on validating different robotics business ideas from a societal perspective. In total 11 robotics applications participated in the activity and took part in exploring how citizens can be engaged and give input to the development of new robotic applications.

The assessment of each of the 11 robotic solutions was performed in an online, informed survey style consultation. Here respondents were guided through the survey via an online platform providing them with informative text, pictures or video material and questions about the specific robotic solution. The platform then collected the answers from each of the individual respondents which were further analysed by the Robotics4EU project.

What is the Robotics4EU project?

The citizen consultation presented in this report is part of Robotics4EU, a 3-year project funded under the European Union's Horizon 2020 research and innovation program. The project aims to ensure a more widespread adoption of robots within the areas of healthcare, inspection and maintenance of infrastructure, agri-food, and agile production. To achieve this, the project is advocating for implementation of responsible robotics principles and raising awareness about non-technological aspects of robotics by organising community building and co-creation events bringing together the robotics community and citizens.

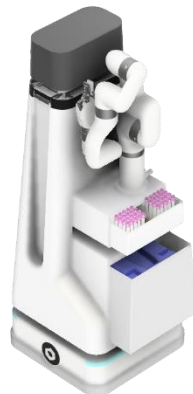
Why involve citizens' perspectives in the development of robots?

The collaboration between robotics developers and citizens rests on the core democratic notion that technology with the potential to have a significant impact on how we shape our future society, should not only be discussed by stakeholders, policy makers, experts, or businesses, it should also include opinions of the broader public who most likely will be directly or indirectly impacted by the changes the technology may impose over time.

There are several ways in which robot manufacturers can benefit from engaging citizens in their development processes. While citizens may not possess the technical knowledge required to build a robot, they are experts of the social worlds that new technologies will inhabit, change, or at the very least affect in some way or another. This type of expertise is equally important as professional expertise because it is what ultimately decides whether or not society will accept a new technology. Inviting citizens 'behind the stage' can help make sure that the manufacturers' solutions are aligned with society's expectations and needs. The citizens bring an 'outsider' perspective that can be an effective tool to detect and identify concerns and potential problems that would perhaps otherwise emerge only when the robot is fully developed and on the market. Thus, by adopting inclusive approaches from early in the development process, robot manufacturers will be better equipped to make informed decisions about their products and avoid costly mistakes that may ultimately render their solutions(s) unfit for society.

IDMind

The company IDMind has in cooperation with a team across 10 organisations¹ developed a robot as part of the the EU project² called Harmony. Harmony is a modular mobile robot, with multiple storage spaces and a robotic arm for the manipulation of small objects. The objective of the mobile robot is to implement it into a hospital environment to perform a wide variety of tasks, and on-demand deliveries. It also has multiple features related to interaction tools, communication of intention, aesthetics, and feedback — to be integrated in a natural way in people's day-to-day routines.



The Harmony robots will perform tasks which are physically demanding and repetitive for humans, and thereby freeing them to perform other tasks. Additionally, the robots will optimize processes, collaborate with the staff when needed and interact socially.

¹ Eidgenössische Technische Hochschule Zürich, Delft University of Technology, Rheinische Friedrich-Wilhelms-Universität Bonn, The University of Edinburgh, University of Twente, C.R.E.A.T.E., Karolinska Universitetssjukhuset, Universitätsspital Zürich, ABB

² European Union's Horizon 2020 research and innovation programme under grant agreement No 101017008

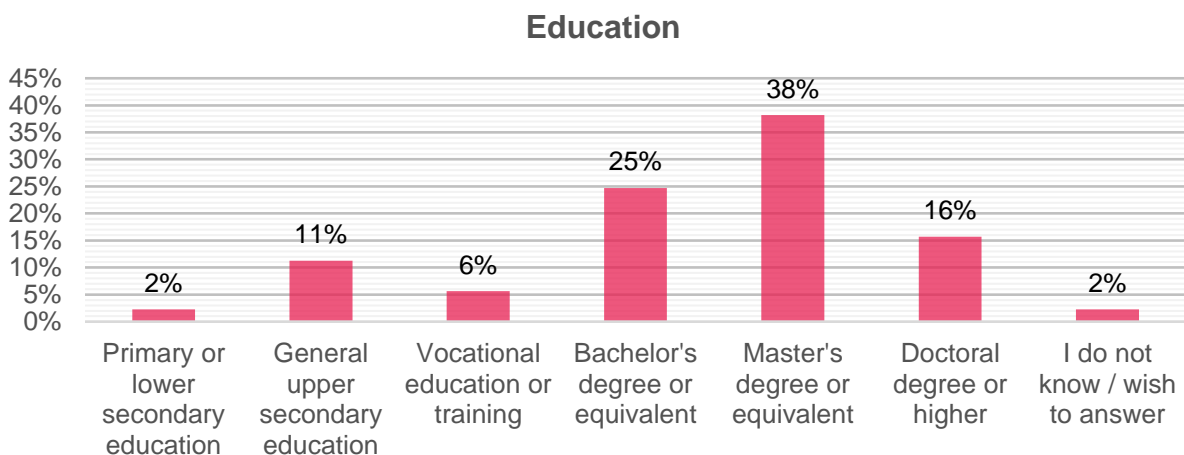
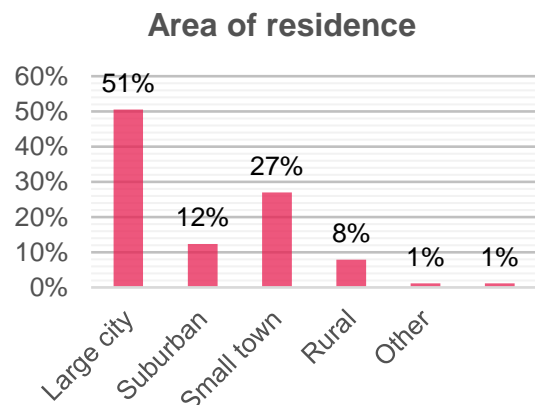
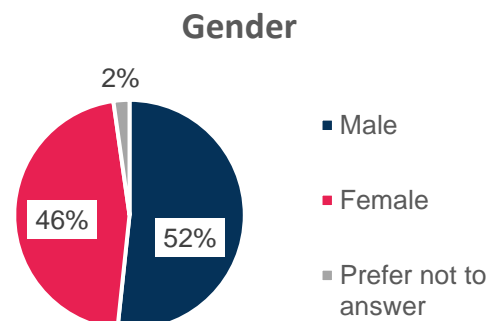
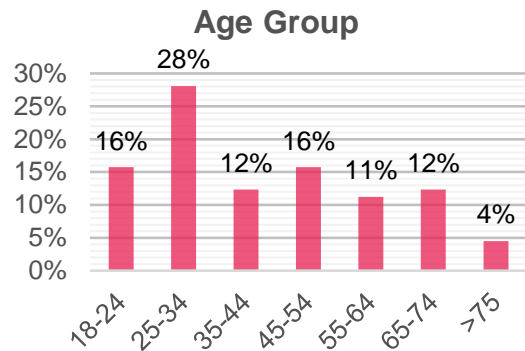
Demographics

The survey received a total of 89 responses. There was a decent age distribution, although age group 25-34 accounted for a larger part than the other age groups at 28% of the total responses. Age groups 18-24 and 45-54 followed, each accounting for 16% of the total responses. Only 4% of the responses were from people aged 75 or above.

Gender distribution was relatively even, with 52% of the respondents being male and 46% being female.

A little more half (51%) of the respondents said they live in a large city, followed by around a third (28%) who answered they live in a small town. 12% answered they live in a suburban area, while 8% answered they live in a rural area.

Respondents were generally highly educated. 16% answered they hold a doctoral degree or higher, while 38% answered they hold a master's degree or equivalent, and 25% answered they hold a bachelor's degree or equivalent.



The survey responses were distributed across 14 countries, of which 13 were European. The remaining non-European country was Malaysia, although this country accounted for only 1% of the total responses. Among the countries with most respondents was Denmark accounting for 16%, Norway accounting for 15%, and Lithuania accounting for 11%. France and Portugal each accounted for 10%, and Estonia accounted for 9% of the total answers. The remaining countries all had significantly less respondents.

To briefly sum up, the majority of respondents for this survey were younger or middle-aged, highly educated and living in larger metropolitan areas. These specific demographics may influence the answers and tendencies described in the report. However, when reading through the responses on the following pages, it is important to be aware that these results are not statistically representative, but indications of people's individual opinions which can be used as valuable input to the further work of the company's robot solution.

Survey results

Question 1: What type of tasks would you want a robot like this to perform?

To explore the potential business opportunities and use-cases of a robot like Harmony the citizens were first asked to give input on what type of tasks they would want a robot like this to perform. Looking at the responses it is evident that respondents see a potential for the robot to carry out tasks that will help optimize efficiency in the workplace and relieve humans of repetitive tasks, freeing up time and allowing them to direct attention at more intellectually demanding duties. In particular, tasks that involve fetching, transporting, and delivering objects such as prescribed medication, medical equipment or meals and drinks to patients seems to present an obvious opportunity for the robot.

“From experience, a lot of time is lost to moving objects, when working with repetitive tasks, e.g. laboratory work. Having a robot transporting for you could free you up to continue with the actual tasks.”

Various levels of object management were suggested, and in addition to relatively simple tasks like bringing supplies locally, respondents also proposed that the robot could be used to carry out slightly more advanced jobs involving more steps, like refilling storage spaces, packaging goods, and managing shipments. It was also suggested that the robot could take care of cleaning chores and ‘household work’, and one respondent even said it could be used for cooking. Another respondent, mentioning distribution and delivery, asked whether it could have refrigerated compartments, alluding to the possibility of handling and delivering perishable supplies and goods such as certain foods, medicine, or biological material. Similarly, the ability to safely carry and manage fragile objects like samples, test tubes, and so on was deemed useful among the respondents. In general, as one respondent put it, the robot seems to exhibit particular potential for *“Tasks that require little or no human interaction, like getting heavy things from storage places, cleaning closed areas...”*

Besides the economic gains resulting from having to spend less time on these types of tasks, it could also mitigate the risk of work-related injuries from daily wear and tear, such as arthritis or back problems.

Evidently, most responses suggest tasks associated with minimal human interaction and complexity; this could either be due to the way respondents interpret the immediate affordances of the robot, prompting them to make assumptions about its capabilities and limits, or it might be due to a general reluctance to let (some types of) robots become entangled in social constellations. However, some respondents did suggest jobs and tasks that would indicate a certain level of trust in the robot. For instance, some suggested that the robot could collect, store, and manage data related to, for instance, medicine for patients: *“A data program could give correct medicine [on the] right time, and even give [the] right dose to the patient”*. Additionally, one respondent suggested that the robot could *“[transport] samples in combination with doing the actual analysis”*.

While these tasks still don't necessarily involve proximity to humans, they do involve a high level of sensitivity and require much more precision and safeguarding against algorithmic errors, data breaches, and other factors that can potentially have an adverse effect on human health, safety, and privacy. That some respondents are apparently willing to accept the (perceived) risks associated with letting a robot manage personal and laboratory data suggests that it is possible to obtain considerable accept and trust in the robot's capabilities and potential among humans.

This trust can, according to some of the responses, even be extended to situations where the robot would need to fulfil a social role and engage in interaction with humans. A few respondents said they believe the robot could provide both company and medical or physical assistance. One respondent said that in addition to delivery tasks, they also believe that *“these types of robots could provide company 24/7”*. Another respondent noted that it would be useful for carrying out tasks that would be difficult for a disabled person to do.

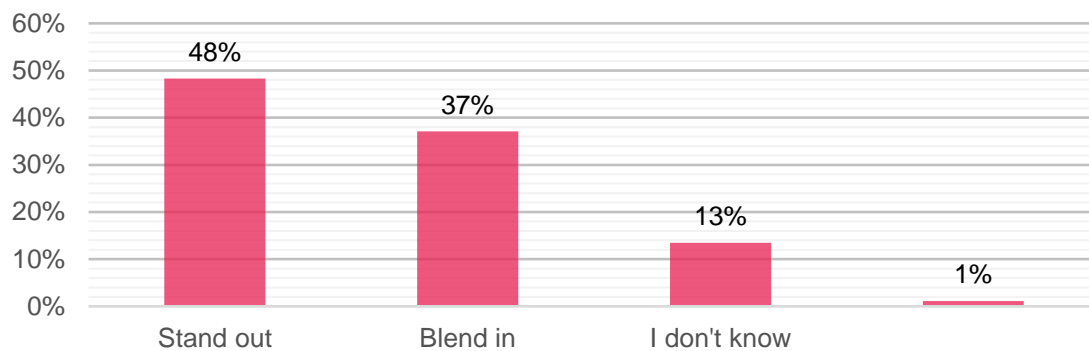
In addition to hospital settings, a large part of the responses also suggested other areas and locations in which the robot could provide assistance. Among these, the most prominent included:

- Food services, where respondents saw potential in letting the robot serve as a waiter or deliver food from restaurants.
- Factory and service work, where it could assist workers and mechanics by carrying and automatically dispensing tools and carry out repetitive tasks.
- Retail, where it could bring goods from stock to store, pack orders (with many small parts), sort and take stock of goods.

Question 2. Regarding the robot's physical appearance, would you prefer that the robot stands out or blends in with the environment?

There was generally disagreement between the responses regarding how visible the robot should be in daily life. Almost half of the respondents (48%) thought the robot should stand out from its environment, while 37% would prefer that it blends in.

Regarding the robot's physical appearance, would you prefer that the robot stands out or blends in with the environment?



Looking at the elaborative responses, people had very different reasonings and arguments for their respective opinion. Of those in favour of a robot with a distinct presence, safety and accessibility were the most frequent themes. Several respondents argued that the robot needs to be clearly visible and distinguishable from its surroundings since *“blending in could lead to accidents, possibly with very bad consequences”*. While no respondents specified exactly how they thought it could lead to accidents, it is fair to assume that this concern is based on the potential risk of colliding with the robot if it is not easily noticeable, or perhaps that it might not be properly monitored, increasing the risk of it making undetected errors. In relation to the former, one respondent noted that, *“If the robot blends in it could be a problem for people that have sight problems,”* which raises an important point and calls attention to ethical questions on inclusion and accessibility. As mentioned, the latter – accessibility – was also at the center of several of the respondents’ arguments; not just in relation to potential disabled individuals, but just as much in terms of what might also be called usability. In this case, a reoccurring argument was that for the robot to be useful, especially, at the workplace, it must be easy to locate and identify; as one respondent said, *“If it goes unnoticed, it will be useless”*. Importantly, another respondent noted that, *“Especially in a hospital environment, all equipment must be well identified for use”*. This comment not only points to the needs of a specific user group for whom a visually anonymous robot may in fact equal more work; it also shows a certain perception of what the robot is – namely, equipment on par with other tools.

On the other hand, arguments supporting the view that the robot should blend in with its environment mostly related to trust and accept on basis of familiarity or how naturally the robot seems to fit into its surroundings.

One respondent noted that *“If it blends into the environment then it would be easier to accept it as it seems as if it would fit there”*, while another respondent advocated for the robot to blend in if in a hospital environment so as not to startle the patients.

Some also had somewhat conflicting opinions as they considered the statement in light of different interests and needs, encompassing several of the points discussed above:

“It feels important that it blends with the surroundings and fits in the peaceful environment of a hospital but at the same time it feels important that it stays noticeable on the medical staff’s peripheral vision.”

Interestingly, some responses also implied a third dimension positioned somewhat between the ‘stand out’ and ‘blend in’ dichotomy. These responses again expressed a preference for familiarity and association, but might to a greater extent approach the notion of “uncanny valley”, which one respondent advised to avoid:

“They should not look like machines (but most do). The first thing people will do is try to humanise them with decoration, hats, colour, etc. Much better to start out looking ‘like’ a friendly (small) human.”

Another respondent noted that the concept illustration of the robot reminded them of a robot from the Disney movie Wall-E, and that they thought that *“he has a fun and reassuring appearance”*.

In general, several responses revolved around the inherent differences between humans and robots and, while some were in favour of giving the robot characteristics reminiscent of a human (or animal), some were directly against it and might even want the robot to have a distinct visual appearance simply to maintain the robot/human divide:

“There is still a difference between human and robot, and the difference must be made clear.”

Of course, there is an interpretive quality to the statement analysed in this section, in that people may have different perceptions of what it means to ‘blend in’ or ‘stand out’, and no examples are provided for context. For example, it was obvious that some thought that to blend in it would mean to be almost invisible to the environment, while others associated the expression with familiarity.

In any case, it is evident that the appearance of a robot that will exist and work among humans – no matter the level or frequency of actual interaction – is a very important aspect to consider, and that it is a nuanced matter presenting significant design challenges.

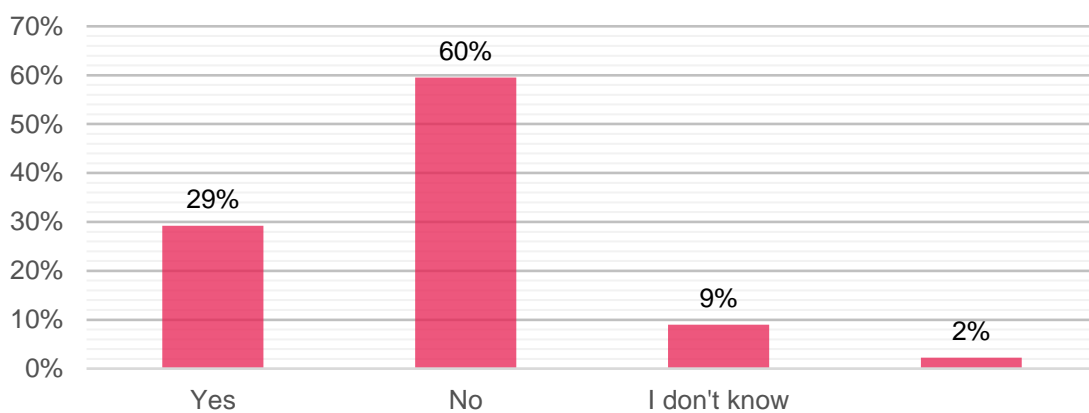
Participants in the focus group interviews conducted during the Robotex Festival also pointed out that such a model seems likeable as a service robot. *“For example, I like it the most. To make it too human-like, it seems to me, well, why? After all, he has his specific task, he should still be more like a machine.”*

Ultimately, the way the robot presents itself visually may be the deciding factor in whether people are willing to accept it and are able to use and interact with it in the ways it is intended.

Question 3. If you were to work alongside this type of robot, would you see it as a co-worker?

To explore the potential and the barriers of using a robot like this in a collaborative work setting the citizens were asked to give insights to whether they would see it as a co-worker.

If you were to work alongside this type of robot, would you see it as a coworker?



Most respondents (60%) said they would not consider the robot as a co-worker even in a situation where they would work alongside each other, while under a third (29%) said they would. Only a few respondents elaborated on why they *would* see it as a co-worker, while, on the other hand, a large number of responses provided arguments for the opposite. This is not very surprising, since the willingness to perceive a robot as a co-worker implies a complete acceptance and recognition of the robot’s role in that context, and people may not feel the need to ‘defend’ or explain this view. On the other hand, as was evident from the responses, those who would not perceive the robot as a co-worker had various reasons to explain their stand.

Still, there may be several factors that influence the robot’s relation to humans. For one respondent, the fact that the robot would be performing crucial tasks and therefore generate value meant that the respondent would call it a co-worker:

“I would consider the robot a coworker, because they would do a lot of the repetitive work and heavy lifts, making it as important for the workplace as myself.”

However, for most respondents, the perceived value and importance of the robot and its role in the workplace would not be enough to grant it the status of a co-worker. Instead, the value the robot could deliver would in many instances grant the robot the status of a useful tool. Indeed, ‘*tool*’ and ‘*machine*’ were words frequently used to describe how respondents would perceive the robot.

For instance, one respondent argued that instead of a co-worker, they would view the robot *“Rather as a tool, because the interactions seem quite limited”*. This also hints at another argument that was frequently raised by respondents as an explanation for why they would not view the robot as a co-worker: For many, the social connection that exists between two humans is necessary in order to establish a mutual co-worker relationship. This connection also fosters and nurtures a mutual attachment stemming from the inherent uniqueness of each individual. The robot is (most likely) bound to the workplace and as such will always be ‘inventory’ - regardless of its capacity for interaction - and embedded in that single context.

“I'd probably not see it as a coworker, because a coworker is more than just another worker in my experience. A robot will not replace another human in a work environment.”

Furthermore, as opposed to humans, the robot does not have autonomy to choose to be in a given situation, such as performing tasks at the workplace, or interacting with humans. For one respondent, this (lack of) autonomy constitutes an important distinction: *“I view a robot as a helping tool made to help me, and a coworker a person who chose the same Job as me, not someone who was made for one sole purpose[...].”*

The fact that the robot is ‘non-human’ generally seemed to constitute a barrier for the respondent's capacity, or willingness, to perceive the robot as a co-worker. This is not only due to the lack of social connection, but also because of a robot's missing ability to understand and interpret concepts and objects like sentient beings do. As one respondent said, *“Probably not if it uses current AI technology (e.g. current AI systems don't understand space as a squirrel, a monkey or a year old human does. Future robots, using new designs (e.g. based partly on chemical computations) might be much more intelligent.”*

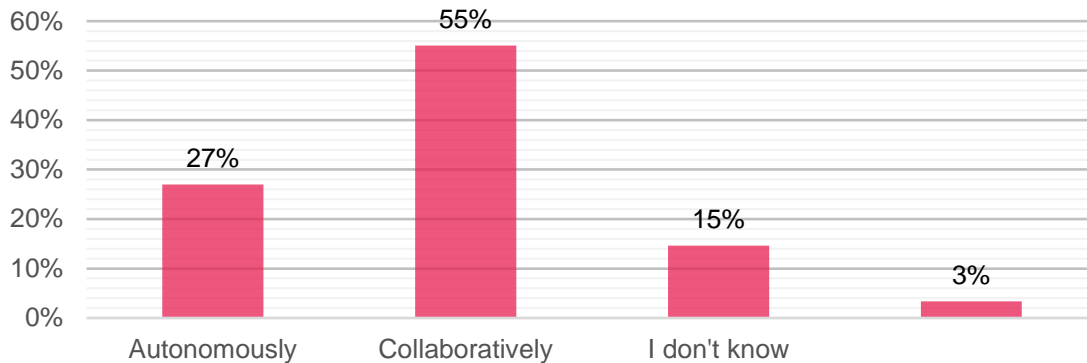
Thus, while the robot was perceived as a capable tool for many respondents, its lack of several attributes that would make it more ‘human-like’ means that most would not be able to accept it as a co-worker in the sense they would another human being.

The results of the focus group among the participants of the Robotex International festival show that as a service robot, the design of this robot is round and cute, and you don't feel like you have to interact with the machine too much. "Here, the problem does not arise that he has, you expect some kind of emotion from him."

Question 4. Would you prefer that the robot is working autonomously (by itself) or in collaboration with you (working together)?

To follow up on the previous questions and getting a greater understanding of using a robot such as Harmony in a work environment the respondents were asked whether they would prefer the robot to work by itself or collaboratively with humans.

Would you prefer that the robot is working autonomously (by itself) or in collaboration with you (working together)?



Interestingly, although there was a clear reluctance toward perceiving the robot as a co-worker, respondents expressed a clear willingness to work closely together with the robot. More than half of the respondents (55%) would prefer to work in collaboration with the robot, while less than a third (27%) would prefer that the robot works autonomously. 15% of the respondents answered that they don't know what they would prefer, which might be because the answer for some would depend on the specific context or task, or because it might be difficult to imagine a situation relevant to one's own life where one would have to work alongside a robot. It's important to keep in mind that the questions and statements presented in the survey are hypothetical in nature, since they ask respondents to *imagine* scenarios in which they encounter the robot. Since they have no actual experience to base their answers on, it may be difficult to provide an answer with enough confidence, and so some respondents might prefer to 'play safe' by remaining neutral or at least undetermined in their response.

The inconsistency between the responses to the previous question (whether respondents would view the robot as a co-worker) and the responses to the present question may appear somewhat paradoxical; however, it's important to note that the reluctance to regard the robot as a co-worker does not (necessarily) equal an aversion to the robot, or robots in general. Rather, as discussed, the notion of a co-worker seems to be associated with certain qualities exclusive to humans. Evidently, this does not mean that people don't want to *work together* with the robot. According to the responses, the desired level of collaboration mostly depends on the value that the robot could deliver in a given situation and, to many respondents, both autonomous and collaborative modes of work and task execution could be useful.

“The two seem possible to me and desirable. The principle is that it relieves staff of repetitive spots, so it must be autonomous. On the other hand, it can facilitate the actions of a human caregiver.”

While the comment above argues that the robot's specific role and duties will determine to which degree it should work autonomously or collaboratively (i.e., if it is meant to fulfil a role that entails simulating human interactions, collaboration is necessary) most responses pointed to the fact that the robot's work might regularly require human

intervention and so can not work autonomously all the time. For instance, drawing on personal experience with robots in the workplace, one respondent said:

“Obviously it depends. I've used robot document duplicating machines over many years - a human sets up a task and presses a button, but may have to help if a paper jam occurs.”

In addition to purely pragmatic arguments such as the one above, some responses were more concerned with the complexity of human practices. Notably, one respondent argued that *“It's not possible to automate all the necessary responses to the chaos of human behavior.”* Arguments like these, of course, refer mostly to expectations towards the robot's capabilities and less to which degree of interaction respondents would find most desirable. However, for some respondents, the prospect of having to adapt to the introduction of non-human employees raised concern, because it might disrupt and change the way humans behave, interact, and work: *“When people have to work with machines, they must adapt to them and become more machine-like, which is sad and unhealthy.”*

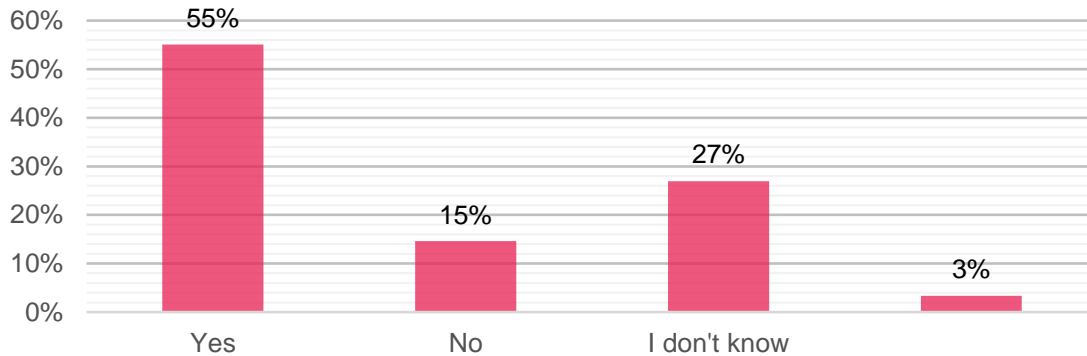
On the other hand, as another respondent pointed out, this process of adaptation could have positive outcomes, and the very fact that the robot disturbs status quo could prove to be a desirable effect: *“Working together with robots would make people more accepting towards change.”*

For those respondents leaning mostly towards a robot that would work autonomously, the prospect of increased freedom seemed to be of great importance. By not having to interact with the robot and simply letting it execute the tasks it is programmed to, it could free up time for the humans who would otherwise be in charge of carrying out those tasks: *“The more work it can do by itself, the more time is saved for me and my human colleagues to go about tasks the robot is incapable of performing.”*

Evidently, which degree of collaboration with the robot is most desirable is very much a matter of perspective and reflects a well-known - and sensible - wariness towards change. However, there is also little doubt that while the robot for the most part is perceived as a welcome addition to the workplace by virtue of the value it can add, people may not be ready to accept it as a co-worker and might view collaboration mostly as a pragmatic necessity rather than an opportunity for a new type of work relation.

Question 5. If you were a patient or a medical professional, do you think you would enjoy interacting with a robot on a daily basis?

If you were a patient or a medical professional, do you think you would enjoy interacting with a robot on a daily basis?



Interestingly, responses to this question once again seem to contradict the previous insights. More than half of the respondents (55%) answered 'yes' to whether they think they would enjoy interacting with a robot on a daily basis if they were a patient or medical professional, whereas only 15% answered 'no'. According to several of the responses, the robot would be enjoyable to interact with by virtue of the services it could provide. Echoing some of the previous responses, several respondents referred to the ways in which the robot could provide *“an extra arm that does not tire out”*, relieve humans of repetitive tasks and increase efficiency. One respondent also emphasized how these benefits could ultimately lead to better care for patients, making the robot a welcome sight:

“Hopefully, it would save a lot of time and effort in the workplace; and as a patient, this means that I might have better access to good care - whether it's in the hands of a human or the robot.”

A few respondents also remarked that they think the robot looks welcoming, which makes it more attractive and easier to trust. For instance, one respondent said: *“The robot looks cute, safe and is here to release us from the more annoying aspects of our work.”* This also indicates that people might be more inclined to interact with the robot, and find the interaction enjoyable, if the robot has a pleasant appearance that is likely to be associated with safety, familiarity and friendliness. On the other hand, it is important to note that regardless of how comfortable some may come to be with the robot, it cannot completely replace humans (at least not with current technology) in matters pertaining to social contact. Elaborating on their response to the question, one respondent said, *“If it is not personal care. It must not take over the physical togetherness”*. This sentiment is not new, but a well-known argument against social robots, and it remains relevant and indicates important boundaries for the purposes robots serve.

These types of associations may be evoked not only from the robot's appearance, but also from its very status as a technological artefact.

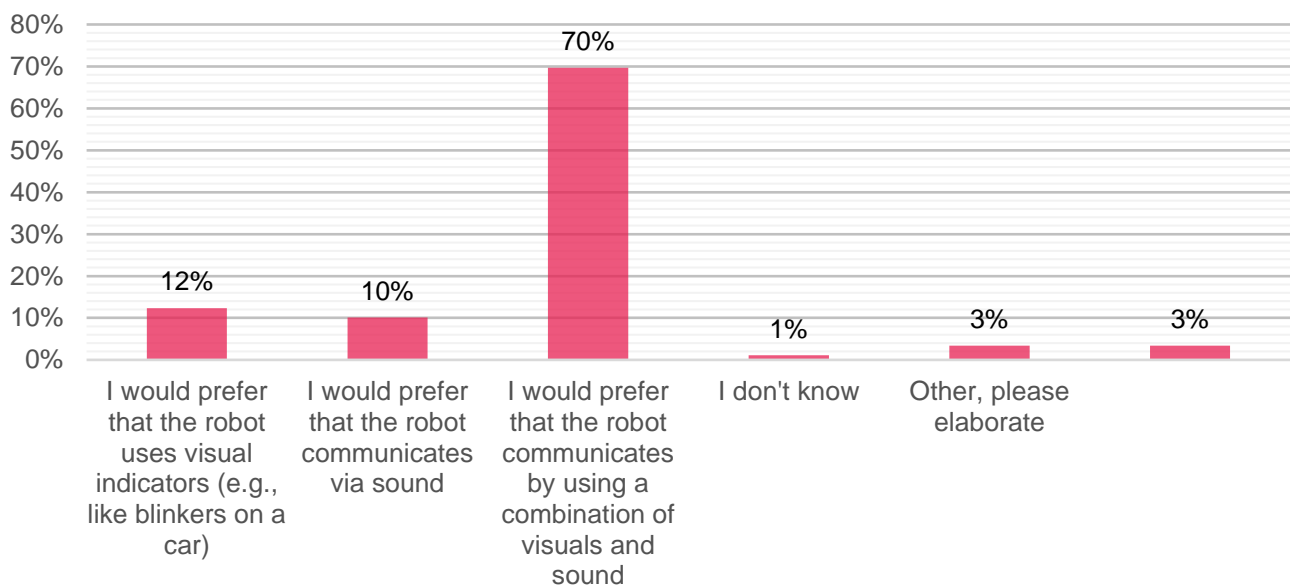
While some people might seek human qualities in a robot, or even be repelled by attempts to inscribe any human-like attributes into it, others might judge the experience of interacting with a robot on other parameters. One respondent noted that, *“It is not dissimilar to interacting with a personal assistant on a phone or smart home.”* This provides a completely different reason for why one might enjoy interacting with the robot; humans are already accustomed to smart devices, and many seek entertainment and enjoyment from engaging with these technologies. For some, interacting with a robot may feel similar.

Returning to the distribution of direct responses to the question, a significant number of respondents (27%) answered ‘I don’t know’. Like previously discussed, this may be due to difficulty with assessing a hypothetical question. Furthermore, this particular question has an added dimension in that it asks respondents to not only imagine themselves in a future situation, but also in certain roles that may be difficult to identify with. Another reason, however, could be that these two roles - healthcare worker and patient - present two very different perspectives that may also entail different opinions. In other words, several respondents expressed that whether they would enjoy interacting with the robot depending on whether they were a medical professional or a patient. Generally, respondents thought they would enjoy interacting with the robot if they were a medical professional, because the robot could act as an assistant and lessen the workload. What’s also important to note is that in this situation, the relation between the human and robot is that of worker and assistant. For a patient, the relation is different, and it may feel like a much more vulnerable position where the robot is in control - especially if it acts as a caregiver. While the medical professional will be the one that gives the robot instructions, the patient may not be able to have much influence on what the robot does, and they may not be able to communicate their needs in a way that the robot understands or can respond to: *“As a patient this will depend on the situation, simple things the answer would be yes, in an emergency the answer would be no.”* However, the robot might also hold the potential to bring variation and stimulation to hospitalized patients’ everyday life. One respondent said that: *“As a patient, I will be amused to see funny robots walking in the hospitals.”* Thus, the robot might bring value not only through physical labor, but also by bringing joy with its very presence.

Question 6. How would you prefer the robot communicates its intentions to you?

Despite opposing opinions regarding to which degree the robot should stand out or blend in with its environment (see Q1), most respondents seemed to prefer clear and multi-sensory communication from the robot: almost 70% said they would prefer that the robot uses a combination of both visual and auditory communication, while 12% said they only wanted the robot to use visual indicators, and 10% said they would only prefer the robot to communicate via sound.

How would you prefer the robot communicates its intentions to you?



Arguments for having the robot use multiple modes of communication (visual and auditory) were especially centred around inclusivity and accessibility, which would be particularly relevant in a hospital setting:

“Multimodality is essential, especially in a hospital, to enable it to interact with potentially disabled patients (hearing impaired, pathologically visually impaired or temporarily following surgery).”

Among these responses, there was a general sentiment that anything that improves communication would be desirable, and one respondent even suggested that the robot could use sign language. However, there were also arguments for why one type of communication would be preferred over the other, and why some types might be inappropriate in some situations. For instance, one respondent made an important point:

“The advantage of the visual is the sound discretion, which is important in a quiet environment (so that it remains quiet) or one that is already noisy enough. And for the person who works with it all day, too.”

This point adds another perspective to questions about convenience, usability, and safety. Noise is a common issue at many workplaces, and it poses a health risk that could be exacerbated by a robot using auditory communication. The argument also resonates with some of the other responses arguing that the appropriate mode of communication depends on the context in which the robot is placed, as well as the specific situation. For instance, one respondent argued that *“A simple beep might suffice as a request for me to move out of the way. A combination of words and gestures might be required if the robot wants to do something more complex with some assistance from me.”*

Additionally, a number of respondents were in agreement that *“the main thing is that they are not too annoying”*, as one put it. In the same vein, another respondent said that *“Robot communication should be natural, not too disturbing”*. In continuation of this and building on the notion of ‘natural communication’, a third respondent said they preferred *“The least invasive means possible. Sound would almost certainly become annoying after a while.”*

Conclusion

In conclusion, the survey results suggest that there is potential for robots like Harmony to optimize efficiency in the workplace by taking on repetitive tasks and allowing humans to focus on more complex duties. Tasks such as fetching, transporting, and delivering objects and managing and maintaining supplies were commonly suggested. However, there was also a willingness to trust the robot with more sensitive tasks that require precision and safeguarding against errors. The majority of respondents preferred clear and multi-sensory communication from the robot, with an emphasis on inclusivity and accessibility. There was also a divide in opinions regarding the robot's physical appearance, with some preferring it to stand out for safety and accessibility reasons and others preferring it to blend in for trust and acceptance reasons.

Regardless, most respondents would not consider the robot as a co-worker; they did prefer to work in collaboration with it rather than having it work autonomously. Overall, the survey results suggest a potential for the robot to perform tasks efficiently and improve work processes, but also a need for clear communication and a balance between standing out and blending in for optimal human-robot interactions.

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