# EAASI – a Gender and Diversity Sensitive Usability Evaluation Tool

# The TInnGO ‘EAASI’ Product Evaluation Template

## Introduction

This template is in three parts:

Part A ensures that the product is described with both text and images, and any links to source documents or websites.

Part B is a series of prompts for the evaluator to fill in, one for each ‘Indicator’ with an overall rating at the end of each section.

Part C is a Summary Evaluation

We have tried to provide all instructions on the form, with a worked example and a blank template. It is a Word document – so we advise creating a copy, and then clearing or overtyping the right hand column in the worked example.

## Evaluator(s)

The tool can be used by independent evaluators, whose findings can then be brought together in a summary report, or it could be completed during a workshop with co-evaluators using one form between them.

If using several independent evaluators, give them each a copy, and they can add their name below. In some circumstances you could anonymise the names when the report is given back to the designers – such as Evaluator A, B C or as preferred.

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| --- | --- |
| Evaluator Name | *Dr Janet Saunders* |
| Affiliation | *CU* |

# Part A: Product Description

This section ensures that the product is defined, i.e., the ‘problem definition’ which should include details about the ‘scenario of use’ AND any key target users, (such may be available in a design brief), bearing in mind this is intended to be ‘inclusive design’. This serves two purposes:

1. As part of a design process, with designers completing the evaluation tool as a means of prompting thoughts about the TInnGO gender and diversity-smart mobility indicators

Or

1. For completion by an evaluator who has been asked to appraise a design or actual product in the marketplace – and using secondary sources such as marketing material or press articles to discover as much as they can about the design or product.

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| **Product Description** | Type your answers below – a worked example is provided |
| **Name of product or brief summary if it doesn’t have a Name** | FIDO is a 4-wheeled, self-propelled, delivery system or carry assistant for a small to moderate, most likely, daily shop. The design of FIDO is envisioned to integrate a number of discrete sensing technologies that would scan the area to prevent impact, and to adapt to varying terrains. The technology is mainstream, potentially based on low energy LIDAR and frequently used in vehicles. |
| **Source organisation or design source** | [*https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175*](https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175) |
| **Product Goal / problem definition/ purpose / USP**  *Describe briefly what the product is for, who it is for, what problem it solves. (This can be developed further in the following questions)* | To assist customers on foot with carrying shopping, to obediently accompany them as they make their own way home. This removes the need to take the car to the supermarket. Once shopping is delivered a store-owned FIDO returns itself to the retailer POS to recharge and await further instructions. They can be customer owned or store owned. |
| **What part of this product are you evaluating?** *Be specific about what is being evaluated, e.g. if this is a vehicle – is it only the interior, or does this include the exterior also. Is there a service design component?* | *The concept of FIDO is described on the OIP at the link above. The service design is part of the concept, but is not fully developed.* |
| **Is a design brief available?** *If Yes, please attach it or provide a link* | [*https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175*](https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175) |
| **Do we know anything about the design process?** *Was there any co-creation or user involvement? Were diverse groups included?* | The idea originated in the TInnGO co-creation work with students for ideas for the Observatory. We started thinking more about the relationship to Drones, and other autonomous delivery services. In particular the aesthetic aspect of Drones is challenging but also the behaviour, which may seem mechanistic, and difficult to rely upon or trust. Experimenting with the sense of zoomorphism that sometimes allows us to relate physical animal characteristics to an object, FIDO represents the relationship often attributed to the carer of a dog. *The concept design was created by Paul Magee, Senior Designer at the Centre for Intelligent Healthcare.*  *No user consultation was conducted* |
| **User groups, primary and secondary, plus others - may include the service provider or other people who may be affected or share space with the product** | *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.*  *Secondary users – accompanying adults and children*  *Tertiary users – The Store; cleaning and maintenance staff*  *Fourth - other road and pavement users* |
| **Task Context**  *Describe any specific task requirements, think about e.g. the street environment, time of day, lighting, weather, user luggage needs, journey distances…* | *The urban street or neighbourhood, with kerbs, road crossings, slopes. Daytime or night-time. All weathers. We do not know what the distance limit would be – probably no more than a few miles.* |
| **User needs**  *Describe any specific user requirements* | *Trust in the drone. Ease of use with interacting with the drone at a simple level – to unload shopping and return it to base, perhaps to wait while the user stops to chat to a friend (like a dog would wait obediently!).* |
| **Images of the product**  *Paste one or more images of the product into the column on the right, up to 3 is suggested* | *Image 1 – main image* |
|  | *Image 2 – additional image* |
|  | *Image 3 – additional image – more images are available from*  [*https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175*](https://oip.transportgenderobservatory.eu/ideas-lab-contribution-175) |

# Part B: EAASI Indicators

The following sections consider the product in terms of each of the TInnGO ‘Gender and Diversity Smart Indicators’, which are briefly explained at the start of each section. Working through each indicator has 4 steps – goal setting; evaluating; evaluating for user groups; overall evaluation.

## **Indicator 1: Effective: Does it deliver what it promises? Does it produce the intended result from the perspective of both user and provider?**

‘Effectiveness’ means how far does the product produce the intended result for both user and provider. It requires thinking about the ‘user task’, as defined in the initial assessment of goals for the product, and the provider goals, and assessing whether the desired end result would be achieved.

For TInnGO, ‘Effectiveness’ ALSO means thinking about the user task from the point of view of a range of users, and women in particular. In relation to gender dimensions, it’s important to remember that ‘single trips’ are more often made by men, while women tend to make more multiple trips and ‘chained trips’ for different purposes – e.g. dropping children off at care, school, picking up groceries on way to/ from work. Other kinds of trip chaining could apply to either gender – visiting a gym or swimming pool after work for example, but we have learned that women typically do more chained trips. Travel purposes vary immensely across group intersections: to work, care, medical appointments, shopping, leisure.

### Step 1: Goals - The product has been designed to be effective in the following ways:

*Please complete the product goals per user groups.*

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| --- | --- |
| **User Group**  *(add target users AND other citizens who use the same city space)* | **How would it be effective for end users?** |
| *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.* | Perform function of a self-propelled, carry assistant for a small to moderate, most likely, daily shop. The technology is designed to avoid impact and adapt to varying terrains. To deliver to a destination at a given time, or to accompany user.  Easy stowage and removal of shopping – customer owned containers or store owned.  Possibly respond to voice commands . the details are not defined in the brief but we could suggest STOP, GO, WAIT. Other means of interaction are not defined. |
| *Secondary users – accompanying adults and children* | Inevitably small children will want/try to ride on it – it must be safe for this. It must be able to avoid impact with humans and street furniture. |
| *Other people and vehicles in the urban space* | Avoiding impact with people, (and dogs) and obstacles is important. It must be able to negotiate road crossings, uneven pavements and be stable, not liable to tumbling over. It must not ‘get in people’s way’ or trip them over. |
|  |  |
| **Providers**  *(complete as appropriate)* | **How would it be effective for providers?** |
| *Tertiary users – The Store; cleaning and maintenance staff* | It must be easy to clean and maintain. There will need to be a secure charging area, storage/parking infrastructure for them at the store – no information about this . |
|  |  |

### Step 2: How well does it meet the ‘Effectiveness’ goals described above?

***Please complete using what information you have available from your design sources***

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| --- | --- |
| **Goal** | **Does it meet the goal?** |
| Perform function of a self-propelled, carry assistant for a small to moderate, most likely, daily shop. The technology is designed to avoid impact and adapt to varying terrains. To deliver to a destination at a given time, or to accompany user. | *It appears to meet this goal but there are lots of questions: would it really cope with varying terrains – what about uneven pavements (or even textured pavements such as cobbles or as found at some crossings)? There is not much information about loading / unloading shopping and how that would work.*  *It would not negotiate steps – and if you have steps to your house or live in a flat you have to unload at ground level.* |
| *Options for accompanying adults and children* | *We don’t know how stable the FIDO is if children try to climb onto it or if it encounters a high kerb on a crossing, or a pothole. There may also be a risk that it ‘trips up’ its owner or other people (just like a dog!)* |
| *Other people and vehicles in the urban space* | *Risk of being unseen by hurrying pedestrians who may ‘trip’ over it. Visibility issues to vehicles if it needs to cross roads without accompanying adult.* |
| *Easy to maintain* | *Appears easily wipe-clean* |
| **‘Gender and Diversity Smart’ Effectiveness** |  |
| **Is it effective for commuters?** | *Not applicable – unless doing the supermarket on their walk home* |
| **Is it effective for leisure visitors?** | *Not applicable – it is intended for shoppers* |
| **Is it effective for single trips?** | *Yes* |
| **Is it effective for chained or multiple trips?** | *Not sure – What if you need to pick up the kids after doing the shopping – will FIDO wait? Or what if you have to pop into another shop on the way home – can you take FIDO in? or will it be safe waiting outside? If you need to leave it for a few minutes, how will it be secure?* |
| **Is it effective for care related trips travelling with children or a dependent adult? E.g. to nursery, day-care, hospitals, schools?** | *It is designed for shopping trips specifically, but children or other adults could accompany with few issues.* |
| **Is it effective for trips with luggage or shopping?** | *Yes – it leaves hands free for other baggage* |
| **Does it impinge on others enjoyment or perceptions of safety in the city?** | *Yes – it might cause problems if the route is very busy and people are not expecting a low level moving object.* |

### Step 3: Effectiveness for Social groups and Providers – consider needs and intersections where relevant – some could be left blank

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| --- | --- | --- |
| **Group** | **Score percentage** | **‘Effectiveness’ considerations** |
| Work commuters | NA | *Not applicable* |
| Leisure / off peak travellers | 100 | *Yes probably better to be used at off-peak times of day* |
| Women in general | 100 | *The concept favours the way some people (not just women) prefer to shop and carries your shopping for you* |
| Women or others making multiple / chained trips | 50 | *Not sure* |
| Adults travelling with dependent children or carers | 80 | *Being ‘hands-free’ would be a useful feature for these groups.* |
| Low income groups, people on welfare | 50 | *This will all depend on the pricing element of the service and other intersectional needs – this is not designed to be ‘cheap’, more about convenience.* |
| Young people and students | NA |  |
| School-children travelling independently | NA |  |
| Older people | 50 | *Would be of benefit to older people who may be more likely than others to want a small amount of shopping on a regular basis and less likely to want to carry it. It’s not designed with elders in mind though.* |
| People with disabilities, physical or cognitive | 50 | *As above, it might be seen as a solution for someone with a stick or a walking frame who cannot carry shopping easily. Although not designed with this in mind.* |
| People travelling from or to remote locations | NA |  |
| Minority ethnic groups | NA | *Neutral in this respect* |
| People feeling vulnerable in public spaces | 0 | *Seems this would make a person feel more vulnerable – or would upset other vulnerable people* |
| Transport Providers | 50 | *May encourage more shoppers on foot to come to the store with this facility – can have store branding. Lots of questions about infrastructure and Point of Sale features.* |
| **Conclusions (Total % / n of applicable groups)** | **59%** | ***Effective for some users but not an option for everyone and may be seen as a nuisance by others*** |

### Step 4: Effectiveness: Overall Evaluation

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|  | **Please summarise based on the comments and evaluations above** |
| **Effective for who? Is it effective for the citizens it is aimed at?** | Yes fairly effective – for shoppers on foot, maybe a small food shopping trip. It may be useful for older people who want to walk but not carry shopping, or for others who might want to avoid carrying shopping bags but enjoy a walk. |
| **Not Effective for who?** | *Other pedestrians in a hurry might find these a real nuisance in a busy area. They could pose a hazard to drivers if not used to ‘looking for’ them at crossings. They might cause stress for some people.* |
| **Percentage Score** | **59%** |
| Copy a smiley to give your overall impression | A yellow smiley face  Description automatically generated with medium confidence |

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| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
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Key:

**Indicator 2. Attractive – appealing in terms of implementation, use and benefit from both provider and user perspective**

‘Attractive’ Mobility is set within the context of providing safe and accessible solutions for a broad and diverse range of people. It includes how far ‘the solution’ can be customised and made comfortable, and factors such as clean, safe and convenient. There should be scope here to consider attractiveness according to age, gender and other factors such as social grouping, ethnicity, personality. Also consider the impact on, and of, surrounding areas such as bus stops, hubs, rail stations. How is the artefact adaptable to users’ needs and wishes? Note: With adaptability, there is some overlap with the criteria of ‘Inclusive’ (discussed later) where adaptability and accessibility can be commented on in more detail.

### Step 1: Goals: The product has been designed to be attractive in the following ways:

**Please complete below how the product has been designed to be attractive for users and providers.**

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| **Target user group**  *(complete as appropriate)* | **How will it be attractive to end users?** |
| *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.* | *The convenience and novelty of having a carry assistant drone would be attractive to some. Voice interaction is an attractive feature for maximum ease of use. The idea of ‘trust’ embodied in the design adds to its attractiveness.* |
| *Secondary users – accompanying adults and children* | *As above – it may especially appeal to children and leave parents a hand free to push a buggy or hold a small hand.* |
| *Other people and vehicles in the urban space* | Some thought needs to be put into how these can be perceived as tolerable in the urban space, instead of a nuisance. Acceptance may take education, time and familiarity. |
| **Providers**  *(complete as appropriate)* | **How will it be attractive to providers?** |
| Supermarket | *There is not enough information provided as to what would make this attractive to a Supermarket.* |
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### Step 2: How well does it meet ‘Attractiveness’ goals?

***Please complete using what information you have available from your design sources***

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| **Attractiveness Goal** | **Does it meet the goal?** |
| *The convenience and novelty of having a carry assistant drone would be attractive to some. Voice interaction is an attractive feature for maximum ease of use. The idea of ‘trust’ embodied in the design adds to its attractiveness.* | *Yes it appears to, for those users who want this service.* |
| *Secondary users – accompanying adults and children* | *Yes as above.* |
| Other people and vehicles | *This is more problematic because this idea does not solve a general public problem, has a relatively niche user and may create nuisance or obstruction.* |
| Supermarket goals | *Not enough information* |

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| |  |  | | --- | --- | | **Gender and Diversity Smart ‘Attractiveness’ questions** |  | | **Safety:**  Does it feel safe to a range of groups? E.g. waiting at stops, stations and deserted areas  Is it safe to actually use? What are the safety issues?  Are there safety issues for other transport users or pedestrians? | *It appears to be safe to use, subject to its stability and cornering ability. Theft and vandalism might be a concern. It could present a trip hazard, if people don’t see it in their path, or a hazard at crossings. Perhaps it should make a noise?* | | **Clean and Hygienic:**  Can it be kept clean or cleaned for next user? | *Appears very easy to clean between usage.* | | **Convenient:**  Can it be accessed in a convenient location? | *Yes it scores high on convenience if ‘at the store’. Owning your own would present a storage problem if in the home, depending on the size of your home.* | | **Adaptability:**  Is it adaptable to users of different sizes in weight and height?  Can it be used in different ways e.g. Sit / stand?  Is there any luggage storage?  Is this information provided in the design? | *There is no information provided. Will there be different sizes? Do you take the plastic boxes out to remove shopping or do you reach in and then need a bag?* | | **Comfort:**  Does it offer comfort? Is the design comfortable to hold / sit on or sit in? Are controls within reach for everyone?  Consider shelter from elements, seating, waiting area, toilets? | *Not really relevant. It doesn’t appear to have sharp edges. Perhaps the side edges should be padded for those times when people trip against it? How is shopping kept completely dry inside?* | | **Interest, Novelty and Usefulness:**  Does it offer something interesting? Timetable information; entertainment; fun; local information; city event updates | *Yes it looks novel and interesting in itself but there are no extra items. It could make shopping more fun.* | |  |  |  Step 3: Attractiveness to Social groups and Providers – consider needs and intersections where relevant – some could be left blank  |  |  |  | | --- | --- | --- | | **Group** | **Score %** | **‘Attractiveness’ considerations** | | Work commuters | NA | *Not applicable* | | Leisure / off peak travellers | 80 | *Broadly attractive* | | Women in general | 80 | *Might fit well into the daily shop ‘pop to the shops’ behaviour, but not specifically confined to women.* | | Women or others making multiple / chained trips | 50 | *Hard to say – not especially* | | Adults travelling with dependent children or carers | 50 | *Could give you hands free shopping on foot, but might be extra hassle too.* | | Low income groups, people on welfare | NA | *No special considerations – it is more effective to do a big shop to save money* | | Young people and students | NA | *No special considerations – it is more effective to do a big shop to save money* | | School-children travelling independently | NA |  | | Older people | 60 | *If it was easy to use it could be attractive in this user group, as a stereotype.* | | People with disabilities, physical or cognitive | 50 | *An attractive solution for some, but not so for others.* | | People travelling from or to remote locations | NA |  | | Minority ethnic groups | NA |  | | People feeling vulnerable in public spaces | NA |  | | Transport Providers | 50 | *Why would city authorities want to encourage these? See under sustainability.* | | **Conclusions (Total % / n of applicable groups)** | ***60%*** | ***Attractive to the target group but perhaps quite niche.*** | |

### Step 4: Attractiveness: Overall Evaluation

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|  | **Please summarise based on the comments and evaluations above** |
| **Attractive to who?** | *Attractive to the target group but perhaps quite niche. Convenience is its major attractive quality, and novelty also – might appeal most to older people with a slower pace of life and possibly parents with buggy and small children appreciating the advantage of getting outside and picking up shopping, without the need to carry it home.* |
| **Not Attractive to who?** | *Busy commuters, people with a lot of shops to visit, or errands, busy public spaces with criss-crossing user pathways. Could be perceived as a nuisance and a hazard.* |
| **Percentage Score** | **60%** |
| Copy a smiley to give your overall impression | Shape, circle  Description automatically generated |

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| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
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Key:

## **Indicator 3: Affordable – cost-effective in terms of acquisition/implementation and maintenance from both provider and user perspectives**

Does this transport solution contribute to ending transport ‘accessibility poverty’? This assesses whether people can reach their basic daily activities within a reasonable time, ease and cost – and relates to key activities that support life chances such as employment, education, health visits. (Lucas, 2016)

For the TInnGO project, this incudes affordability from the point of view of public transport – so the public investment of the provider must support a solution that will be used by a wide base of users. It can also be assessed from the point of view of Affordability for individuals. This can be very subjective – e.g. a taxi could be an everyday item for people with plenty of disposable income, but a luxury for those on lower incomes. If a transport solution is likely to be adopted, it needs to be ‘affordable’ for the majority of everyday citizens, *regardless of income* – otherwise it is not an equitable choice. It should be kept in mind that the gender pay gap means women have fewer economic resources than men.

Affordability for the transport provider, involves a discussion about investment and long-term goals, and it is important that designers consider this perspective. A distinction could be made between cost to the user of hiring/sharing or owning their own means of transport e.g. cycles. Public authorities can provide shared means of transport or facilities for parking of privately owned items. If hire vehicles are in a central hub, affordability of getting to the hub from an out-of-city location could also be considered.

### Step 1: The product has been designed to be affordable in the following ways:

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| **User Group**  *(complete as appropriate)* | **How is it affordable to end users?** |
| *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.* | *We don’t have any information about the cost model for FIDO. To be equitable it should be a free service, otherwise it may deter some of its target audience from using it. The cost should at most be equivalent to a supermarket delivery, but it is unlikely anyone would pay that for a small amount of shopping. So it would have to be priced at less, or tied into some kind of loyalty scheme model so that it seemed like a good deal.* |
| *Secondary users – accompanying adults and children* | *Not applicable* |
| *Other people and vehicles in the urban space* | *Not applicable* |
| **Provider** | **How is it affordable to providers?** |
| Supermarket | *If there was a perceived social benefit then maybe a scheme in association with a public authority could meet some of the cost of FIDO. A variety of business service models might appeal to a provider.* |
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### Step 2: How well does it meet ‘Affordability’ goals?

**Please add evaluations based on the goals outlined above and complete the additional questions**

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| --- | --- |
| **Affordability Goals as defined above** | ***Answers – please complete using what information you have available from your design sources*** |
| *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.* | *We do not have information about this – if provided as a service by the store Free would be the most equitable option for the user. Families or people with a specific need might want to own their own FIDO.* |
| Providers – Supermarket, public body | *We do not know the proposed cost. Cleaning and maintenance must also be factored in* |
| **Gender and Diversity Smart ‘Affordability’ Questions** |  |
| Is an affordable alternative provided? – e.g. a walking route | *In this case the alternative is to carry bags or bring a car. People also steal shopping trolleys and dump them.* |
| Is it affordable for the transport provider? Is there a break-even level? | *We do not have information about this – it is about service quality* |
| In the case of ‘shared transport’ - Will users’ own vehicles’ be permitted (e.g., personal bikes, e-scooters)? | *Private Ownership is a possibility* |
| Does this solution allow access to basic daily activities within reasonable time and cost? Consider e.g. bus routes, employment sites, education access, health visits. | *Allows walking to a local supermarket with delivery or carry assistant* |

### Step 3: Affordability for Social groups and Providers – consider needs and intersections where relevant – some could be left blank

|  |  |  |
| --- | --- | --- |
| **Group** | **Score percentage** | **‘Affordability’ considerations** |
| Work commuters |  | *Not applicable* |
| Leisure / off peak travellers |  | *?* |
| Women in general |  | *?* |
| Women or others making multiple / chained trips |  | *?* |
| Adults travelling with dependent children or carers |  | *?* |
| Low income groups, people on welfare |  | *?* |
| Young people and students |  | *?* |
| School-children travelling independently |  | *Not applicable* |
| Older people |  | *?* |
| People with disabilities, physical or cognitive |  | *?* |
| People travelling from or to remote locations |  | *Not applicable* |
| Minority ethnic groups |  | *?* |
| People feeling vulnerable in public spaces |  | *?* |
| Transport Providers |  | *We do not have enough information – there will be a cost!* |
| **Conclusions (Total % / n of applicable groups)** | ***?*** | ***We do not know.*** |

### Step 4: Affordability: Overall Evaluation

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|  | **Please summarise based on the comments and evaluations above** |
| **Affordable for who? Is it affordable for most citizens?** | *No information* |
| **Not Affordable to who?** | *No information* |
| **Percentage Score** | **?** |
| Copy a smiley to give your overall impression | **?** |

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| --- | --- | --- | --- | --- |
| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
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Key

## **Indicator 4: Sustainable: Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.**

One key goal of sustainable travel is to reduce CO2 emissions, and enhance travel in an environmentally friendly and ‘green’ way, whether this is a mode of travel, or an infrastructure product. For example, utilising new ‘Smart’ technology may provide an advantage to the users in terms of ease of use or access to better information, improving traffic flow and reducing congestion. Sustainability should be offered to a wide group of users, offering green transport opportunities both now and for the future. Sustainability may also take into account the use of materials, energy and the life and maintenance of the product, from both user and provider perspective, (UN Goal 12).

### Step 1: The product has been designed to be sustainable in the following ways:

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| --- | --- |
| **User Group**  *(complete as appropriate)* | **How is it sustainable to end users?** |
| *Primary users – shoppers most likely doing a small to moderate supermarket shop – wanting to walk to the store, but not struggle home with bags.* | *Promotes active travel. Encourages people to leave their car at home and enjoy the walk to the local supermarket, with the knowledge they could get shopping delivered by FIDO, either independently or accompanying them.*  *Promotes local shopping.*  *No information about the sustainability or recycling properties of the materials.* |
| *Secondary users – accompanying adults and children* | *Walking to the supermarket sends a strong positive message to children about sustainable behaviour.* |
| *Other people and vehicles in the urban space* | *Less cars means less emissions.* |
| **Provider** | **How is it sustainable for providers?** |
| Supermarket | *This could reduce the need for so many store parking spaces and free up space for other needs such as EV charging, or green planting. It would also be of benefit for stores in town without dedicated parking. It fits into a model where the store does not sell or give out plastic carrier bags.* |
|  |  |
|  |  |

### Step 2: How well does it meet the ‘Sustainable’ goals?

Please add evaluations based on the goals outlined above and complete the additional questions

|  |  |
| --- | --- |
| **Sustainable Goals as defined above** | **Answers *– please complete using what information you have available from your design sources*** |
| *This could encourage people to leave their car at home and enjoy the walk to the local supermarket, with the knowledge they could get shopping delivered by FIDO, either independently or accompanying them. It certainly promotes active travel.* | *As this is a concept we do not know whether it would have the desired effects.*  *It should promote more local shopping and active travel. Leaving the car at home would mean less emissions.* |
|  | *Would promote local food-shopping and less short trips – but only for certain groups.* |
| *Less plastic carrier bags* | *No bags are needed in the drone boxes.* |
| *More active travel* | *Could increase local walking and improve community feel.* |
| *Supports smaller supermarkets with less parking* | *Reduces need for dedicated car parking and supports town based stores.* |
|  |  |
|  |  |
| **Gender and Diversity Smart Questions related to Sustainability** |  |
| Is it sustainable for single trips? | *Yes* |
| Is it sustainable for chained or multiple trips? | *Yes* |
| Are some groups more attracted to sustainable solutions than others? Does the solution cater for these differences? | *If younger people (and women) are more attracted to sustainable solutions, then this should appeal to them, for novelty and convenience and fits needs of carer with buggy, with children. It is a fun solution.* |
| Will the transport solution continue to be sustainable when users’ needs change? | *Privately owned FIDOs could be resold or passed on. Supermarket FIDOs are available to anyone.* |
| Does it provide speedy trips with no emissions? | *Walking pace.* |
| Will it encourage users to leave their cars behind? | *Potentially yes* |
| Wil it replace bus travel? | *It is not a form of travel. You couldn’t take it on a bus.* |

### Step 3: Sustainability for Social groups and Providers

**Is this a ‘sustainable choice’ for these groups? Consider needs and intersections where relevant – some could be left blank**

|  |  |  |
| --- | --- | --- |
| **Group** | **Score percentage** | **‘Sustainability’ considerations** |
| Work commuters | *NA* | *Not applicable* |
| Leisure / off peak travellers | 80 | *Yes* |
| Women in general | 60 | *Niche behaviour or at certain life stage* |
| Women or others making multiple / chained trips | 50 | *Possibly* |
| Adults travelling with dependent children or carers | 60 | Sustainable solution for shopping trips locally |
| Low income groups, people on welfare | ? | *Depends on pricing model* |
| Young people and students | 50 | *Depends on pricing model, sustainability will appeal* |
| School-children travelling independently | NA |  |
| Older people | 60 | Sustainable solution for shopping trips locally |
| People with disabilities, physical or cognitive | 50 | *May encourage active mobility because carrying bags not needed* |
| People travelling from or to remote locations | NA |  |
| Minority ethnic groups | NA |  |
| People feeling vulnerable in public spaces | NA |  |
| Transport Providers | 70 | *Sustainable benefits for providers need to be balanced against costs, quality of service and green credentials* |
| **Conclusions (Total % / n of applicable groups)** | **60%** |  |

### Step 4: Sustainability: Overall Evaluation

|  |  |
| --- | --- |
|  | **Please summarise based on the comments and evaluations above** |
| **Sustainable for who? Is it sustainable for most citizens?** | *It is a sustainable solution if it persuades people to leave the car at home and walk to the supermarket. It will not appeal to everyone but will appeal to those with time to walk and who can see benefits in this option. It has wider benefits in encouraging people to walk in their community and shop locally.* |
| **Not Sustainable for who? How is it not sustainable?** | It does of course require electricity, which simply walking/cycling and carrying does not. |
| **Percentage Score** | **60%** |
| Copy a smiley to give your overall impression | Shape, circle  Description automatically generated |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
| A yellow smiley face  Description automatically generated with medium confidence | Shape, circle  Description automatically generated | A yellow smiley face  Description automatically generated with medium confidence | A yellow smiley face  Description automatically generated | A yellow smiley face  Description automatically generated with medium confidence |

Key

## **Indicator 5: Inclusive: Which stakeholders/users are served by the product? What aspects promote the inclusive approach? What barriers will this help to overcome?**

Inclusion is seen as a universal human right. The aim of inclusion is to embrace all people irrespective of race, gender, disability, medical or other need. It is about giving equal access and opportunities and getting rid of discrimination and intolerance (removal of barriers). It affects all aspects of public life.

**Inclusive design:** Inclusive design is about making places that everyone can use. The way places are designed affects our ability to move, see, hear and communicate effectively.

Inclusive design aims to remove the barriers that create undue effort and separation. It enables everyone to participate equally, confidently and independently in everyday activities and to access a product or service equally – however they encounter it.

Inclusive design is aimed at considering and combatting discrimination against certain groups of people and the intersections between them. It should particularly consider groups who may be vulnerable because of perceived differences, such as ethnicity or different gender or ability.

We do not ask for goals to be defined here, these will be evident from the earlier sections. We simply offer questions to assess inclusive design for products. This section also includes explicit questions to assess how the product caters for the widest range of ability, by making the abilities more explicit. This is not an exhaustive list but covers the types of ability normally considered in an ‘accessibility checklist’. Considering this list may prompt designers to think about inclusivity issues they might otherwise have overlooked.

|  |  |  |
| --- | --- | --- |
| **TInnGO Questions related to Inclusivity** | **Percentage** | **Answers** |
|  |  |  |
| Does it offer effective, affordable, attractive and sustainable transport for all social groups? | *50%* | *It is not a transport solution, but it is a sustainable way of encouraging local shoppers to leave the car behind, shop locally and enjoy some active travel in their community, without having to carry shopping home.* |
| Does the solution provide security for vulnerable groups? | *50%* | *Not very applicable. We think it may introduce some stress into busy pavement areas* |
| Does the solution apply to various social groups with regard to economy, disability, age? | *50%* | *The economic model is not known, it may appeal to people with some types of disability but not to others, it may particularly appeal to older people who want to visit the local store, but not carry their goods home.* |
| What anti-discrimination efforts might be applied to this product/solution? Please make recommendations. | *NA* |  |
| **Physical and cognitive Accessibility questions:** |  |  |
| Will anyone be **excluded** because of issues with: |  |  |
| Vision impairment | *0%* | *May actually make street navigation harder for people with visual impairment, either drone users or other pedestrians – not fully explained.* |
| Hearing impairment | *60%* | *No obvious issues in the design so long as they can see it.* |
| Cognitive impairment | *40%* | *Could present problems for a user with cognitive impairment – might be too complex* |
| Strength, dexterity or reach | *100%* | *Should be of benefit, so long as the drone does not fall over.* |
| Mobility: Walking, stair climbing, standing or balance | *50%* | *Could be of benefit because hands are free for sticks or walking rollator – but may create issues for other pedestrians who have poor balance* |
| Are provisions made for users with mobility aids.e.g., Wheelchair users, crutches and walking sticks? | *70%* | *Not explicitly but it could accompany a wheelchair user* |
| **Overall Inclusivity Percentage = Total / n (mean)** | ***53%*** |  |

### Step 4: Inclusivity: Overall Evaluation

|  |  |
| --- | --- |
|  | **Please summarise based on the comments and evaluations above** |
| **Who is included in this solution?** | *Reasonably inclusive for any social group and for people able to walk or use wheelchair, scooter or other mobility aids.* |
| **Who is NOT included in this solution?** | People with visual impairments may find the drone difficult to use and find it a nuisance as part of the pavement traffic. Anyone frail or with poor balance is not going to like having these in a public space. |
|  |  |
|  |  |
| **Percentage Score** | **53%** |
| Copy a smiley to give your overall impression | A yellow smiley face  Description automatically generated with medium confidence |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
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Key

Part C: Overall Assessment

This is intended to summarize how the product fits with its own defined goals and how far it meets ‘Gender and diversity smart’ criteria. The Evaluator should complete a rating based on the ratings per each indicator already completed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Does the design meet its own goals?** | **Percent** | **Smiley** | **Notes** |
| To assist customers on foot with carrying shopping, to obediently accompany them as they make their own way home. | *75%* | A yellow smiley face  Description automatically generated with medium confidence | *FIDO meets these goals very well. There are quite a lot of questions remaining about the costing model and how it works at point of sale. There are also questions about distance limit, user interaction.* |
| This removes the need to take the car to the supermarket. Once shopping is delivered a store-owned FIDO returns itself to the retailer POS to recharge and await further instructions. They can be customer owned or store owned. | *75%* | A yellow smiley face  Description automatically generated with medium confidence | *For certain niche users it does seem likely this solution would meet their needs and encourage them to leave the car at home.* |
| **Does the design meet the Gender & Diversity Smart goals - EAASI?** |  |  |  |
| 1 - Effective  Is the product effective? | 59% | A yellow smiley face  Description automatically generated with medium confidence | Yes fairly effective – for shoppers on foot, maybe a small food shopping trip. It may be useful for older people who want to walk but not carry shopping, or for others who might want to avoid carrying shopping bags but enjoy a walk.  *However other pedestrians might find these a nuisance in a busy area, they could pose a hazard for other users and drivers not used to looking out for them, this might cause stress for some people.* |
| 2 - Attractive  Is the product attractive to a wide range of users? | 60% | Shape, circle  Description automatically generated | *The convenience and novelty of having a carry assistant drone would be attractive to some. Voice interaction is an attractive feature for maximum ease of use. The idea of ‘trust’ embodied in the design adds to its attractiveness. However it may be quite ‘niche’ in its appeal. There are some safety and security concerns. There is not enough information to know how these would be attractive to Supermarkets.* |
| 3 - Affordable  Is the product affordable to a wide range of users? | ? | ? | *We don’t have any information about the cost model for FIDO. To be equitable it should be a free service, otherwise it may deter some of its target audience from using it. The cost should at most be equivalent to a supermarket delivery, but it is unlikely anyone would pay that for a small amount of shopping. So it would have to be priced at less, or tied into some kind of loyalty scheme model so that it seemed like a good deal. Some people may want to buy their own FIDO.* |
| 4 - Sustainable  Is the product sustainable / does it encourage sustainable behaviour? | 60% | Shape, circle  Description automatically generated | *It is a sustainable solution if it persuades people to leave the car at home and walk to the supermarket. It will not appeal to everyone but will appeal to those with time to walk and who can see benefits in this option. It has wider benefits in encouraging people to walk in their community and shop locally. It does of course require electricity.* |
| 5 - Inclusive  Is the product inclusive from the point of view of gender and diversity? From the point of view of Accessibility? | 53% | A yellow smiley face  Description automatically generated with medium confidence | *Reasonably inclusive for any social group and for people able to walk or use wheelchair, scooter or other mobility aids. People with visual impairments may find the drone difficult to use and find it a nuisance as part of the pavement traffic. Anyone frail or with poor balance is not going to like having these in a public space.* |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Excellent (70 to100%) | Good (60-69%) | Satisfactory (50-59%) | Poor (40-49%) | Fails this indicator (0-39%) |
| A yellow smiley face  Description automatically generated with medium confidence | Shape, circle  Description automatically generated | A yellow smiley face  Description automatically generated with medium confidence | A yellow smiley face  Description automatically generated | A yellow smiley face  Description automatically generated with medium confidence |

Key

**What next?**

### 

#### We hope this has given you some insight into how the product scores on the TInnGO ‘Gender and diversity smart’ indicators.

#### Perhaps the product met the design brief or your organisation requirements well but scored lower on the indicators? Having this knowledge can indicate where the gaps are and show aspects that could be improved or redesigned to be more inclusive and more gender and diversity smart.

#### **Designers:** you might want to revisit your design brief and discuss with your clients – is the brief wide enough? Does anything need to change?

#### **Evaluating a range of products?** You can use this knowledge to make choices or better predict take-up of a solution – does anything need to change to make it more EAASI?

#### The TInnGO team would like to hear your feedback about our tool.

#### Contact: Andree.woodcock@coventry.ac.uk