

TRansport Innovation for disabled People needs Satisfaction

TRIPS



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Abstract	D5.1 is the first deliverable from WP5 and should be read as a method framing document that defines the user involvement strategies for TRIPS and the background theoretical considerations that underpin them. It aims at creating a methodological foundation towards the main deliverable of WP5: a tested and validated codesign methodology that can be adapted to engage disabled people in open innovation for future mobility solutions. D5.1 is to be read together with the following deliverables: D9.1H-POPD Requirement No. 2; D1.5 Data management plan; D1.6 Data management plan.
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Executive summary and statement of intent

The goal of TRIPS is to design, describe and demonstrate practical steps to empower disabled people to play a central role in the design of inclusive digital mobility solutions. In this we are inspired by Liz Jackson:

‘You only need empathy in design if you have excluded the people you claim to have empathy for.’ (Jackson, 2019)

We interpret this as a reinforcement of the statement “nothing about us without us” (*Nothing About Us Without Us* - Wikipedia, no date), and in line with this, we are committed to creating a framework that lays the foundation for a design research process that is created with, for and by disabled people.

The present document establishes the background for one of the project’s main deliverables: a tested and validated codesign methodology that can be adapted to engage disabled people in open innovation for future mobility solutions. This methodology will be piloted in 7 cities - Bologna, Brussels, Cagliari, Sofia, Stockholm, Lisbon and Zagreb - and will be co-created, facilitated and co-owned by groups of disabled people participating in the project. Each city will have a working group (WG) that is constituted by a local user lead (LUL), a core team of 5-7 disabled people and a wider pool of participants. The aim is to involve these groups in processes that they are not just participating in but potentially controlling, reframing and making use of to their own ends.

This document is the first deliverable (D.5.1) of Work Package 5 (WP5), one of 8 Work Packages (WP) that work together to deliver the overall goal of TRIPS. D5.1 is intended as an internal method framing document that sets the scene for our next task (T5.2) where we will engage with each of the 7 working groups that have been established as part of WP2 in each city. Whilst WP5 is concerned with all the methodological work of the project, it lends its methods from and derives inputs from the research undertaken in WP2 and drives the user-centric approach for the Pilot case studies in WP6 and for engagement activities in WP8.

The framing proposed here is based on established theories and practices coming from Participatory Design Research, Participatory Action Research, Research through Design and Design for All. Grounding our methodological framework in these participatory traditions allows us to create common ground and understanding between disabled people and institutional actors in the TRIPS project, nurturing collaborative processes that make mobility concerns and concepts visible, while integrating cultural, interpersonal, structural and policy-related viewpoints.

Towards this goal, this present document sets the foundations for the user involvement strategies that will be used to engage a wide range of people in the creation of the codesign-for-all methodology. These strategies are important because they guarantee that the people most affected by a change-process are centred in the planning and



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development of it - and ultimately are in control of determining what this process is used for, and how it will affect their lives.

The intention is that this framework is taken as a living document to be shaped by, with and for the participants of TRIPS. We aim for a collaborative and critical learning process that operates across access needs, distance and difference, and respects and honours the concerns and hopes of disabled people participating in TRIPS.

List of acronyms / abbreviations

Abbreviations	Explanation
AR	Action design
CUT	Core user team
DfA	Design for all
DMP	Data management plan
LUL	Local user lead
PAR	Participatory action research
PD	Participatory design research
RtD	Research through design / Research through Art and Design
TRIPS	TRansport Innovation for disabled People needs Satisfaction
UD	Universal design
UNCRPD	United Nation's Convention on the Rights of Persons with Disabilities
WHO	World Health Organization
WP	Work package

Table 1: List of acronyms/abbreviations



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Glossary of terms

Term	Explanation
Accessibility	The extent to which products, systems, services, environments or facilities can be used by people with different capabilities. (<i>European Commission launches survey on 'Design for All' - Inclusion Europe</i> , no date).
Action Research	AR is 'a cycle of continuous inquiry, action and evaluation, undertaken with or by—as opposed to on or for—society's marginalized peoples.'(Macaulay, 2017, p.256).
Co-creation	The act of making together rather than consulting people and then producing designs to the pre-set requirements.
Co-production	A way to generate knowledge in collaborations between people, technology and society. It is centered on the idea that we can come together in difference and collaboratively create new ideas and concepts.
Codesign	The action of designing together, while attempting to actively involve all stakeholders (e.g. employees, partners, customers, citizens, end users) in the design process to help ensure that outcomes respect all participants' point of view.
Data management plan	A plan that includes information on the handling of research data during and after the end of the project, what data will be collected, processed and/or generated, which methodology and standards will be applied, whether data will be shared or made open access and how data will be curated and preserved (including after the end of the project). (H2020 Guidelines on FAIR Data Management, 2016) (Hatzakis, 2020).
Design for All	A mandate issued in 2010 by the European Commission that aims to eliminate discrimination and improve access for all via standards that address the 'inclusion of accessibility in the manufacturing process for manufactured goods and services' (<i>Design for all European Disability Forum</i> , no date).
Disability	Disability is an evolving concept that results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others (<i>United Nations Convention on the Rights of Persons with Disabilities</i> , 2006).



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Disabled people	Persons with disabilities include those who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (<i>Article 1 - Purpose United Nations Enable</i> , no date).
Ethos	The distinguishing character, sentiment, moral nature, or guiding beliefs of a person, group, or institution (<i>Ethos Definition of Ethos by Merriam-Webster</i> , no date).
Framework	The structure and support that may be used as both the launching point and the on-going guidelines for investigating a research problem.(Labaree, no date).
Intersectionality	The complex, cumulative way in which the effects of multiple forms of discrimination (such as racism, sexism, and classism) combine, overlap, or intersect especially in the experiences of marginalized individuals or groups. Developed by Kimberlé Williams Crenshaw (<i>Intersectionality Definition of Intersectionality by Merriam-Webster</i> , no date).
Methodology	A theory or analysis of how research does and should proceed. (Labaree, no date)
Methods	Systematic approaches to the conduct of an operation or process. It includes steps of procedure, application of techniques, systems of reasoning or analysis, and the modes of inquiry employed by a discipline. (Labaree, no date)
Minoritised	<p>Groups resulting from social constructs have been granted less power or representation compared to other members or groups in society. Preferable to: minorities</p> <p>Benefits Minoritised places the emphasis on the power struggle, and on the systemic issues at play. It's also an adjective, which requires you to add "group" or "people" so it's people-first language.</p> <p>Impact It removes the pejorative nature of "minorities", illuminating that this is an effect upon the individual or group, rather than the singular way to identify the group. (<i>minoritised « Definitions « Self-Defined</i>, no date)</p>
Mixed-Methods	A research approach that uses two or more methods from



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	both the quantitative and qualitative research categories. It is also referred to as blended methods, combined methods, or methodological triangulation. (Labaree, no date)
Participatory Action Research (PAR)	A collaborative and active mode of inquiry that brings together research and action, and links them through critical reflection.
Participatory Design Research (PD)	A collaborative process that centres the involvement of people in the design of their own environment.
Research data	Information, in particular, facts or numbers, collected to be examined and considered as a basis for reasoning, discussion, or calculation. (H2020 Open Access Guidelines, 2017) (Hatzakis, 2020).
Research through Design (RtD)	A way of generating knowledge through the making of things. It engages and elicits alternative narratives through a process of making, trial and reflection that generates knowledge (Stappers and Giaccardi, 2017).
Universal Design (UD)	The design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. (<i>United Nations Convention on the Rights of Persons with Disabilities</i> , 2006, p.4).

Table 2: Glossary of terms

0. TRIPS participatory framework

The TRIPS project brings together a multidisciplinary set of concerns and strategies to form a practical framework for user involvement. Our methodological framework starts with a brief introduction to the theoretical background of four research traditions: Participatory Design Research (PD), Participatory Action Research (PAR), Research through Design (RtD) and Design-for-All (DfA). The strengths of these four approaches are then synthesized into a participatory ethos that contains the guiding principles we will take forward to codesign our working process. Next, we specify the components that will be used as the building blocks of our process and conclude with practical tools that will support the initial engagement with the working groups. These 4 tenets (Participatory Inquiry, Participatory ethos; Components; and Practical strategies) form the basis of the TRIPS participatory framework, a living structure to be further developed to reflect the cultural, interpersonal, structural and policy-related conditions unique to each one of the working groups that participate in TRIPS.



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TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
Participatory Design Research	Politics of participation	Participation	Tools of engagement
Participatory Action Research	Addressing Intersectional experiences through design	Participants	Codesiging and localising our framework
Research through Design	Transformation of social reality	Knowledge	Participation during COVID-19
Design-for-all / Universal Design	Co-creating knowledge through the making of things	Making	Next steps

Table 3: TRIPS participatory framework

Throughout the document, we will be highlighting the elements we are taking forward into the TRIPS participatory framework. We show these in tables at the top of each section to help summarise and navigate the document. The framework as a whole is available in the form of a table at the end of this document, ready to be distributed and used in our process. Our intention is that this document is used as a working tool to spark and support discussion.

In the following, we outline the main background theories with a view to opening them for further exploration and development in the next phase of the project.

1. Participatory inquiry - theoretical background

Our methodological framework builds on the strengths of Participatory Design Research (PD), Participatory Action Research (PAR), Research through Design (RtD) and Design for All (DfA). We'll use the guiding principles of each of these methodologies to lay the foundation for a design research process that is created with, for and by disabled people. Ultimately this will be expressed in a codesign-for-all methodology framework.

In order to co-create a process that supports participants to drive change, we define our theoretical framing in participatory inquiry approaches where knowledge is generated in a collaborative and iterative manner and research and action are linked together by critical reflection.



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TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
Participatory Design Research			
Participatory Action Research			
Research through Design			
Design-for-all / Universal Design			

Table 4: Participatory inquiry

The table above illustrates the structure of the framework, and will be filled as the document progresses.

1.1 Participatory Design Research

Put simply, Participatory Design Research (PD) ‘seeks ways to involve people in the design of various aspects of their everyday built environments’ (Sanoff, cited in Simonsen and Robertson, 2012, p.2). As a result, PD can be seen as a collaborative process that is driven by ‘the participation of the persons who will be affected by the output that is being designed.’ (Cozza, Cusinato and Philippopoulos-Mihalopoulos, 2020, p.272). This understanding of participation places a particular emphasis in the emancipatory aspect of PD that addresses the power dynamics between those included or excluded from decision-making processes.

Power relationships

PD originated in the cooperative design work developed in Scandinavia between researchers and trade unions in the 1970s. These democratic movements argued for workers' right to co-determine the conditions of their working lives.

However, investigating the conditions of power in the work environment can be traced back even further to the fieldwork conducted in the factories of Industrial England and France in the 1850s. These investigations involved interviewing workers to understand their environments and can be taken as predecessors to processes that centre workers in decision-making about the conditions of their working lives (Simonsen and Robertson, 2012, p.47). These studies made explicit the power dynamics at play in



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factories and this examining of the conditions of power and its subsequent democratic undertone is central to all expressions of participatory research.

The Norwegian Iron and Metal project is often cited as one of the earliest examples where workers and researchers came together to analyse 'the specific problems with new technology at the workplace and developed strategies to boost workers' power in relation to management's technology initiatives.' (Simonsen and Robertson, 2012, p.25). These early versions of PD - then referred to as Cooperative Design, Democratic Design amongst others - situated design in a worker's own complete environment and most importantly, promoted the empowerment of workers to codetermine the development of their workplace (Clement & Besselaar, cited in Hartson and Pyla, 2019, p.399)

In the context of TRIPS, we propose to map the power dynamics between disabled people and institutional actors with the view to arrive at better understandings and empower disabled people to co-determine the drivers and priorities throughout and ultimately hold agency and decision-making power.

Knowledge as a resource for action

The researchers working in the Norwegian Iron and Metal project initially found that the research outputs were of little interest to the trade unions because they 'did not fit into the reality of the workers' lives; they could not use the knowledge developed as a resource for action.' (Simonsen and Robertson, 2012, p.26).

The researchers then changed their tactics and applied action research practices to 'develop new knowledge geared towards the workers' ability to take action to increase their say' and further specifying that 'Results of the research are not reports and papers, but all actions taken by workers (...) that are intended to increase the influence of workers on information technology and management in the companies.' (Simonsen and Robertson, 2012, p.26).

The TRIPS project follows this strategy up by paying attention to the lived experience of participants and a focus on the actionable.

Centring on who benefits from the process

The central notion coming from the cooperative approaches of the 1970s is that workers have not only the right to co-determine the conditions of their working lives, but should also be actively engaged in the processes that shape these conditions.

The emancipatory aspect is a defining factor in the Scandinavian tradition of participatory practices. This means an active centring on the 'who' benefits from the process. Since the 1990s a number of different expressions of PD have been developed in the field of Human Computer Interaction, largely focussed on broadening the types of



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problems and outcomes that can be addressed through PD (Halskov and Hansen, 2015).

The TRIPS project follows this in opening up the design of the process as well as the process itself.

Key takeaways: strengths from PD

1 – Participatory inquiry	
Participatory Design Research	<p>PD is a collaborative process that centres the involvement of people in the design of their own environment. Key strengths:</p> <p>Equalising power relationships A tradition situated in the workers environments that makes the power dynamics explicit with a view of having them equalized through the design process.</p> <p>Knowledge as a resource for action As research output knowledge needs to fit into the reality of participants' lives so they can use it as a resource for action.</p> <p>Centring on who benefits from the process Workers are actively engaged in the processes that shape conditions of their work in such a way that they are leading them and ultimately are the main beneficiaries of such processes. The ultimate goal is to improve the conditions of their lives.</p>

Table 5: Key takeaways: strengths from Participatory Design Research

1.2 Participatory Action Research

Participatory Action Research (PAR) is a collaborative and active mode of inquiry that focuses ‘how research can become not only investigative, but transformative.’ (Calderon Salazar and Huybrechts, 2020, p.108). PAR establishes self-critical communities through collaboration (McTaggart, cited in Macdonald, 2012, p.39) that act as a way for people to join in taking collective action for radical social change (Maguire, cited in Macdonald, 2012, p.38).

The ultimate aims of PAR are ‘the empowerment of oppressed individuals to partner in social change’ (McTaggart, cited in Macdonald, 2012, p.40); and ‘the radical transformation of social reality and improvement in the lives of the individuals involved; thus, community members are the primary beneficiaries of the research.’ (Selenger, cited in Macdonald, 2012, p.39).



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Focus on social change

PAR's focus on change finds its origins in Action Research (AR). Developed in the 1940s in the US and the UK, AR emphasises: 'No action without research; no research without action' (Lewin, cited in Adelman, 1993, p.8). PAR promotes three types of change: 'a critical consciousness in participants, improvements in their lives and ultimately wider transformations in societal structures' (Maguire; MacTaggart, cited in Macdonald, 2012, p.39).

AR is 'a cycle of continuous inquiry, action and evaluation, undertaken with or by—as opposed to on or for—society's marginalized peoples.' (Macaulay, 2017, p. 256). Strong emphasis is placed on the iterative nature of the process towards change: 'PAR is not only research that is followed by action; it is action that is researched, changed, and re-researched within the research process by the participants' (Wadsworth, cited in Macdonald, 2012, p.38).

The TRIPS project follows this strategy by focussing on action and its potential for social change.

Challenging social relationships based on dominance: power and voice

PAR finds its origins in the emancipatory work developed in Latin America in the 1960s. Fundamental to PAR is the making of power dynamics visible and ensuring marginalized people's voices and interests are taken as legitimate drivers in processes of change.

The question of power and voice is central to the participatory research approaches developed in Latin America: 'Participatory research fundamentally is about who has the right to speak, to analyse and to act. (...) It is a process that supports the voices from the margins in speaking, analysing, building alliances and taking action.' (Hall, 1992, p.22).

The TRIPS project follows this notion by striving to make power relations visible in order to encourage broader participation.

Co-created knowledge

In PAR the notion of knowledge is challenged 'as a representation of the interests of the powerful and as a reinforcer of their position in society' (Habermas, cited in Baum, MacDougall and Smith, 2006, p.854).

Finally, PAR is relevant in the context of TRIPS because it is a mode of inquiry organically situated in the community and therefore produces knowledge 'dialogical in nature, and thus always negotiated and co-created' (*Action Research Network of the Americas*, no date). This approach offers 'a radical alternative to knowledge development in its mandate to remain a collective, self-reflective inquiry for the purpose



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of improving a situation (Koch, Selim, & Kralik; Maguire, cited in Macdonald, 2012, p.46).

The TRIPS project follows this by actively broadening what is considered knowledge and aiming to create structures where such knowledge is created.

Key takeaways: strengths from PAR

1 – Participatory inquiry		
Participatory Research	Action	<p>PAR is a collaborative and active mode of inquiry that brings together research and action, and links them through critical reflection. Key strengths:</p> <p>Centring minoritised voices Emerging from the discourse of PAR is the centring of minoritised voices and everyday experience as legitimate drivers in processes of change.</p> <p>Transformation of social reality PAR works iteratively and incrementally to support three types of change: conscientization at the individual level, improvements in the conditions of the lives of the participants and transformation of social reality.</p> <p>Co-created knowledge Knowledge as a collective and situated activity that is based in lived experience.</p>

Table 6: Key takeaways: strengths from Participatory Action Research

1.3 Research through Design

Research through Design (RtD) is focused on broadening what is considered knowledge in research (Frayling, 1994). It proposes the making of things as a way to engage with ideas and the world in which they are situated (Stappers and Giaccardi, 2017; Andersen and Wakkary, 2019).

RtD takes creative and open-ended engagements as starting points for knowledge production, with the aim to allow different outcomes and narratives to emerge, change the remits for design research and allow a broader and more diverse group of people to participate (Disalvo *et al.*, 2014).



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Generating knowledge through the making of things

Central in RtD is the question of what is considered knowledge in research, and how we can make use of the engagement with material to elicit understanding. Stappers and Giaccardi describe RtD as becoming operational through the process of making, trial and reflection that generates knowledge (Stappers and Giaccardi, 2017).

The term 'Research through Art and Design' was first introduced in 1993 by Christopher Frayling (Frayling, 1994, p.5). RtD originates in the evolving relationship between design and research from having been regarded as separate for a long time, to the establishment of design activities as 'the chief elements in the process of generating and communicating knowledge' (Stappers and Giaccardi, 2017). In other words, generating knowledge through making is what defines RtD.

The TRIPS project follows these notions by making use of making as a way to generate knowledge.

Things as broadening participation

In RtD, knowledge is sought so it can be shared with others and 'has a use in guiding someone's future actions in the world.' (Stappers and Giaccardi, 2017). Things function as stepping-stones from one idea to the next, gaining a transitional character that creates spaces for many different narratives to emerge and co-exists. As physicalisations of complexity, things also become sharable in nature (Gaver, 2012) and this broadens and diversifies participation.

The making of things supports individual structures of knowledge to emerge, and therefore sets up participation towards variation and difference, rather than sameness. This is an important addition to the typical use of everyday knowledge and practical skills in participatory research because through making we are able to pay particular attention to different types of knowledge e.g. explicit, that can be described, vs. tacit, that builds on lived experiences.

The TRIPS project makes use of the strategy of making as a way to broaden both participation and the understanding outcomes as knowledge.

Playful engagements for allowing alternative knowledge to emerge

The strength of RtD is to question, speculate and trouble what we take for granted in our design and research processes. RtD explores how the building of props and other research products might allow different kinds of knowledge to emerge. In playful engagements with design things we explore and champion the uncanny, the strange and the silly, for the purpose of teasing out serious and sincere knowledge and ideas.

Stappers and Giaccardi use the term 'doing design' to emphasize the material realization that is central to the knowledge-generating process of RtD because



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engaging in material speculations opens up possibilities that were not viable before. They also offer that as these possibilities come-into-being, the struggles with the material elements of realization is an important part of RtD (Stappers and Giaccardi, 2017).

The TRIPS project will make use of these notions to create engaging experiences and inviting participants into the doing of design.

Key takeaways: strengths from RtD

1 – Participatory inquiry	
Research through Design	<p>RtD is a way of engaging and eliciting alternative narratives through a process of making, trial and reflection that generates knowledge.</p> <p>Generating knowledge through the making of things RtD takes the engagement with materials as the starting point for knowledge production, with the aim of allowing different outcomes and narratives to emerge.</p> <p>Things as broadening participation The making of things supports individual structures of knowledge to emerge and sets up a space of variation where many different narratives co-exist.</p> <p>Playful engagements for alternative knowledge to emerge Through speculative engagements and the building of props different kinds of knowledge are manifest.</p>

Table 7: Key takeaways: strengths from Research through Design

1.4 Design for All

Design for All (DfA) is a mandate issued in 2010 by the European Commission that aims to eliminate discrimination and improve access for all via standards that address the ‘inclusion of accessibility in the manufacturing process for manufactured goods and services’ (*Design for all | European Disability Forum*, no date). DfA considers the diverse needs of the population in the development of products and services, and can be summarised as ‘design for human diversity, social inclusion and equality’ (European Commission Employment Social Affairs and Equal Opportunities DG, 2010).



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It is important to note that DfA is not only for disabled people or people with access needs. It precipitates the need for design to understand the experience of the built environment from multiple axes of identity (Hamraie, 2013) e.g. disability, gender, class and race (among others), through which more collective, overlapping and intersectional exclusions can be addressed (Hamraie, 2013).

Participation is essential to DfA as ‘the involvement of end users at every stage in the design process’ enables equal opportunities to participate in every aspect of society (European Commission Employment Social Affairs and Equal Opportunities DG, 2010).

Other terms have been used interchangeably with DfA: universal design, accessible design, inclusive design, barrier free design, amongst others. Universal Design (UD) in particular is referenced in The United Nations Convention on the Rights of Persons with Disabilities (*United Nations Convention on the Rights of Persons with Disabilities*, 2006, p.4) and ‘is the most commonly used term in the Southern Hemisphere region.’ (*What is Universal Design?*, no date). As a consequence, we propose to take the strengths from both DfA and UD combined into our participatory framework.

The TRIPS project will adhere to the main tenets of UD while keeping in mind the two concerns in the following:

Challenging the notion of universal

The term, UD was coined by architect Ronal Mace, a wheelchair user, who described it as ‘a way of designing a building or facility, at little or no extra cost, so it is both attractive and functional for all people, disabled or not.’ (Mace, cited in Hamraie, 2013). Mace’s initial definition has been extended into ‘the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. However, the UNCRPD states that UD must ‘not exclude assistive devices for particular groups of persons with disabilities where this is needed.’ (*United Nations Convention on the Rights of Persons with Disabilities*, 2006, p.4)

The notion of universal design as a one-size-fits-all approach has been challenged (Hansson; Sandhu; Steinfeld and Tauke, cited in Hamraie, 2013) through the problematization of the term “universal”. Aimi Hamraie proposes to complicate “universal” in order to put forward a version of UD that challenges normativity and encourages human variation in order to lessen ‘the dominance of perceived majority identities and bodies’ (Hamraie, 2013). This is echoed by Haraways notion that attempts at impartiality under the pretense of neutrality may lead us to mark our view of the world as universal at the cost of all others (Haraway, 198, p.590).

The TRIPS project will explore these notions by allowing strong personal stakes to co-exist in our outcomes rather than aiming for the neutral. In other words, we will aim for convergence rather than consensus (Galloway, 2006).



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A social justice orientation

Building on the notions of disability justice, collective access and interdependence Hamraie’s approach expands the reach of UD ‘to include access for a range of emotional, cognitive, and sensory capacities, in addition to physical, mobility, or strength-related access.’ (Hamraie, 2013). This notion of “collective access” is proposed to promote an understanding of intersectionality as ‘the interdependence of disability, anti-racist, and gender justice’ (Mingus, cited in Hamraie, 2013). This means approaching the experience of the built environment from multiple axes of identity, expanding design’s remit beyond the product to consider the relationships between those involved and addressing intersectional experiences through design.

In this approach, the notion of participation is also expanded to include engagements with structural conditions that exclude users from having access to decision-making processes, expanding the reach of UD to a social justice dimension. This can be taken forward as a ‘broad and intersectional social justice method through which designers can address a variation of exclusions from the built environment.’ (Hamraie, 2013).

The TRIPS project will pay attention to underlying concerns of social justice.

Key takeaways: strengths from DfA/ UD

1 – Participatory inquiry	
Design for All / Universal Design	<p>DfA / UD propose the full integration of disability into citizenship by eliminating discrimination and improving access for all. We propose to use this in combination with Hamraie’s conception of UD ‘as a broad and intersectional social justice method through which designers can address a variation of exclusions from the built environment.’ (Hamraie, 2013). Key considerations:</p> <p>Challenge false value-neutrality positions in design There is no universal neutral position in design. Question the universal nature of positions that use neutrality as a cover for the unmarked privilege of normative bodies.</p> <p>A social justice orientation In this approach the notion of participation is also expanded to comprehend an engagement with the structural conditions that exclude users from having access to decision-making processes (Hamraie, 2013).</p> <p>Addressing Intersectional experiences through design The notion of “collective access” is proposed to promote an understanding of intersectionality as ‘the interdependence of</p>



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	disability, anti-racist, and gender justice (Mingus, cited in Hamraie, 2013). This means understanding the experience of the built environment from multiple axes of identity and addressing intersectional experiences through design.
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Table 8: Key takeaways: strengths from Design for All/ Universal Design

2. Participatory ethos

In TRIPS, we take the strengths of PD, PAR, RtD and DfA / UD as described above, and combine them into a participatory ethos that provides the guiding principles for a design research process that is created with, for and by disabled people.

TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
	Politics of participation		
	Addressing Intersectional experiences through design		
	Transformation of social reality		
	Co-creating knowledge through the making of things		

Table 9: Participatory ethos

Methodologically speaking we build upon PD, PAR, RtD and DfA / UD and approach them as ‘a family of proposals that have a common democratic will with participation and cooperation between the parties involved, sharing a vision of social transformation’ (Thiollent, 2011, p.161). In the context of TRIPS this means the active involvement of disabled people as equals in the project, holding as the ultimate aim to facilitate a process that is led by its participants.

Towards this aim our approach will focus in four main areas:



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2 – Participatory ethos - guiding principles

Politics of participation

Equalising power dynamics and centring on who ultimately benefits from the design process. Critical to participation is an engagement with the structural conditions that exclude people from having access to decision-making processes.

Transformation of social reality

Challenging social relationships based on dominance and generating knowledge as a resource for action and social change.

Co-creating knowledge through the making of things

Playful engagements for alternative knowledge to emerge and the making of things as a method for broadening participation.

Addressing Intersectional experiences through design

Considering experiences from multiple axes of identity. Understanding the notion of access from 'the interdependence of disability, anti-racist, and gender justice.

Table 10: Participatory ethos - guiding principles

This focus is combined with three definitions for collaboration that are commonly used in social justice design work. These are Co-production, Codesign and Co-creation. It is worth noting that different disciplines define these concepts with some variation, but for the purpose of this project we have arrived at the following definitions of how they are interlinked:

We work under the umbrella of Co-production (ethos, attitude and approach), making use of both Codesign (systems, scope and shared notions) and Co-creation (production of explicit design material).

2 – Participatory ethos - collaboration

Co-production - the idea

Co-production is a well-established way to generate knowledge in collaborations between people, technology and society. It is centered on the idea that we can come together in difference and collaboratively create new ideas and concepts. Everyone shares their knowledge, skills and resources. This also means everyone shares responsibility for making the process successful.
(We think of co-production as the idea.)

Codesign - the action



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Co-design describes the action of designing together, while attempting to actively involve all stakeholders (e.g. employees, partners, customers, citizens, end users) in the design process to help ensure that outcomes respect all participants' point of view. The aim is to make sure that the process is shared and the participants feel engaged with the outcomes.

(We think of co-design as the action.)

Co-creation - the making

Co-creation is the act of making together rather than consulting people and then producing designs to the pre-set requirements. Co-creation involves all actors in the process as active creators of their own futures.

(We think of co-creation as the making of design material.)

Table 11: Participatory ethos – collaboration

3. Components of codesign-for-all methodology

Building on the methodological framing above, we unpack the main components that we will use to practically structure our working process. These 4 components can be taken as the building blocks for our codesign-for-all methodology, to be expanded and built upon with the participants in TRIPS in the upcoming tasks.

TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
		Participation	
		Participants	
		Knowledge	
		Making	

Table 12: Components of codesign-for-all methodology

3.1 Participation

The concept of participation is at the core of our methodology, and it is therefore critical for us to define what we mean by the term. Put simply, by participation we mean that people should take an active part in determining and shaping the environments of their



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everyday lives. We consider this type of participation a political, socially organised and situated activity.

Participation is political

'The concept of genuine participation reflects the idea of design as democracy' (Mazini and Margolin, cited in Cozza, Cusinato and Philippopoulos-Mihalopoulos, 2020). The democratization of the design process is enabled by including people in 'decision-making processes that will affect them' (Simonsen and Robertson, 2012, p.6). Participation is political because it promotes the democratization of the design process.

From the TRIPS methodological background, we also take forward that an engagement with the structural conditions that exclude people from having access to decision-making processes is fundamental to enable participation (Hamraie, 2013).

Participation is a socially organised and situated activity

The TRIPS project will take participation as made from the social interaction between people as they learn 'to create, develop, express and evaluate their ideas' together (Simonsen and Robertson, 2012, p.8). Creating our working process (the methods, tools, theoretical frameworks, language, procedures, etc) as a social activity is important because participation is shaped by the design process itself.

Mapping participation

In the context of TRIPS, participation can be operationalised in the full and active involvement of participants at all levels of the research process (Selenger, cited in Macdonald, 2012, p.39). Participation can vary greatly depending on (1) Who is participating and who is not; (2) How participation is being enabled and taking place over time; and finally, (3) What for - who is ultimately benefiting from this process. Therefore, an important first step in TRIPS will be to map the initial landscape of participation that identifies the existing power dynamics between participants and the power structures under which they operate.

3.2 Participants

We've established the major principle of participation of people as co-researchers in the design process. Here, we explore how defining who gets to participate becomes about deciding on who bears influence in a given process and consequently engaging with the power dynamics in which such a process operates.



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Nothing About Us Without Us

“Nothing About Us Without Us” is a slogan from the disability rights movement that encapsulates the idea that no decision should be made without the people who will be affected by it (*International Day of Disabled Persons 2004 | United Nations*, no date).

‘Participatory research fundamentally is about who has the right to speak, to analyse and to act. (...) It is a process that supports the voices from the margins in speaking, analysing, building alliances and taking action.’ (Hall, 1992, p.22)

From PAR we bring forward the commitment to ensuring that the voices of those who will be most affected by a decision-making process are heard (Simonsen and Robertson, 2012, p.6), paying particular attention to those that have historically been excluded from decision-making processes that impact them and to focus on their voice and everyday experiences (Young, cited in Macdonald, 2012, p.41).

The criteria in determining who might be constituted as a participant is that those who will be impacted by a process have the right to have a say in it. Asking ‘By who, for whom, what for and who benefits in what way?’ grounds the discussion on who is included, who is excluded and whose interested are driving the process.

Who benefits from the process?

The topic of power is central to all participatory research traditions we’ve discussed thus far and is a fundamental consideration for the TRIPS participatory framework. Making explicit who is benefiting from the design process is an important aspect to monitor throughout a project. On this matter our approach is guided by the following principles:

- Community members are the primary beneficiaries of the research (Selenger, cited in Macdonald, 2012, p.39).
- The overall aim is to improve the life of the community members involved (Selenger, cited in Macdonald, 2012, p.39).
- This can be achieved by promoting ‘capacity building in all who participate’ (McTaggart, cited in Macdonald, 2012, p.46) and ‘greater awareness in individuals’ own resources that can mobilize them for self-reliant development.’ (Selenger, cited in Macdonald, 2012, p.39)

In addition to this, we will explore the wider benefits the TRIPS project can bring to each of the seven pilot cities, taking into consideration their local and historical settings, as well as acknowledging and contributing towards work that has or is already happening locally/ nationally on accessible public transport. Our efforts will also be focussed on planting the seeds for long term impact, to outlast the duration of TRIPS by enabling new collaborative ways of working between citizens, local governments and transport providers.



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What we put forward is a commitment to a design process that 'promotes a critical consciousness in participants, improvements in their lives and ultimately wider transformations in societal structures' (Maguire; McTaggart, cited in Macdonald, 2012, p.39)

Defining participant

Our methodological foundations actively blur the distinctions between researchers, practitioner and user (Harder, Burford and Hoover, 2013, p.42). This elicits a need to make the terms of participation explicit, collaboratively and iteratively throughout the project in such a way as to bring the power dynamics between participants to light.

Being explicit about the relations between participants is the first step in a process that proposes to equalize power dynamics. This is done acknowledging that both roles and dynamics are not static and will fluctuate throughout the project.

We take participants as those who are actively involved in the process as equal contributors, meaning their interests are considered valid drivers and they hold agency and decision-making power throughout the design process. To be an active participant people also need 'access to information, resources (time, money and expert assistance) and the power to influence decisions' (Simonsen and Robertson, 2012, p.22). For TRIPS this means that participants' knowledge and ideas will be contributing in defining and achieving the aims of the project.

In TRIPS participants can come from three main pools:

- Users
'Individuals "inhabiting" the area of concern' (Kensing, cited in Simonsen and Robertson, 2012, p.xv) who have first-hand knowledge about the issue that is being addressed and as such can be taken as the authoritative knowers (Hamraie, 2013).
- Stakeholders
Any partner institution / organisation that has a stake in the process.
- Design team
In the widest sense of the term, are all those professionally responsible for enabling the process e.g. designers are responsible for the element of design in a project (Bødker et al., in Simonsen and Robertson, 2012, p.117)

As part of WP2, working groups have been established in the seven cities that are part of the TRIPS project. As described above, each working group is constituted by a local user lead (LUL), a core team of 5-7 disabled people and a wider pool of participants. In working together with these groups, our aim is to involve participants in not just the processes that they are participating in, but the design of those processes themselves. In this we aim to soften the distinctions between users, stakeholders and designers, not



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in terms of their knowledge and expertise, but in terms of how they are related to the authority over the framing of concerns and recommendations.

3.3 Knowledge

"No action without research; no research without action" (Lewin, cited in Adelman, 1993, p.8). Action Research (AR) was meant as a criticism of the traditional separation of knowledge and action in other research fields. We follow this commitment to take knowledge as a resource for action to improve the lives of the community members involved (Selenger, cited in Macdonald, 2012, p.39).

In order to be actionable, knowledge has to fit into the reality of participant's lives. This entails challenging notions of knowledge that only represent and reinforce the position of those in power (Baum, MacDougall and Smith, 2006, p.854) and can be achieved through the use of methods that enable participants to use their everyday knowledge and practical skills.

Examples of this are 'design-by-doing methods, such as mock-ups and prototypes' and 'designing for design after design' that acknowledge that 'design is completed in use' and explicitly supports unanticipated uses (Simonsen and Robertson, 2012, p.66). This signals our commitment to counter expert-centred approaches (Harder, Burford and Hoover, 2013, p.42) and also promotes mutual learning between participants, a fundamental element in participatory inquiry.

3.4 Making

One of three main areas of focus, coming from our methodological framing, is the making of things as a way of arriving at knowledge. This comes from RtD that as a method questions the nature of what is considered knowledge in research and proposes that 'embodied making processes support a nonverbal form of thinking.'(Andersen, 2017, p.87).

Engaging with material practices means generating knowledge through practical inquiry and reflection. Open-ended making allows for a broad range of knowledge to manifest, including underlying personal desires. Using making as a tool enables more complex understandings of diverse and diverging visions, rather than outcomes that aim to reach consensus and conclusions. In this way, the making of things supports knowledge to be shared and co-created with others.

Engaging with future speculations

Material practices manifest possibilities that were not viable before, and therefore open a segway into alternative futures. In engaging with future speculations we're also



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reflecting upon the present (Andersen, 2017, p.83) in the sense that we're exploring 'alternative nows: how things could be right now if we had different values.' (Dunne and Raby, cited in Andersen, 2017, p.25).

Made things act as containers for ideas that can be marked and discussed giving us the 'opportunity to reflect on our everyday lives through the imagination of impossible things' (Andersen, 2017, p.89). Through making, a broad range of narratives about the future come-into-being, and in this space we can negotiate our situatedness in potential alternative realities. Such critical making can be seen as 'taking part in the definition of the technical and material aspects defining independent-living' (Sánchez Criado, Rodríguez-Giralt and Mencaroni, 2016).

Main takeaways

3 – Components of codesign-for-all methodology	
Participation	We consider participation as a political, socially organised and situated activity. In the context of TRIPS, participation can be operationalised in the full and active involvement of participants at all levels of the research process. Engaging with the structural conditions that exclude people from having access to decision-making processes is fundamental to enabling this notion of participation. Furthermore, we understand participation as made from the social interaction between people as they find ways of working together.
Participants	We take participants as those who are actively involved in the process as equal contributors, meaning their interests are considered valid drivers of the process. Participants have access to information, resources, and hold decision-making power throughout the design process. The main beneficiaries of the design process are the participants paying particular attention to promoting individual and collective resources for self-reliant development.
Knowledge	We are committed to the notion of knowledge as a resource for action to improve the lives of the community members involved. For knowledge to be actionable, it has to fit in the reality of participant's lives. This can be achieved through the use of methods that enable participants to use their everyday knowledge and practical skills e.g. mock-ups and prototypes.
Making	We propose to use the making of things as a way of arriving



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	<p>at knowledge. Using making for inquiry enables underlying personal desires to surface and drive the imagination of new things that foster strong individual commitments in a design process.</p> <p>We also propose to engage in material narratives about alternative futures to prompt participants to explore and negotiate alternative realities.</p>
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Table 13: Main takeaways - components of codesign-for-all methodology

4. Practical strategies

In the following section, we unpack the practical strategies that will be used to action the next phase of the project: engaging with the working groups in the seven participating cities.

TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
			Tools of engagement
			Codesiging and localising our framework
			Participation during COVID-19
			Next steps

Table 14: Practical strategies

These practical strategies signal our commitment to contextualise our framework with/by/for the working groups, so that it reflects and serves the cultural, interpersonal and structural conditions unique to each of the locations and participants of TRIPS. Together we will define how this framework will be implemented in practice, what for and to whose benefit.



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4.1 Tools of engagement

The guiding principle that determines the suitability of a tool is its ability to be incorporated into the individual's practice (Hansen, 2016), this means that we will build upon the tools people are already using and familiar with, and introduce new ones accordingly. With this in mind, we propose the following tools as the initial foundation for user involvement: Workshopping, Brainstorming, Interviews and Sketching.

In addition, we will pay special attention to three aspects of engagement: language, material and timing. We consider these three strategies as variations of making that can be used to increase the degrees of participation and complexity of output from user involvement. We will elaborate on these as the project evolves.

Workshopping

Through workshopping we aim to create an experience where individual narratives coexist with complex understandings of collective knowledge that leads to a great diversity in outcomes (Andersen and Wakkary, 2019, p.1). Special attention will be paid to making workshops accessible to cater for varying access and communication needs. A practical example of this is the 'Access Rider Exercise' (Lange, no date) that prompts thinking by asking: 'What kind of relationship are we setting up? What conditions need to be in place for you to be able to gain access? What boundaries do you need to be collectively guarded to participate?'. Starting with individual needs can be used to gently on-board participants into a collaborative setting that respects the needs, concerns and hopes of its participants.

Workshops are commonly used to gather input for design and research processes and to explore a design space or problem. We propose to go beyond a somewhat limiting positioning of participants and outcomes as resources for design and research, towards a workshopping experience that allows participants to challenge the nature of the workshop and re-frame it's central concerns, bias and assumptions providing 'each individual participants potential for agency and control of the narratives they participate in.' (Andersen and Wakkary, 2019, p.11).

Continuing to challenge the subject-object relationship typical of research traditions, we also propose to include analysis and reflection activities within the workshop itself so that the interpretation of insight is not outsourced to the second-hand interpretation of a professional researcher and the participant, as the authoritative knower (Hamraie, 2013) remains in charge of the narratives resulting from research. In this sense, we are committed to the tradition of AR as 'a cycle of continuous inquiry, action and evaluation, undertaken with or by—as opposed to on or for' participants (Macaulay, 2017, p.256). In here, we also bring forward from PAR this notion of research as 'action that is researched, changed, and re-researched within the research process by the participants.' (Wadsworth, cited in Macdonald, 2012, p.38). In the workshop we see the potential for the redistribution of the design research inquiry that nurtures individual personal strategies to emerge (Andersen and Wakkary, 2019, p.11).



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An important but often underreported aspect of workshops, is the notion of the reluctant participant (Stengers, 2004). We aim to design workshops that respond in real time to the potential misgivings of participants, allowing them to change scope and remit for the engagement in recognition of the Haraway's notion of 'staying with the trouble' (Haraway, 2016). With this, we mean that the role of workshop facilitator may include allowing some things to be unresolved and without solution. We do this to allow outcomes that favour variation over sameness, dialogue across difference and convergence over consensus.

Rethinking the norms of workshopping serves participants in developing radically personal visions and critical positions, and also benefits the project as it promotes greater diversity in outcomes and the opportunity to arrive at more complex understandings (Andersen and Wakkary, 2019, p.1)

Note that the formats of workshopping will be modified and continually re-addressed as we respond to the complications associated with COVID-19 over the span of the TRIPS project.

Brainstorming

Brainstorming allows for a broad range of knowledge to manifest, be shared and co-created. This has a dual effect in user involvement: it generates possibilities and equally improves the social dynamics of exchange - a basis for shared meaning (Faste *et al.*, 2013, p.1351).

Brainstorming was first formalised in the 1950s as an ideation technique part of a wider creative problem solving process (Faste *et al.*, 2013, p.1343). Brainstorms are often conducted in the beginnings of projects and serve two main purposes: the generation of a larger and complex set of inspiration, and more importantly the creation of a shared group understanding of common concerns.

Brainstorming is a way to elicit creative responses from people and to generate large amounts of quick and spontaneous ideas (Andersen, 2017). Such ideas involve the expression and interpretation of 'possibilities resulting from a collision of shared meanings.' (Faste *et al.*, 2013, p.1351). This means that brainstorms can be somewhat performative in nature, the threshold for participation is low and the insights gained important.

Although generally conceived as individuals working collaboratively, we will also consider other social configurations of idea generation such as the ones conducted individually and paying particular attention to the ones that don't happen in physical proximity or simultaneous presence (Faste *et al.*, 2013, p.1345).

Although mainly conceived with the goal of generating ideas, the social exchange component is equally important in brainstorming. Building on ideation models where 'the



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act of sharing is the source of the ideation' (Faste *et al.*, 2013, p.1351). we propose to focus on the exchange of knowledge between participants that creates 'new combinations of ideas not previously considered' (Harvadon, cited in Gerber, 2009. p. 97) and results in shared meanings.

In the TRIPS project we will make use of various kinds of modified brainstorming, including formats that can be executed at a distance, in relays and online.

Sketching

Through sketching we aim to explore notions of collaborative visual thinking in which nonverbal techniques like drawing are used to represent unified action. Drawing is thinking, says Milton Glaser (Glaser, 2008) so it makes sense to use it as a tool to facilitate collective thinking. Sketching has particular relevance in participatory contexts because it nurtures debate and creates a common ground that allows participants to work together (Hester, 2005, p.194).

Sketching is a powerful technique to collaboratively think through ideas, synthesize imagined worlds and explore the paths of collective meaning. As a method it can be taken as a way of co-authoring representation through a 'back and forth between community and designer'(Hester, 2005, p.176), an under researched topic to which we hope to make a contribution.

The visual mapping of insight allows us to see and make connections that could not be seen before and produces visual representations of collective narratives (Hester, 2005, p.192). This is enabled by putting things together side by side, which facilitates for drawn things to exchange between them, and this in turn triggers further debate between participants. In simple terms, through visual representations we are able to explore shared meanings we would not be able to access otherwise.

We propose to use sketching as an interface for discussion, that hints at the unknown and at what might be (Andersen, 2017, p. 28), to serve as a unified memory that heightens a sense of community and 'helps even disjointed groups imagine that they could come together with the confidence to achieve a common goal.' (Hester, 2005, p.188).

Over the span of the TRIPS project, we will explore how sketching can be used in new ways to make sense of complexity.

Interviews

Interviews elicit individual knowledge and narratives. We propose to use them as open engagements, where personal stories guide participant and interviewer in the sharing of lived experience.

We also view interviews as powerful tools to engage in collaborative thinking. Traditional interviews are often fully structured and quantitative with predefined



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questions and answers, where the interviewer reads out the question and sometimes the answers, then checks which answer fits the response given by the interviewee (Kaltman, 2002). However we increasingly see open, unstructured, narrative interviews, where the interviewer asks questions that are designed to spark narration from the interviewee, while the interviewer can adapt and ask follow-up questions wherever necessary (Bernard, 2013).

We believe that interviews are opportunities for open engagements: Nigel Rapport describes interviews as extraordinary encounters (Rapport, 2015 ref) where interviewer and interviewee engage in a shared process of telling and retelling. Allowing the stories to “breathe” (Frank, 2010) and meander in the direction determined by the interviewee, followed and supported by the interviewer.

This mirrors a similar shift in user testing where user involvement has evolved from a traditional approach of metric testing of already designed systems, to understanding of users and their context through ethnographic methods and scenarios. Wright and McCarthy state that ‘knowing the users in their lived and felt life involves understanding what it feels like to be that person, what their situation is like from their own perspective.’ (Wright and McCarthy, 2008, p. 638).

In the TRIPS project, we follow the position of McCarthy et al. when they state that to create ‘an environment where personally significant aspects of a person's life can be referenced and paid attention to is to engage with and respect the concerns and hopes of another person.’ (McCarthy *et al.*, 2006). Interviews are an opportunity to engage with and pay attention to this personal space.

4.2 Codesigning and localising our framework

Our notion of participation is grounded in people's ability to determine and shape the environment of their everyday lives. In the TRIPS project, we extend this principle to our own process: participants will determine and shape the conditions of their own participation in the project and the extent to which this affects their lives. In other words, our codesign-for-all methodology is going to be codesigned itself.

Situating our research process in the community means that our ‘ways of working flow from those involved and their context’ (Hall, 1992, p. 20) and that what is being addressed ‘originates in the community itself and is defined, analysed, and solved by the community.’ (Selenger, cited in Macdonald, 2012, p. 39).

We also consider that participation cannot be imposed (Thiollent, 2011, p. 169) as a one-size-fits-all approach. It needs to be localised and negotiated by participants, so it becomes relevant to their current situation in a meaningful and culturally appropriate way. This means that while the TRIPS project will design an overall methodology, not all techniques and strategies will be appropriate to all situations and contexts.



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We'll explore the notion of locality as place-specific design actions based on the unique qualities of a place and culture (Hester, 2005, p.192). We'll take stock of the local/regional/national level initiatives and ask: How can TRIPS contribute to what is already happening? At the same time, we'll aim to work in the acknowledgement of each participant's lived personal experience, their individual needs and personal motivations.

In short, our codesign-for-all methodology will not be one solution that works for all participants and situations, but rather a framework that is spacious enough to account for complexity and difference.

In our next phase of the TRIPS project, we aim to further expand the notions of participatory design and codesign. To do this we'll explore Liz Jackson's critique of codesign and the concept of designing with mutuality defined 'as a radical act by an individual or group of individuals intended to create space for sustainable participation within a system or institution that benefits from representing or serving us.' (Jackson, 2019).

4.3 Participation during COVID-19

The methodological foundations we build upon tend to prioritise physical presence and face to face modes of inquiry. When working together and looking for consensus in group work, physical co-presence has long been considered a requirement and driver. However, due to the ongoing situation around COVID-19, we are having to reconsider and mitigate our strategies to allow the intended spirit and ethos of participation to potentially be conducted without physical co-presence. This means that we will make use of telecommunication, turn taking and delayed timing.

In addition to this, through the process of devising these mitigations, we have been reminded that disabled people have always faced additional barriers to mobilizing physically, as underlined in the main driver of TRIPS: access to public transport for full participation in society and independent living.

'The disabled community has always lived in an inaccessible world. Now, due to COVID-19, the country as a whole is experiencing what it's like to have limited access to daily needs.' (Torres *et al.*, no date)

"We know how to stay in touch remotely, be socially connected while physically distant, make limited resources work in tight situations, make plans and adjust on the spot, build care webs that support each other, and work through challenging circumstances," says Elizabeth McLain, Embracing disability wisdom during COVID-19.' (McLain, no date)

This means that we now have a double incentive to go beyond physical proximity. We believe that it may bring advantages towards accessibility praxis, and it is made even more urgent in the current situation.



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The TRIPS project has already made mitigations due to the COVID-19, changing the shadowing studies to social media analysis and conducting face-to-face interviews by phone or online. We intend to develop these strategies further while paying special attention to methods where absence and delays can be considered qualities rather than problems. This will be further developed in Task 5.2 where we will specify the tools of engagement for our participatory strategies. These are our initial considerations:

- **Mixed Presence**

We will be experimenting with ways of being together at a distance. In this we are particularly interested in mixed presence: What meaningful exchanges can be created not online, not in person but in between?

- **Critical approach to online tools**

We will use online tools designed for meetings and teaching with the intent to use them for co-creation, conversation, brainstorming and making. In this process, we will maintain a critical approach to the additional accessibility and privacy challenges of these tools.

- **Absence as a feature**

When re-considering the traditional modes of participatory inquiry, we will pay extra attention to the potential advantages of absence. These might include: time for reflection, broader participation, more equal attention.

- **Personalised and localised**

This manner of working will potentially allow us to tailor each interaction to local and personal preferences. This may mean that not everyone has the exact same experience but that we will work towards shared understandings and convergence through an array of interactions and strategies.

In this work, we will look specifically to RtD for strategies of participation. A strong example here is the Design Probes by William Gaver (Gaver *et al.*, 2004) where participants are provided with predesigned kits, encouraging participation through photographs, maps, postcards and other ways of creatively sharing concerns and knowledge. A more recent example is the Bespoke Booklets (Desjardins *et al.*, 2019) by Audrey Desjardins, Cayla Key, Heidi R. Biggs, and Kelsey Aschenbeck, where participants are provided with booklets that function as diaries and collections of artifacts in order to generate a physical record of a shared design co-speculation. In T5.2, we will explore such methods further to look for strategies for engagement over distance.



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Main takeaways

4 – Practical strategies	
Tools of engagement	<p>Workshopping Through workshopping we aim to create an experience where individuals' narratives coexist with complex understandings of collective knowledge, leading to a great diversity in outcomes.</p> <p>Brainstorming Brainstorming allows for a broad range of knowledge to manifest, be shared and co-created. This has a dual effect in user involvement: it generates possibilities and equally improves the social dynamics of exchange as a basis for shared meaning.</p> <p>Sketching Through sketching we aim to explore notions of collaborative visual thinking in which nonverbal techniques like drawing are used to represent unified action.</p> <p>Interviews Interviews elicit individual knowledge and narratives. We propose to use them as open engagements where personal stories guide participant and interviewer in the telling of lived experience.</p>
Codesigning and localising our framework	<p>Participants will determine and shape the conditions of their own participation in the project so that it becomes relevant to their current situation in a meaningful and culturally appropriate way.</p> <p>Our aim to work in the acknowledgement of each participant's lived personal experience, their individual context, needs and personal motivations.</p>
Participation during COVID-19	<p>Due to the ongoing situation around COVID-19, we are having to reconsider and mitigate our strategies to allow the ethos of participation to go beyond physical proximity. We propose to draw from the strategies already employed by disabled people to stay in touch remotely, be socially connected while physically distant, together with paying special attention to methods where absence and delays can be considered qualities rather than problems.</p>

Table 15: Main takeaways - practical strategies



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5. Next steps

This document has focused on setting the scene for user involvement in the project. Our theoretical foundations build on the strengths of PD, PAR, RtD and DfA/UD. These traditions share an ethos for equal participation, that is supported through shared cycles of research and making, linked together by critical reflection (Stappers and Giaccardi, 2017) with the overall goal of supporting participants to drive change. Our aim is to broaden the extent to which participants can take control of and reframe the focus of a problem space beyond the context of the TRIPS project itself.

The next steps for WP5 are to repurpose and co-develop new methods to create and scaffold creative and open participant involvement in TRIPS with the working groups that have been established in the seven participating cities. Our aim is to involve participants as more than informants in the project so that ultimately the working groups are in control of determining what this process is used for, and how it will affect their lives.

In order to do so, we will engage in extensive design and field work, report and analyse outcomes, while keeping in mind a number of structural concerns:

- **What qualifies as a pluralistic insight?**
What works in one context might not work in others.
- **What matters to the participant?**
The difference between a local and personal concern and one that matters beyond a given context.
- **How do we trace and document complex engagements?**
Different methods are needed for documentation and analysis.
- **How do we determine impact?**
We will need to understand the difference between effect and impact in both the short and long term.
- **What qualifies as a successful outcome?**
Problems may go beyond the remit of our project.

Our user involvement activities will be conducted in acknowledgement of these concerns. While we are deeply committed to finding ways to empower our participants, we are also highly cognizant of the wide and intrinsic structural problems involved. This means that we will work for short term effects that aim for long term impact, without defaulting to solutionist design thinking. Ultimately, we will devise a codesign-methodology-for-all with accessibility principles of engagement and a strong stance on access and participation.



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Annex

TRIPS participatory framework

The TRIPS project brings together a multidisciplinary set of concerns and strategies to form a practical framework for user involvement. Our methodological framework starts with a brief introduction to the theoretical background of four research traditions: Participatory Design Research (PD), Participatory Action Research (PAR), Research through Design (RtD) and Design-for-All (DfA). The strengths of these four approaches are then synthesized into a participatory ethos that contains the guiding principles we will take forward to codesign our working process. Next, we specify the components that will be used as the building blocks of our process and conclude with practical tools that will support the initial engagement with the working groups. These 4 tenets (Participatory Inquiry, Participatory ethos; Components; and Practical strategies) form the basis of the TRIPS participatory framework, a living structure to be further developed to reflect the cultural, interpersonal, structural and policy-related conditions unique to each of the working groups that participate in TRIPS.

Our intention is that this framework supports the initial user involvement and is taken as a living document to be shaped by, with and for the participants of TRIPS. We are proposing it as an initial blueprint to be contextualised by the working groups so that it becomes relevant to the cultural, interpersonal and structural conditions unique to each one of the seven cities and the people participating in the project.

The framework can be contextualised in D5.1 Method framing document, intended as an internal method framing document that sets the scene for our next task (T5.2) where we will engage with each of the seven working groups that have been established as part of WP2 in each city. In D5.1 we have used the tables to synthesise the key notions we are taking forward to the next phase of the project, displayed below.

The overall aim is to create a truly collaborative and critical learning process that operates across distances, differences and access needs, that respects and honours the concerns and hopes of disabled people participating in TRIPS.

TRIPS participatory framework			
1 - Participatory inquiry	2 - Participatory ethos	3 - Components	4 - Practical strategies
Participatory Design Research	Politics of participation	Participation	Tools of engagement
Participatory Action	Addressing	Participants	Codesigning and



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Research	Intersectional experiences through design		localising our framework
Research through Design	Transformation of social reality	Knowledge	Participation during COVID-19
Design-for-all / Universal Design	Co-creating knowledge through the making of things	Making	Next steps

Table 3: TRIPS participatory framework

1 – Participatory inquiry	
Participatory Design Research	<p>PD is a collaborative process that centres the involvement of people in the design of their own environment. Key strengths:</p> <p>Equalising power relationships A tradition situated in the workers environments that makes the power dynamics explicit with a view of having them equalized through the design process.</p> <p>Knowledge as a resource for action As research output knowledge needs to fit into the reality of participants' lives so they can use it as a resource for action.</p> <p>Centring on who benefits from the process Workers are actively engaged in the processes that shape conditions of their work in such a way that they are leading them and ultimately are the main beneficiaries of such processes. The ultimate goal is to improve the conditions of their lives.</p>
Participatory Action Research	<p>PAR is a collaborative and active mode of inquiry that brings together research and action, and links them through critical reflection. Key strengths:</p> <p>Centring minoritised voices Emerging from the discourse of PAR is the centring of minoritised voices and everyday experience as legitimate drivers in processes of change.</p> <p>Transformation of social reality PAR works iteratively and incrementally to support three</p>



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	<p>types of change: conscientization at the individual level, improvements in the conditions of the lives of the participants and transformation of social reality.</p> <p>Co-created knowledge Knowledge as a collective and situated activity that is based in lived experience.</p>
<p>Research through Design</p>	<p>RtD is a way of engaging and eliciting alternative narratives through a process of making, trial and reflection that generates knowledge.</p> <p>Generating knowledge through the making of things RtD takes the engagement with materials as the starting point for knowledge production, with the aim of allowing different outcomes and narratives to emerge.</p> <p>Things as broadening participation The making of things supports individual structures of knowledge to emerge and sets up a space of variation where many different narratives co-exist.</p> <p>Playful engagements for alternative knowledge to emerge Through speculative engagements and the building of props different kinds of knowledge are manifest.</p>
<p>Design for All / Universal Design</p>	<p>DfA / UD propose the full integration of disability into citizenship by eliminating discrimination and improving access for all. We propose to use this in combination with Hamraie's conception of UD 'as a broad and intersectional social justice method through which designers can address a variation of exclusions from the built environment.' (Hamraie, 2013). Key considerations:</p> <p>Challenge false value-neutrality positions in design There is no universal neutral position in design. Question the universal nature of positions that use neutrality as a cover for the unmarked privilege of normative bodies.</p> <p>A social justice orientation In this approach the notion of participation is also expanded</p>



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	<p>to comprehend an engagement with the structural conditions that exclude users from having access to decision-making processes (Hamraie, 2013).</p> <p>Addressing Intersectional experiences through design The notion of “collective access” is proposed to promote an understanding of intersectionality as ‘the interdependence of disability, anti-racist, and gender justice (Mingus, cited in Hamraie, 2013). This means understanding the experience of the built environment from multiple axes of identity and addressing intersectional experiences through design.</p>
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Table 16: Participatory inquiry

2 – Participatory ethos - guiding principles
<p>Politics of participation</p> <p>Equalising power dynamics and centring on who ultimately benefits from the design process. Critical to participation is an engagement with the structural conditions that exclude people from having access to decision-making processes.</p>
<p>Transformation of social reality</p> <p>Challenging social relationships based on dominance and generating knowledge as a resource for action and social change.</p>
<p>Co-creating knowledge through the making of things</p> <p>Playful engagements for alternative knowledge to emerge and the making of things as a method for broadening participation.</p>
<p>Addressing Intersectional experiences through design</p> <p>Considering experiences from multiple axes of identity. Understanding the notion of access from ‘the interdependence of disability, anti-racist, and gender justice.</p>
<p>Collaboration</p> <p>We work under the umbrella of Co-production (ethos, attitude and approach), making use of both Codesign (systems, scope and shared notions) and Co-creation (production of explicit design material).</p>
<p>Co-production - the idea</p>



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<p>Co-production is a well-established way to generate knowledge in collaborations between people, technology and society. It is centered on the idea that we can come together in difference and collaboratively create new ideas and concepts. Everyone shares their knowledge, skills and resources. This also means everyone shares responsibility for making the process successful. (We think of co-production as the idea.)</p>
<p>Codesign - the action</p> <p>Co-design describes the action of designing together, while attempting to actively involve all stakeholders (e.g. employees, partners, customers, citizens, end users) in the design process to help ensure that outcomes respect all participants' point of view. The aim is to make sure that the process is shared and the participants feel engaged with the outcomes. (We think of co-design as the action.)</p>
<p>Co-creation - the making</p> <p>Co-creation is the act of making together rather than consulting people and then producing designs to the pre-set requirements. Co-creation involves all actors in the process as active creators of their own futures. (We think of co-creation as the making of design material.)</p>

Table 17: Participatory ethos - guiding principles

3 – Components of codesign-for-all methodology	
Participation	We consider participation as a political, socially organised and situated activity. In the context of TRIPS, participation can be operationalised in the full and active involvement of participants at all levels of the research process. Engaging with the structural conditions that exclude people from having access to decision-making processes is fundamental to enabling this notion of participation. Furthermore, we understand participation as made from the social interaction between people as they find ways of working together.
Participants	We take participants as those who are actively involved in the process as equal contributors, meaning their interests are considered valid drivers of the process. Participants have access to information, resources, and hold decision-making power throughout the design process. The main beneficiaries of the design process are the participants paying particular attention to promoting individual and collective resources for self-reliant development.



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Knowledge	<p>We are committed to the notion of knowledge as a resource for action to improve the lives of the community members involved.</p> <p>For knowledge to be actionable, it has to fit in the reality of participant's lives. This can be achieved through the use of methods that enable participants to use their everyday knowledge and practical skills e.g. mock-ups and prototypes.</p>
Making	<p>We propose to use the making of things as a way of arriving at knowledge. Using making for inquiry enables underlying personal desires to surface and drive the imagination of new things that foster strong individual commitments in a design process.</p> <p>We also propose to engage in material narratives about alternative futures to prompt participants to explore and negotiate alternative realities.</p>

Table 13: Components of codesign-for-all methodology

4 – Practical strategies	
Tools of engagement	<p>Workshopping Through workshopping we aim to create an experience where individuals' narratives coexist with complex understandings of collective knowledge, leading to a great diversity in outcomes.</p> <p>Brainstorming Brainstorming allows for a broad range of knowledge to manifest, be shared and co-created. This has a dual effect in user involvement: it generates possibilities and equally improves the social dynamics of exchange as a basis for shared meaning.</p> <p>Sketching Through sketching we aim to explore notions of collaborative visual thinking in which nonverbal techniques like drawing are used to represent unified action.</p> <p>Interviews Interviews elicit individual knowledge and narratives. We propose to use them as open engagements where personal stories guide participant and interviewer in the telling of lived experience.</p>
Codesigning and localising our framework	Participants will determine and shape the conditions of their own participation in the project so that it becomes relevant to



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	<p>their current situation in a meaningful and culturally appropriate way.</p> <p>Our aim to work in the acknowledgement of each participant's lived personal experience, their individual context, needs and personal motivations.</p>
Participation during COVID-19	<p>Due to the ongoing situation around COVID-19, we are having to reconsider and mitigate our strategies to allow the ethos of participation to go beyond physical proximity. We propose to draw from the strategies already employed by disabled people to stay in touch remotely, be socially connected while physically distant, together with paying special attention to methods where absence and delays can be considered qualities rather than problems.</p>

Table 14: Main takeaways - practical strategies

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Reference list

- Action Research Network of the Americas* (no date). Available at: <https://arnawebsite.org/action-research/> (Accessed: 19 August 2020).
- Adelman, C. (1993) 'Kurt Lewin and the Origins of Action Research', *Educational Action Research*, 1(1), pp. 7–24. doi: 10.1080/0965079930010102.
- Andersen, K. (2017) *Making Magic Machines*. Available at: <http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-214017> (Accessed: 14 July 2020).
- Andersen, K. and Wakkary, R. (2019) 'The Magic Machine Workshops: Making Personal Design Knowledge', in *Conference on Human Factors in Computing Systems - Proceedings*. Glasgow, Scotland UK: Association for Computing Machinery (CHI '19), pp. 1–13. doi: 10.1145/3290605.3300342.
- Article 1 - Purpose | United Nations Enable* (no date). Available at: <https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-1-purpose.html> (Accessed: 29 September 2020).
- Baum, F., MacDougall, C. and Smith, D. (2006) 'Participatory action research', *Journal of Epidemiology and Community Health*. BMJ Publishing Group Ltd, 60(10), pp. 854–857. doi: 10.1136/jech.2004.028662.
- Bernard, R. H. (2013) *Social research methods: qualitative and quantitative approaches*. 2nd edn. SAGE Publications.
- Calderon Salazar, P. and Huybrechts, L. (2020) 'PD otherwise will be pluriversal (or it won't be)', in *ACM International Conference Proceeding Series*. Association for Computing Machinery, pp. 107–115. doi: 10.1145/3385010.3385027.
- Cozza, M., Cusinato, A. and Philippopoulos-Mihalopoulos, A. (2020) 'Atmosphere in Participatory Design', *Science as Culture*. Routledge, 29(2), pp. 269–292. doi: 10.1080/09505431.2019.1681952.
- Design for all | European Disability Forum* (no date) *European Disability Forum*. Available at: <http://www.edf-feph.org/design-all> (Accessed: 11 September 2020).
- Desjardins, A. et al. (2019) 'Bespoke booklets: A method for situated co-speculation', in *DIS 2019 - Proceedings of the 2019 ACM Designing Interactive Systems Conference*. Association for Computing Machinery, Inc, pp. 697–709. doi: 10.1145/3322276.3322311.
- Disalvo, C. et al. (2014) *Making public things: how HCI design can express matters of concern*, *Conference on Human Factors in Computing Systems - Proceedings*. New York, New York, USA: Association for Computing Machinery. doi: 10.1145/2556288.2557359.
- Ethos | Definition of Ethos by Merriam-Webster* (no date). Available at: <https://www.merriam-webster.com/dictionary/ethos> (Accessed: 29 September 2020).
- European Commission Employment Social Affairs and Equal Opportunities DG (2010) *M/473 Standardisation mandate to CEN, CENELEC and ETSI to include "Design for All" in relevant standardisation initiatives*. Available at: <https://ec.europa.eu/growth/tools-databases/mandates/index.cfm?fuseaction=search.detail&id=461#>.
- European Commission launches survey on 'Design for All' - Inclusion Europe* (no date). Available at: <https://www.inclusion-europe.eu/european-commission-launches-survey-on-design-for-all/> (Accessed: 29 September 2020).
- Faste, H. et al. (2013) 'Brainstorm, Chainstorm, Cheatstorm, Tweetstorm', in



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme Under Grant Agreement no. 875588

- Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '13*. New York, New York, USA: ACM Press, p. 1343. doi: 10.1145/2470654.2466177.
- Frank, A. W. (2010) *Letting Stories Breathe. A socio-narratology*. The University of Chicago Press.
- Frayling, C. (1994) 'Research in Art and Design (Royal College of Art Research Papers, Vol 1, No 1, 1993/4)', in. Royal College of Art.
- Galloway, A. (2006) *Of Seams and Scars: Tracing Technological Boundaries and Points of Attachment*. Available at: http://www.purselipsquarejaw.org/papers/galloway_fleshingout.pdf.
- Gaver, W. (2012) 'What should we expect from research through design?', in *Conference on Human Factors in Computing Systems - Proceedings*. New York, New York, USA: ACM Press, pp. 937–946. doi: 10.1145/2207676.2208538.
- Gaver, W. W. et al. (2004) 'Cultural probes and the value of uncertainty', *Interactions*. Association for Computing Machinery (ACM), 11(5), pp. 53–56. doi: 10.1145/1015530.1015555.
- Gerber, E. (2009) 'Using improvisation to enhance the effectiveness of brainstorming', in *Conference on Human Factors in Computing Systems - Proceedings*. New York, New York, USA: ACM Press, pp. 97–104. doi: 10.1145/1518701.1518718.
- Glaser, M. (2008) *Drawing is Thinking*. Edited by 2008 Overlook Press.
- Hall, B. L. (1992) 'From margins to center? The development and purpose of participatory research', *The American Sociologist*, 23(4), pp. 15–28. doi: 10.1007/BF02691928.
- Halskov, K. and Hansen, N. B. (2015) 'The diversity of participatory design research practice at PDC 2002-2012', *International Journal of Human Computer Studies*. Academic Press, 74, pp. 81–92. doi: 10.1016/j.ijhcs.2014.09.003.
- Hamraie, A. (2013) 'Designing Collective Access: A Feminist Disability Theory of Universal Design', *Disability Studies Quarterly*. The Ohio State University Libraries, 33(4). doi: 10.18061/dsq.v33i4.3871.
- Hansen, N. B. (2016) *Materials in participatory design processes*. Available at: <https://research.tue.nl/en/publications/materials-in-participatory-design-processes>.
- Haraway, D. (1988) 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', *Feminist Studies*. JSTOR, 14(3), p. 575. doi: 10.2307/3178066.
- Haraway, D. J. (2016) *Staying with the Trouble Making Kin in the Chthulucene*. duke university press.
- Harder, M. K., Burford, G. and Hoover, E. (2013) 'What Is Participation? Design Leads the Way to a Cross-Disciplinary Framework', 29. doi: 10.1162/DESI_a_00229.
- Hartson, R. and Pyla, P. (2019) *Background: Design, The UX Book*. Elsevier. doi: 10.1016/b978-0-12-805342-3.00019-9.
- Hatzakis, T. (Trilateral) (2020) *TRIPS Deliverable (No. 5) D1.5 Data management plan*. Available at: https://tuenl.sharepoint.com/:w:/r/sites/TRIPS/_layouts/15/Doc.aspx?sourcedoc=%7BFBA82BF8C-0E0A-4C87-A299-92B9122FAF8A%7D&file=TRIPS_D5_D1.5DMP_M1_Final.docx&action=default&mobileredirect=true&cid=ac330fd3-4458-4f9f-b292-41f86c44b4d4 (Accessed: 29 September 2020).
- Hester, R. (2005) 'DEMOCRATIC DRAWING Techniques for Participatory Design', in



(Re)constructing Communities: Design Participation in the Face of Change, pp. 176–194. Available at: https://www.academia.edu/473521/_Re_constructing_Communities_Design_Participation_in_the_Face_of_Change.

Intersectionality | Definition of Intersectionality by Merriam-Webster (no date). Available at: <https://www.merriam-webster.com/dictionary/intersectionality> (Accessed: 29 September 2020).

Jackson, L. (2019) *Empathy reifies disability stigmas. Liz Jackson's keynote - Interaction 19*. Available at: <https://interaction19.ixda.org/program/keynote--liz-jackson/> (Accessed: 28 September 2020).

Kaltman, S. (2002) 'Handbook of Diagnostic and Structured Interviewing', *Clinical Psychology Review*. Elsevier BV, 22(8), pp. 1265–1266. doi: 10.1016/s0272-7358(02)00161-7.

Labaree, R. V. (no date) 'Research Guides: Organizing Your Social Sciences Research Paper: Glossary of Research Terms'. Available at: <https://libguides.usc.edu/writingguide/researchglossary> (Accessed: 29 September 2020).

Lange, S. (no date) *Access Rider Exercise*. Available at: <https://docs.google.com/document/d/19iBfrb1GJIEGSPPInt3OyU5rk8dCvcCMevYi50SHUY0/edit> (Accessed: 26 September 2020).

Macaulay, A. C. (2017) 'Participatory research: What is the history? Has the purpose changed?', *Family Practice*. Oxford University Press, 34(3), pp. 256–258. doi: 10.1093/fampra/cmw117.

Macdonald, C. (2012) *Understanding participatory action research: a qualitative research methodology option, Canadian Journal of Action Research*.

McCarthy, J. et al. (2006) 'The experience of enchantment in human-computer interaction', *Personal and Ubiquitous Computing*, 10(6), pp. 369–378. doi: 10.1007/s00779-005-0055-2.

McLain, E. (no date) *How a post COVID-19 workplace can embrace accessibility — for everyone*. Available at: <https://www.guardianlife.com/coronavirus/how-can-workplaces-support-people-with-disabilities> (Accessed: 27 September 2020).

minoritised « Definitions « Self-Defined (no date). Available at: <https://www.selfdefined.app/definitions/minoritised/> (Accessed: 29 September 2020).

Nothing About Us Without Us - Wikipedia (no date). Available at: https://en.wikipedia.org/wiki/Nothing_About_Us_Without_Us (Accessed: 26 September 2020).

Sánchez Criado, T., Rodríguez-Giralt, I. and Mencaroni, A. (2016) 'Care in the (critical) making. Open prototyping, or the radicalisation of independent-living politics', *Alter*, 10(1), pp. 24–39. doi: 10.1016/j.alter.2015.07.002.

Simonsen, J. and Robertson, T. (eds) (2012) *Routledge International Handbook of Participatory Design*. Routledge. doi: 10.4324/9780203108543.

Stappers, P. and Giaccardi, E. (2017) '43. Research through Design', in *The Encyclopedia of Human-Computer Interaction*, pp. 1–81. Available at: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/research-through-design>.

Stengers, I. (2004) 'The cosmopolitical proposal', (1), pp. 1–16.



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme Under Grant Agreement no. 875588

Thiollent, M. (2011) 'Action Research and Participatory Research: An Overview', *International Journal of Action Research*, 7(2), pp. 160–174. doi: 10.1688/1861-9916_IJAR_2011_02_Thiollent.

Torres, R. *et al.* (no date) *Embracing disability wisdom during COVID-19*. Available at: <https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&referrer&eventid=2338113&sessionid=1&key=A285D29F8DD02C13348CC64DD2711697®Tag&sourcepage=register> (Accessed: 27 September 2020).

United Nations (no date) *International Day of Happiness | United Nations*. Available at: <https://www.un.org/development/desa/disabilities/international-day-of-persons-with-disabilities-3-december/international-day-of-disabled-persons-2004-nothing-about-us-without-us.html> (Accessed: 26 September 2020).

United Nations Convention on the Rights of Persons with Disabilities (2006). Available at: <http://www.un.org/esa/socdev/enable/rights/convtexte.htm>.

What is Universal Design? (no date) *Auckland Design Manual*. Available at: http://www.aucklanddesignmanual.co.nz/design-subjects/universal_design/uni_design/guidance/whatisds/what#/design-subjects/universal_design/uni_design/guidance/whatisds/what (Accessed: 11 September 2020).

Wright, P. and McCarthy, J. (2008) 'Empathy and experience in HCI', in *Conference on Human Factors in Computing Systems - Proceedings*. New York, New York, USA: ACM Press, pp. 637–646. doi: 10.1145/1357054.1357156.



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme Under Grant Agreement no. 875588