Project Proposal

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Urban Platform Economies:
Transformations of labour and intersectional inequalities in care services
(TICS)

B - Project Description:

1 Starting Point

The digital platform economy has become an increasingly central actor for socioeconomic processes in cities. The recent COVID-19-related lockdowns have made obvious how platform economies have developed as commodified responses to the neoliberal care crisis and how international platform companies have gained importance for sustaining ordinary life in cities. They are transforming urban infrastructures and urban service supply – thereby initiating an era of **platform urbanism**.

While the lockdowns have impacted on the *type* of care work called for (e.g. growing demand for the delivery of meals versus declining child and senior care services), they also put the increasing demand for paid care work mediated via platforms on the societal and academic agenda. However, there is a substantial research gap on the socio-spatial dimensions of the gig economy and on the platformisation of **care work** in particular.

Against this background and connecting theoretical and empirical insights from urban, economic and feminist geography, the project will assess the **sociospatial dimensions and impacts of platform urbanism**. It will explore urban platform services beyond the hitherto dominant examination of Uber and Airbnb by focusing on those platforms that provide basic home care services such as cleaning, child/senior care and the delivery of meals (henceforth termed food delivery).

The three applicants have delivered pioneering research on both digitalisation in cities and care work and will integrate and further develop their previous work aiming for a systematisation of the current dynamics of platform urbanism with a focus on care services. Employing the concept of platform urbanism, the project asks **how the rise of platform mediated care services transforms everyday lives in cities**. It will provide in-depth knowledge on (1) how digital platforms reorganise care services in and through urban space, (2) how these platforms transform labour in care services such as cleaning, child-/senior care and food delivery, and (3) how the platformisation of these services and their spatial structures reshape intersectional inequalities.

Next to a systematisation of care service platforms according to their business models, the reorganisation of domestic work and the financialisation of care in a comparison of three European cities (Zurich, Hamburg, Vienna), special attention will be given to processes of urban platformisation by examining **how platform economies transform infrastructures of care services, gendered and racialised division of labour, and everyday life in cities**. The proposed research will link macropolitical structures of platformisation with the micropolitics of urban everyday life and embodied subjects' experiences. Its objective is to contribute to theorising platform urbanism and provide knowledge on its impacts on sociospatial inequalities. The insights will be based on a sound empirical analysis of digital, material, and discursive dimensions of platform economies.

1.1 State of the art and preliminary work

1.1.1. Platform Economies

The capitalist platform economy is reorganising the geography of value creation and capture on local and global scales. In cities, sectoral service platforms such as Airbnb, Lieferando, Helpling and Uber operate as intermediaries between (newly created) demand and supply, thereby transforming cities and the everyday lives of their inhabitants (Altenried 2019; Altenried et al. 2021a; Hodson et al. 2021; van Dijck et al. 2018). Service platforms as hegemonic business model realise profit not by providing services, but by **building digital networks between workers and customers**. They aim for a concentration or even monopolisation of services in terms of market share and they tend to disrupt established economies and exacerbate working conditions (Altenried 2020; Kenney/Zysman 2020;

Srnicek 2016; Zwick 2018). Moreover, platforms that digitally mediate service provision predominantly target **large cities because of their population density** and the availability of both potential (and precarious) workers and customers (Sadowski 2020); they reorganise labour, service and consumption patterns and reshape social structures and everyday routines in cities (Berg et al. 2018). Services mediated by digital platforms consider labour as a commodity that can be bought under anonymous and extremely flexibilised conditions. In doing so, they disembed it from social networks of trust, public policies and legal frameworks (Graham 2020). **Digital platforms thus reshape the landscape of urban labour**, creating new forms of 'micro-work', 'free labour', insecurity, and precarity as well as entrepreneurialism in the so-called gig economy (Schwiter/Steiner 2020).

Although economic, labour and urban geographers have progressed in analysing the relations between space, digitalization and the role of platforms' network effects (see e.g. Attoh et al. 2019 for Uber, Ferreri/Sanyal 2018, van Doorn 2020 and Wachsmuth/Weisler 2018 for Airbnb), more attention is required to assess the power wielded by these platforms and their growing **impacts on the spatial and social organisation of societies and urban everyday life**. As digital platforms have gained enormous power through their role as intermediaries and connective agents, there is an urgent need for sectorally, socially and spatially differentiated studies on them (Elwood 2021; Elwood/Leszczynski 2018; Leszczynski 2020; Richardson 2018).

1.1.2 Platform Urbanism

As a result of the financial crisis of 2007/08 and of the search for new investment horizons, cities have become part of a new 'spatial fix' for global capital (Harvey 2007). The two main figureheads of the urban platform economy are Airbnb and Uber, founded in 2008 and 2009 respectively. Accordingly, platform research in urban geography started only a decade ago and has focused especially on the so-called sharing economies in housing and mobility and their impacts on planning policy, urban governance and everyday life. The term „urban platform" is used for platform activities which emerge dominantly in cities due to their population density – providing services such as housing, mobility, delivery and care (Barns 2019, 2020; Lee et al. 2020; Hodson et al. 2021).

Critical urban studies scholars have addressed **questions of ownership and control of the technological infrastructures**. Critics of corporately controlled urban platforms highlight their potential to undermine democracy, their promotion of digital enclaves and social inequality (Graham 2020). Furthermore, critical urban and especially **feminist platform studies emphasise everyday life** as a central perspective when studying how platforms operate and interact with existing cultural, social and political practices (Barns 2020; Bauriedl/Strüver 2020; Elwood 2021). These scholars understand platforms to be digital infrastructures connecting supply and demand of goods and services (Plantin et al. 2018; Richardson 2020a, b).

Against this backdrop, this project with the acronym TICS (Transformations of labour and intersectional inequalities in care services) recognises urban service platforms as part of 'real-time cities' (Kitchin 2014), as infrastructural agents, and as mediators of urban everyday life by the relational dynamics of code, commerce and corporeality (Barns 2019, Yates 2021). It goes beyond the interface and algorithms transforming workers and their labour and rather focuses on **material inequalities** 'in person and on the ground'. The project builds on critical urban and feminist studies to analyse the co-constitution of digital and social structures, e.g. the relevance of care service platforms in times of care crises (Altenried et al. 2021b; Ecker et al. 2021; Richardson 2018). These studies of urban platform economies emphasise the processes of **platformisation** (Poell et al. 2019) and thus go beyond describing a mere generalised phenomenon of 'platform capitalism' occurring in urban settings: They explore how digital platforms reconfigure urban space and reshape inequalities in and of urban life (Hodson et al. 2021; Richardson 2020a, b, Langley/Leyshon 2017).

Based on these insights, critical urban studies apply the concept of **platform urbanism** to examine the significance of these changed everyday practices and power shifts brought about by the expansion of platform operators into all areas of urban life (Barns 2019, 2020;). To date, there exists ample research on the dynamics of platform urbanism in North American cities (Elwood 2021; Leszczynski 2020; van Doorn 2017), but European cities are underrepresented in studies on platform urbanism, even though they have specific demand for platform services due to their particular urban landscape, population structure, and gendered division of labour (Bauriedl/Stüver 2020). Furthermore, existing research has focused on male-dominated employment fields such as ride-hailing. Research on feminised employment fields such as care services is still largely missing (Huws 2019). This project aims to fill these research lacunae by zooming in on the **platformisation of care services in three major European cities**, Hamburg, Vienna and Zurich.

1.1.3 Platformisation of Care Services

Recently, platformisation is increasingly spreading to include care work (Hunt/Machigura 2016; Otto et al. 2017). With the term care, the project refers to tasks such as cleaning, cooking, child- and seniorcare. Compared to broader definitions of care which encompass all activities that serve to maintain life and the world (cf. Fisher/Tronto 1990), this definition of care is more narrowly focused on the immediate care for human bodies within the domestic sphere (i.e. not extending to home maintenance work, gardending services and the like). Within this field, one can observe a rapid platformisation of three fields especially: **cleaning** services for private homes, home-based **care for children and seniors**, and home **delivery of meals**.

Feminist and economic geographers have long documented how these caring activities are transformed into waged work (cf. Lawson 2007; McDowell et al. 2005). This commodification and marketization of care (Schwiter et al. 2018) is fuelled by aging populations, labour migration, changing gender relations and increasing numbers of households that require two earnings. These trends have put families in a time-squeeze and have reduced the availability of intra-familial, non-waged care (Huws 2019; McDowell et al. 2005). As a result, care is increasingly bought as a commodity and the space of the home is thereby transformed into a workplace (England 2017).

The platformisation of care is both a symptom and a driver of another crucial reconfiguration of care that has so far received only scant attention from scholars (Huws 2019). Initial research suggests that despite increasing numbers of migrant men signing up on cleaning platforms (van Doorn 2021), the gendered division of labour linked to these tasks has not changed fundamentally (Bauriedl/Strüver 2020; Churchill/Craig 2019; Dowling 2021; Ecker et al. 2021; Huws 2019; Schwiter/Steiner 2020). However, the rapid expansion of platforms in this sector makes care services more readily available. In urban settings, care services can increasingly be purchased at low cost and on-demand. This promises to solve the care crisis for time-poor households – at least in better-off families (Hunt/Machigura 2016). At the same time, it poses urgent novel questions regarding the (spatial) **invisibility,** (labour) **insecurity** and (social) **inequality** imbued in care services (McDonald et al. 2020).

1.1.4 Invisibility: spatial aspects of platform economies

Despite its technocapitalist re-commodification, a large share of **care service work has remained invisible** as it is tied to the home as **invisible private space**. The invisibility of care work is still linked to its social and economic devaluation and also to its racialisation (Ticona/Mateescu 2018; van Doorn 2020). In his seminal study on care platforms in the US, van Doorn (2017) has stressed

that the invisibility of platform mediated care work is inextricably linked to intersecting gendered, classed and racialised precarities and vulnerabilities.

Apart from the workers, **invisibility also applies to the algorithms** which platform providers use to mediate care labour. Their confidentiality contributes to intensifying established forms of exploitation and control. Platforms thus do not increase the visibility and recognition of the work done in private homes (and of working bodies), but only the individual worker's visibility for potential clients on platforms' interfaces. As platform mediated care services are no longer based on informal arrangements and on trust based on existing personal networks, trust between strangers who are connected online only is limited to "reputational economies" (Stabrowski 2017). The latter are based on workers' online rankings and reputation – on the respective platforms but also beyond, including personal social media profiles. In general, matchmaking between clients and workers is reduced to (invisible) data-driven and algorithmic mechanisms controlled by the platforms and based on clients' reputations and rankings of workers (Flanagan 2019; Ticona/Mateescu 2018; van Doorn/Badger 2020). Food delivery platforms, for example, have been found to isolate their couriers from each other through algorithmic control (Altenried 2019; Griesbach et al. 2019). In sum, service platforms are aggregators of data – from clients' ratings of workers' speed, responsiveness, tidiness, etc. – and these invisible data, which make workers visible, often serve for market-based disciplinary and exclusionary mechanisms (see 1.1.6).

1.1.5 Insecurity: labour aspects of platform economies

The rise of digital platforms fundamentally transforms **conditions and experiences of work**. On the one hand, the existing literature points to opportunities for workers, such as lowered thresholds for accessing work, especially for people who cannot find conventional employment (Choudhary 2018). On the other hand, the large majority of studies emphasise the heightened **insecurity in platform labour** and document increased job precarity, low wages and a lack of legal protection and benefits in gig work (Graham et al. 2017; van Doorn 2017). In a survey of microtask platform workers from 75 countries, Berg et al. (2018), for instance, document average wages of 4.43 US dollars per hour, 20 minutes of unpaid work for every hour of paid work and no possibilities to challenge unfair treatment. Furthermore, studies identify overwork, highly irregular working hours and enforced joblessness in between gigs, leading to social isolation, sleep deprivation and exhaustion (James/Temple 2019; Wood et al. 2018). Most of the research up until today, however, focuses on crowdwork platforms, i.e. on work that can be done via computers from anywhere in the world (Huws et al. 2019), or on ride-hailing services such as Uber (Attoh et al. 2019). There is a notable dearth of information on gig work in feminised employment sectors such as care services (Otto et al. 2017; Flanagan 2019) – and particularly on workers' experiences. Gaining knowledge on the effects of the gigification of this sector is especially important because care work has traditionally been an employment sector characterised by precarious and informal labour (Green/Lawson 2011). Evidence from South Africa suggests that digital labour platforms might also have positive effects in formalising labour and raising remuneration in the care sector (Hunt et al. 2016). A recent study based on interviews with care workers in Berlin and New York adds some evidence that platform labour can be a provisional step up, but also points to deteriorating and increasingly punitive working conditions over time (van Doorn 2021). In sum, there is an urgent need for more in-depth knowledge on experiences of workers who provide care services via digital platforms in Europe in order to address the sociospatial and structural changes of labour, social precarity and empowerment, including the subjectivation of workers by platforms.

1.1.6 Inequality: social aspects of platform economies

Next to the structural foci on invisibility and insecurity, TICS focuses on inequality. It draws on recent insights from labour geographies (Strauss 2020) and on feminist geographies of digitally mediated work (Richardson 2018; Richardson/Bissell 2019), which refer to the **micropolitics of everyday life**. In particular, the project stresses the embodiment of care-service tasks as well as the **intersectional inequalities linked to gender, class and citizenship status** – as the majority of workers are migrants (Altenried et al. 2020; Chau et al. 2018; Strüver 2013, 2018). The project aims to explore the idea that the traditional division of labour on the one hand and neoliberal precarity and gendered racial capitalism and thus various, but intersecting forms of injustice on the other are essential features for care-service platforms (Huws 2019; Ticona/Mateescu 2018; van Doorn 2017, 2021). In order to link care service platforms as infrastructural agents and outcome of macropolitical changes to urban everyday life and embodied subjects' practices, the project also includes "Minor Theory" (Katz 2017) and micropolitical analyses as a way to engage with intersectional inequalities at all scales. With this, the project addresses the question of how gender, class and racial inequalities are experienced in everyday life and how they are linked to the platforms' production of value and expropriation of profit.

Care service work has always been embodied work – as this is manual labour and relies on embodied identity-categories such as gender, class and nationality (Strauss 2020). In the context of platform mediated care work, however, these aspects of embodiment get entangled more intensively – and intensify precarity: (1) Since care-work cannot be done 'faster', it is ill-suited for increasing profit through productivity (Dowling 2021; Soiland 2020; Winker 2015, 2021). **Care platforms as social and urban infrastructures thus create value and profit** from the intermediating processes and the data processed as part of the matchmaking, while devaluing the labour of care itself. (2) Since reputational economies and workers' personal profiles are part of care service platforms' mechanisms for generating trust and matches, care workers need to present themselves as welcoming, always available and versatile persons, thus rather concealing, e.g. their ethnic or class background, while emphasising gendered stereotypes and feminised caring characteristics (see Richardson/Bissell 2019; Ticona/Mateescu 2018 for examples). (3) What is more, platforms' in-transparent practices of automatic algorithmic classification often result in discrimination (Cinnamon 2017). In sum, **platform economies exploit existing socioeconomic and cultural inequalities** – in the area of care work especially the economically disadvantaged and culturally misrecognised group of migrant women – in order to impose their precarious working conditions and yet to profit from the matchmaking (Prien/Strüver 2021; van Doorn 2021).

Current European research projects, such as Horizon 2020 PLUS project (Platform Labour in Urban Spaces in Barcelona, Berlin, Bologna, Lisbon, London, Paris, Tallinn, see https://project-plus.eu) or the ERC Platform Labour Research Project (Amsterdam, Berlin and New York City, see https://platformlabor.net) will provide important insights in these fields. However, they do again not explicitly focus on care work and the transformation of gendered divisions of labour by platform work. With the focus on these aspects, TICS contributes to this research by addressing this research gap.

1.1.7 Project related conceptual and empirical preliminary work of the applicants

The foundation of the project is an integration of conceptional and empirical expertise in labour geographies, urban geographies and feminist geographies related to platform economies. All three applicants have longstanding research experience in **feminist geography** and in exploring sociospatial inequalities (e.g. Autor*innenkollektiv Geographie und Geschlecht 2021; Bauriedl et al. 2010; Schwiter 2011, 2018; Strüver 2005, 2013, 2018). For this project, they combine their specific

expertise on **urban infrastructures** (e.g. Bauriedl 2007; 2019; Bauriedl et al. 2020; Bauriedl/Strüver 2017), on care work and **labour relations** (e.g. Schwiter 2018; Schwiter et al. 2018, Schwiter/Steiner 2020), and on **intersectional inequalities** (cf. e.g. Strüver 2010, 2012, 2020).

In the field of digitalisation in cities and platform economies, Bauriedl and Strüver have published the first German-language anthology on **digitalisation in cities** with a critical urban studies approaches (Bauriedl/Strüver 2018). More recently, they have been working together as part of the Fellowship "Gender just urban development in smart city contexts" (2020/2021) supported by three junior fellows (see: https://fellowship-geschlechterforschung.uni-graz.at/en/projects/smart-city/). Within this framework, both the state of the art on urban platform economies and preliminary empirical investigations of care related platform economies in European cities were carried out. The fellowship was completed in March 2021 with the **International Symposium "Platform Urbanism – Towards a technocapitalist transformation of European cities"**. A selection of symposium-contributions will be published in an anthology in spring 2022 (by Transcript/Columbia University Press). During the fellowship-collaboration Bauriedl and Strüver published intensively and conceptualised the different manifestations of platformisation **in public and private spaces** (Bauriedl/Strüver 2020; Strüver/Bauriedl 2020) and practices of privileging/marginalising urban spaces through platform-mediated services (Bauriedl/Wiechers 2021). With a systematic analysis of case studies, Bauriedl and Strüver demonstrate the normalisation of gender relations through platform-mediated mobility and care work (Bauriedl/Strüver 2020; Ecker et al. 2021; Strüver 2021a).

In the field of care, Schwiter has worked on the project "Decent care work? Transnational **home care arrangements"** (D-A-CH funding) that concluded in April 2021 with the international conference "Decent Care Work" (Aulenbacher et al. 2021, Schwiter 2018; Schwiter et al. 2018). Her research on the commodification of home care services for seniors illustrates that digital platforms play an increasing role in turning private households into precarious and feminised workplaces (Schwiter/Steiner 2020).

Beyond these activities, all three applicants contribute **preliminary empirical studies** to TICS. In the city of Zurich, Schwiter currently co-conducts an autoethnographic study exploring the temporal and spatial re-organisation of labour in platformised cleaning (Schwiter/Keller 2020). Furthermore, her research team has led two research seminars, in which students collected data on platform labour in the city of Zurich. Bauriedl conducted exploratory interviews with union representatives of delivery services in Hamburg in April 2021. Strüver has done an empirical exploration of food delivery platforms during COVID-19 related lockdowns, interviewing platform workers and providers as well as unionists and restaurant owners in Graz (paper submitted to "Digital Geography and Society" in March 2021). Moreover, she has vast experiences in both applying and teaching mobile research methods, including smartphone supported walk-along interviews.

In order to select the **three case study areas** of the TICS-project, platform economies were systematised within the Fellowship-research according to the criteria of service offer, as well as size, international expansion and business model of the service companies for European cities. Three similar-sized major cities with relatively high average incomes, but with different national frameworks were selected for the project. Their size ensures a diverse and dynamic demand for services as well as a constant supply of workers. However, selecting three different national contexts allows for a comparison of working conditions and business practices in heterogeneous regimes.

1.2 Project-related publications
1.2.1 Articles published by outlets with scientific quality assurance, book publications, and works accepted for publication but not yet published.

1. Autor*innenkollektiv Geographie und Geschlecht (eds) 2021: *Handbuch feministische Geographien.* Leverkusen: Verlag Barbara Budrich. (all three applicants are editors as well as authors).
2. Bauriedl S, Strüver A 2020: Platform Urbanism: Technocapitalist Production of Private and Public Spaces. *Urban Planning* 5(4): 267–276.
3. Bauriedl S, Strüver A (eds.) 2018: *Smart City. Kritische Perspektiven auf die Digitalisierung in Städten.* Bielefeld: Transcript-Verlag.
4. Bauriedl S, Wiechers H 2021: Konturen eines Plattform-Urbanismus: Soziale und räumliche Ausprägungen eines digital divide am Beispiel Smart Mobility. *Sub/Urban* 9 (1/2): 93–114.
5. Schwiter K, Steiner J 2020: Geographies of care work: The commodifiation of care, digital care futures and alternative caring visions. *Geography Compass*, 14(12), 1–16.
6. Schwiter K, Berndt C, Truong J 2018: Neoliberal austerity and the marketization of elderly care. *Social and Cultural Geography* 19(3): 379–399.
7. Strüver A, Bauriedl S 2020: Smart Cities und sozialräumliche Gerechtigkeit: Wohnen und Mobilität in Großstädten. In: Günter, S (ed.): *Jahrbuch StadtRegion, Schwerpunkt Digitale Transformation*, 91–109.

1.2.2 Other publications, both peer-reviewed and non-peer-reviewed
8. Ecker Y, Rowek M, Strüver A 2021: Care on Demand: Geschlechternormierte Arbeits- und Raumstrukturen in der plattformbasierten Sorgearbeit. In: Altenried, M et al. (eds): *Plattformkapitalismus und die Krise der sozialen Reproduktion.* Münster: Westfälisches Dampfboot, 112–129.
9. Schwiter K, Keller M 2020: Die digitale Plattform als Chefin: Arbeiten für die Gig-Economy. In: *Frauenfragen* 42(1), 88–94.
10. Strüver A 2018: Performing Spaces – Gender Relations, Corpo-Realities and Space. In: Onnen C, Rode-Breymann S (eds): *Wiederherstellen – Unterbrechen – Verändern. Politiken der (Re-)Produktion.* Opladen: Verlag Barbara Budrich, 79–91.

2 Objectives and work programme
2.1 Anticipated total duration of the project: 36 months
2.2 Objectives
The research project examines the structural conditions of care platforms and socio-spatial dynamics of care work. In addition to established methods for analysing the platform economy, mobile digital ethnographies are being used to survey spatial practices. The objective is to contribute to the theorising of the new phenomenon of platform urbanism.

> The project addresses the following research questions:
> **How does the rise of the digitally mediated care services in the platform economy transform everyday lives and inequalities in cities?**
> 1) What type of care services does the urban platform economy offer, to whom are they tailored to and how do they restructure urban space?
> 2) How is care labour performed and experienced by the workers when mediated via digital platforms?
> 3) In what ways does the platformisation of care services (re)produce and (re)shape intersectional inequalities?

These three questions are connected to three main objectives TICS on different levels of abstraction:
- Filling the research gaps by the completion of an **empirically** rich and sound project on platform urbanism based on three major care service platforms in three major European cities. This includes a detailed examination of the processes of platformisation of care infrastructures and a systematisation of care service platforms and their enabling socioeconomic conditions.
- Substantially advance the **theoretical** debate on platform urbanism with respect to the transformation of labour and intersectional inequalities. Special attention will be paid to the care crisis and to care service platforms on the one hand and to platformisation in and through urban space on the other. This endeavour includes the in-depth discussion of an empirically based conception

linking recent macrostructural developments to the micropolitics of everyday life in cities and linking the material, discursive and digital dimensions of platform economies and sociospatial inequalities.

- Enriching the **methodological** debate in geography and urban studies on researching human-environment-technology interfaces and platform-based everyday interactions in cities.

The planned research focuses on the three key areas in which platforms have begun to offer care services: cleaning in private homes, home-based care for children and seniors, and food delivery. The platformisation of care services in home cleaning and care for children and seniors has repeatedly been identified as a research lacunae (Hunt/Machingura 2016; Huws 2019; Nonnenmacher et al. 2020; Otto et al. 2017; Schwiter/Keller 2020). In comparison, there is more research already available on food delivery (Bissell 2020; Briziarelli 2019; Griesbach et al. 2019; Herr 2017; Richardson 2020a). However, food delivery remains an especially important field to study, because it has experienced a massive rise in demand within the last months due to the Corona pandemic and locked-down urban life (Altenried et al. 2020, 2021a; Ecker/Strüver, under review). In general, recent lockdowns have made many people realise which kinds of reproductive work are necessary to maintain daily life and how many of them have been externalized in the last decades and are increasingly mediated by platforms. COVID-19-related lockdowns thus draw attention to some of the urban platform economies that have developed as commodified responses to the neoliberal care crisis.

The platform economy for care services will be analysed in the cities of Hamburg, Vienna and Zurich. The three cities pose ideal cases for our investigation for several reasons. First, they are large enough to provide a population size and density attractive to platform operators. Second, the comparative wealth of their populations makes them ideal laboratories for platform operators to test new services and business models. Thus, they provide a wide variety of platform providers. Third, the three cities make ideal comparative cases, as they show similarities due to their geographic location in Western Europe and their shared German speaking cultural background, while being embedded in three different national regulatory frameworks. This allows exploring how regulations impact on the development of platform markets (cf. Broecke 2021, Pärli 2019). Fourth, the chosen field sites broaden the existing literature which is largely based on empirical material from English speaking contexts in North America, the UK and Australia (e.g. Bissell 2020; Churchill & Craig 2019; Leszczynski 2020; Shapiro 2018).

2.3 Work programme including proposed research methods

Having completed intensive research on theoretical aspects of platform urbanism and on care platforms in single countries in recent years, as well as numerous publications and an international conference, the applicants are planning a systematic comparison of care platforms in three countries and intend to explore the everyday labour of care workers using qualitative methods.

Work Package 1: Mapping and systematisation of urban digital platforms that provide care services in the three selected cities (lead: University of Flensburg).

1.1 Kick-off workshop for WP1 (month 2) with a focus on platform urbanism, held in Hamburg, including Manuela Bojadžijev/Moritz Altenried from Humboldt University Berlin and Lizzie Richardson from Goethe-University Frankfurt as external experts and discussants (all workshop experts have agreed to participate).

1.2 Mapping of care platforms: The project team first collects all relevant information accessible on the care platforms' websites and apps on the types of services offered, the conditions of use as well as on the spatial patterns of supply and demand in the three selected cities.

Milestone 1 (month 4): Matrix of care platforms operating in Zurich, Vienna and Hamburg, with a systematic overview of their respective services and conditions.

1.3 Organisation of a workshop on "urban care platforms and intersectional inequalities" at the Centennial Congress of the International Geographic Union in cooperation with the Commission on Gender and Geography in Paris in July 2022 to extend existing networks and exchange.

1.4 Understanding of care platforms' logics: In each city, the collected data is complemented with five qualitative interviews (Helfferich 2009) with experts (such as platform providers, union representatives, regulators, etc.) to gain deeper insights into care platforms' business models and strategies, their material infrastructures and the algorithmic logics used to provide their services, as well as their embeddedness in social structures and regulations. Interview recordings will be transcribed verbatim and analysed using the content analytical approach of Mayring (2014).

1.5 Differentiation of care platform sectors: The interview data is systematically analysed to assess the platform economy for care services and their respective logics in cleaning, child/senior care and food delivery in the three cities. The findings are contextualised with regard to platform sectors on the one hand and to local and national care, age, gender, migration and labour regimes on the other.

1.6 Categorisation of platforms and transnational comparison: A comparative evaluation of the respective cities' national contexts and local services as well as local supply and demand structures serves as the basis for the selection of one case study for each city to explore in depth in work package 2.

Milestone 2 (month 11): Submitted journal paper on the systematisation of care service platforms in the three European cities focusing on both similarities and differences, enabling cross-case comparative analysis and deep coverage of the different key dimensions identified, especially regarding business models, types of services offered, spatial structures of supply and demand an their impact on urban space.

Work Package 2: Three case studies on the transformation of labour in/by the platform economy (lead: University of Zurich).

2.1 Kick-off workshop for WP2 (month 10) with a focus on the platformisation of care labour, held in Zurich, including Emma Dowling from the University of Vienna & Kendra Strauss from Simon Fraser University, Canada, as external experts and discussants. Based on WP1, three case studies will be chosen to deepen the understanding workers' experiences in one specific field of care work each, i.e. cleaning, care for children/seniors and food delivery.

2.2. For each case study, the project team will conduct 20 in-depth narrative interviews recording the experiences of platform workers.

2.3. The inductive analysis (Kuckartz 2019) of these interviews will provide the team to explore invisibilities, insecurities and inequalities related to care service platform work in detail, including similarities and differences related to the type of care service platforms and the respective national regulations and regimes.

Milestone 3 (month 19): Three submitted journal papers, one on each case study, reflecting on workers' experiences of platform-mediated care labour, including the meanings of the division between public and private spaces for this sector.

2.4 Combining the results from milestone 3, the project team will systematise the production of invisibilities, insecurities and inequalities experienced by service platform workers as a basis for WP3.

Work Package 3: Three case studies on human-environment-technology interfaces and platform-based everyday working interactions (lead: University of Graz).

3.1 Kick-off workshop for WP3 (month 19) with a focus on mobile and digital research methods, held in Vienna, including Margarethe Kusenbach from the University of South Florida and Sarah Elwood from the University of Washington as external experts and discussants.

3.2 Each case study-team will identify three to five workers from the sample in WP2 who are willing to work with the project team over a longer period of time (2 to 4 weeks) in order to record their everyday movements in detail and to explore their experiences in more depth. For this, the project will employ a mobile ethnography (Marcus 1995; Büscher & Urry 2009; Kusenbach 2018). This method allows for recording the manifold mobile, material and embodied practices in various spaces of the people doing care labour mediated via digital platforms. This step of the data collection will be supported by an app such as "EthnoAlly" (or a similar programme) as a "follow-the-people-method-ology" to explore their embeddedness in social structures. It allows workers to track their pathways through the city, adding location based oral or written comments, pictures, videos etc. in their smartphones. The material collected in participants' smartphones via the app is automatically as-sembled in a geovisualised project database (see, e.g. Favero/Theunissen 2018; Lupton/Maslen 2018; Pink et al. 2016, 2017; Strüver 2021b).

3.3 Typology of time-space patterns of workers relying on digital urban platforms as intermediaries: The data from the mobile ethnographies will be integrated and analysed with respect to the workers' temporal and spatial patterns, including means of transport and transfer times, idle times etc.

3.4 Milestone 4 (month 28): Submitted journal paper on mobile digital ethnographies and "studying platform urbanism outside the black box" (Fields et al. 2020), discussing the combined insights from WP3 in all three case studies.

Work Package 4: Synthesis (lead: University of Flensburg).

4.1 Milestone 5 (month 28): Organisation of an international conference on the platformisation of care services at the University of Flensburg that will bring together international experts and young scholars to share and discuss most recent findings on platform mediated care services and serve as a platform to share the projects' results from the WP1-3 (as potential keynotes we envisage e.g. Mark Graham, Oxford Internet Institute UK; Ursula Huws, University of Hertfordshire, UK; Lizzie Rich-ardson, Goethe-University Frankfurt; Niels van Doorn, University of Amsterdam).

4.2 Based on the inputs and feedback gained in the conference, insights from WPs 1, 2 and 3 will systematically integrated to answer the overarching research question of the project. By exploring the synthesised results, the project will contribute to context- and case-sensitive theorizing on plat-form urbanism in European cities with respect to the platformisation in and through urban space, the transformation of labour and intersectional inequalities related to both processes.

4.3 Milestone 6 (month 34): Submission of the manuscript for an edited book that brings key results of this project in dialogue with other researchers in the field.

4.4 Milestone 7 (month 36): Submitted journal article on the synthesised results of the project.
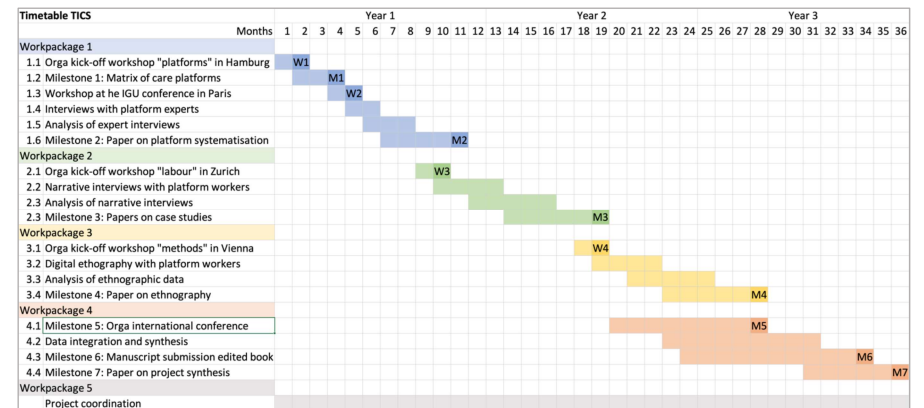
Work Package 5: Project coordination & dissemination (lead: University of Flensburg):

Project management and scientific coordination: The overall research process and monitoring of deliverables will be managed by the project lead in Flensburg. Progress of the project will be super-vised according to milestones, but WP leaders are responsible for appropriate WP management.

Coordinating dissemination and outreach: Throughout the project, the team will actively communi-cate reflections and preliminary results using various tools including a project website and a project blog. The project's website will serve as a multipurpose knowledge base for information on different levels, ranging from pure information to possibilities to participate, connecting researchers, platform workers etc., as well as reaching out to the broader public, to media, stakeholder communities and other researchers.

Project design and time table TICS

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